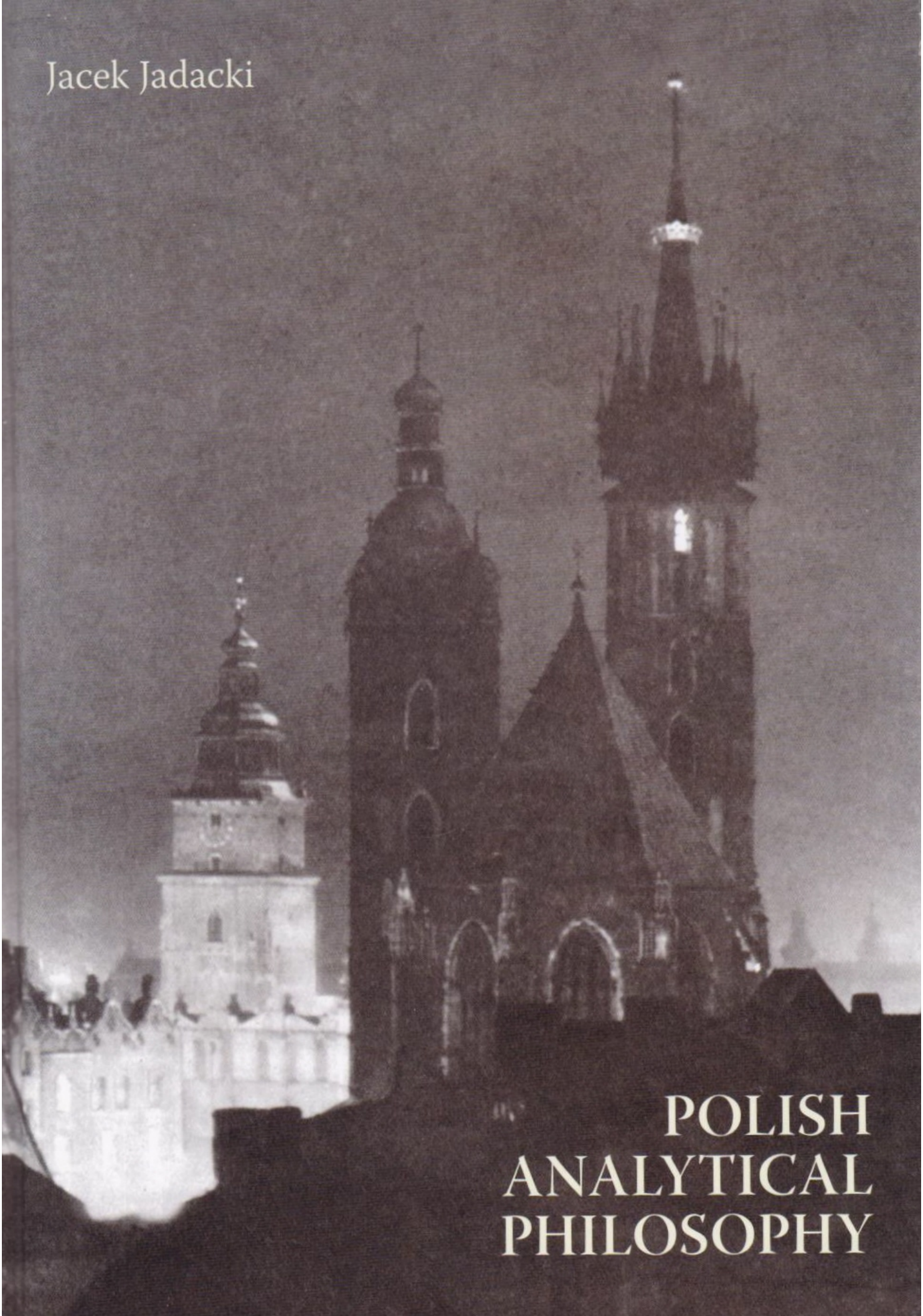
Jacek Jadacki



POLISH ANALYTICAL PHILOSOPHY

Polish Analytical Philosophy


FE CONSTANTE SALUS

Jacek Jadacki

Polish Analytical Philosophy

Studies on its heritage

with the appendix containing
the bibliography of Polish logic
from the second half of the 14th century
to the first half of the 20th century

Warszawa 2009

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Contents

Introduction

This book contains some results of my inquiry into the domain of the history of Polish analytical philosophy.

It is divided into three parts.

First part includes studies in which I take a general view of some phases and aspects of this history — culminating in the Lvov–Warsaw School and its successors.

Second part shows two examples of close connections between the modern analytical philosophy in Poland and the analytical movement in Austria and Germany.

Third part is a collection of monographs concerning some important figures of Polish analytical philosophy. Some historians identify the modern phase of this philosophy with the Lvov–Warsaw School, but this opinion is a misunderstanding. For instance, Leon Chwistek and Roman Ingarden were certainly analytical philosophers, but they were not members of this school; what is more, they criticized very rough pupils of Kazimierz Twardowski, and *vice versa*, the formers were criticized also very rough by the latters.

"Appendix" contains the bibliography of Polish logic from the second half of the 14th century to the first half of the 20th century (the only text, which refers to items of this bibliography — except works published after 1945 — is "The sources of the contemporary Polish logic"; the bibliography for all the remaining texts is completed in "References"). It is a fruit of my research executed in connection with preparing a fragment about the history of Polish logic to the *History of Polish science*. Its part containing the old logic is collected mainly on the ground of indirect sources. On the other hand, the list of works from the period 1757–1939, is collected by me personally. This list seems to be complete in principle.

Particular texts were published during the period of last thirty years. References to them are not actualized, although I am conscious that in some cases many new studies on the subject appeared. I mention here only that it was inaugurated the sub–series *Polish Analytical Philosophy* within the framework of *Poznań Studies in the Philosophy of the Sciences and the Humanities* (published by *Rodopi*); it contains, i.a., the volumes presenting at great length the philosophical production of Kazimierz Twardowski, Tadeusz Czeżowski and Jan Salamucha.

* * *

I am very grateful to the publishers for their kind permission to insert in this volume my texts originally published in anthologies or philosophical journals.

"The sources of the contemporary Polish logic" and "Polish philosophers during the II world war" are reprinted by courtesy of the Editors of *Dialectics and Humanism* (where the second text was published under the title "Thinkers with brave hearts"). "The development of the Polish philosophy of science and philosophy of nature before the II world war" (with Władysław Krajewski as a co–author), "The Lvov–Warsaw School and its influence upon the Polish philosophy of the twentieth century", the second part of the text "On Kazimierz Twardowski's descripitive semiotics and its metaphysical basis" (published originally under the title "Kazimierz Twardowski's descriptive semiotics"), the first part of the text "On Tadeusz Czeżowski's metaphysics and semiotics" (published originally under the title "Trouble with ontic categories or some remarks on Tadeusz Czeżowski's philosophical views") and "On Jan Salamucha's life and work" (published originally in abridged version with Kordula Świętorzecka as a co–author) are reprinted by courtesy of Editions *Rodopi.* "The rise and decline of the modern scientific philosophy in Warsaw", "The conceptual system of the Lvov–Warsaw School" and "Alexius Meinong and the Polish philosophy" are reprinted by courtesy of the Editors of *Axiomathes* (where the first text was published under the title "Warsaw: the rise and decline of the modern scientific philosophy in the capital city of Poland"). "Heinrich Scholz and the Lvov–Warsaw School" is reprinted by courtesy of the Editors of *Filozofia Nauki*. The first part of the text "On Kazimierz Twardowski's descripitive semiotics and its metaphysical basis" is reprinted by courtesy of *Wydawnictwo Uniwersytetu Marii Curie–Skłodowskiej* (which published it under the title "The metaphysical basis of Kazimierz Twardowski's descriptive semiotics"). "On Leon Chwistek's philosophy of language" is reprinted by courtesy of Mouton Publishers (which published it under the title "On Leon Chwistek's semiotic views"). "On Władysław Tatarkiewicz's personality and philosophical achievements" is reprinted by courtesy of *Wydawnictwo Wydziału Filozofii i Socjologii Uniwersytetu Warszawskiego* (which published it under the title "Chapter from the history of Polish philosophy: Władysław Tatarkiewicz"). The second part of the text "On Tadeusz Czeżowski's metaphysics and semiotics" is reprinted by courtesy of the Editors of *Brentano Studien* (where it was published under the title "On Tadeusz Czeżowski's semiotic views"). "On Roman Ingarden's philosophy of language" is reprinted by courtesy of the Editors of *Analecta Husserliana* (where it was published under the title "On Roman Ingarden's semiotic views: a contribution to the history of Polish semiotics"). "Bibliography of the Polish logic from the second half of the 14th century to the first half of the 20th century" is reprinted in translation from the Polish by courtesy of the Editors of *Studia Filozoficzne* (where it was published under the title "Bibliografia logiki polskiej").

Jacek Jadacki
Warsaw, 27th of September, 2008.

Part I
Interests and trends

1. The sources of the contemporary Polish logic

The text below falls into three parts. In the first part I shall make up the main *attainments* of the golden age of Polish logic, the two decades between the wars. The second part will contain a general overview of Polish logical *inheritance* going back six centuries and which constitutes the foundation for those attainments I mention in the first part. In the third part I shall indicate the immediate *sources* of those attainments, that is, the problems which occupied the minds of Polish logicians in the years prior to the golden age.


Jan Łukasiewicz


Konstanty Michalski

1. The attainments

The greatest of Polish historians of philosophy, Władysław Tatarkiewicz, once made this comment about his subject:

> It is in a worse state than other branches of history simply because philosophy is in a better state. You see, political or economic events pass by, whereas philosophical events are here to stay: in the shape of manuscripts and books. For this reason political or economic history has its *raison d'être,* since a historian in these fields reconstructs something which no longer takes place; the historian of philosophy, on the other hand, only copies what is already there anyway.

He did add, however, a few lines later:

> If that really were all the historian of philosophy did, then his work would have no meaning. But actually he does something else […]. The work of the historian of philosophy is not limited to corroborating facts. He must also, as must other historians, make


Zygmunt Zawirski


Stanisław Leśniewski

choices, interpret, unite, order, connect and correct (Tatarkiewicz 1952: 63–64).

Thus, although the attainments of Polish logic during the Second Republic are generally known and continue to constitute the source for logical investigation both here in Poland and elsewhere, it is yet quite pertinent to our subject to try to make a choice of the most important and influential attainments, unite and bring them together, and to discover the immediate and not so immediate connections holding between them.

Attainments in the search for knowledge are usually of two kinds; of the pedagogic and of the kind whose essence lies in advancing the subject matter taught. These attainments of the first kind issue from a reshaping of our stock of knowledge in a given field. Those of the second kind depend on enlarging that stock of knowledge. This latter may take on various forms. For example a new problem may be advanced (a new idea) or an old problem solved. An attainment would consist in constructing a completely new set of convictions (a new theory), as in improving one already constructed. This latter may depend upon amongst other things justifying some one single conviction (a new thesis). Finally one can talk of attainments tin cases both where some hitherto unknown mode of investigation is devised (a new method) and where methods, already applied, are improved.

The part played by logicians of the generation of Jan Łukasiewicz, Stanisław Leśniewski and Alfred Tarski had its fruition in attainments of all the above varieties.

First and foremost from the pens of representatives of these three generations came works which brought definitive presentations of the state of the art in the field of logic in their day (Sierpiński 1923; Wilkosz 1925a; Zawirski 1927a; Ajdukiewicz 1928b; Łukasiewicz 1929; Kotarbiński 1929; Chwistek 1935b; Tarski 1935e; Metallmann 1939a). Secondly there came about within the some academic

environment, doubtlessly under the influence of Łukasiewicz, a reconstruction of opinion as to the achievements of our logical forebears. The following developments contributed to this fundamental reinterpretation of the history of logic:

(1) the logistic exposition of the logic of the Academy, first and foremost that of Plato (Jordan);

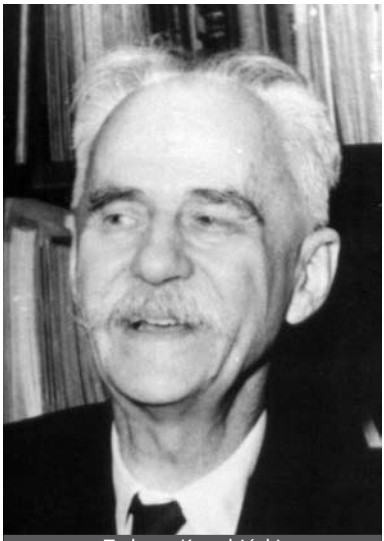
(2) the systematization of Peripatetic logic, mainly that of Aristotle (Łukasiewicz and Salamucha);

(3) the discovery of the beginnings of the modern propositional calculus in the logic of the Stoics, first of all of Chrysippos (Łukasiewicz and Krokiewicz);

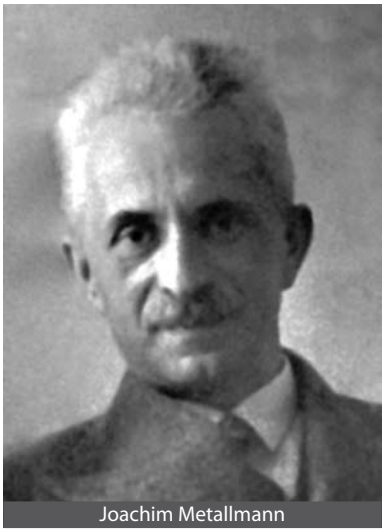
(4) an analysis of the achievements of Megarian logic; of Eubulides, Philo and Diodorus Cronus (Łukasiewicz);

(5) the reconstruction of certain results of Scholastic logic, of Aquinas, Petrus Hispanus and Duns Scotus (Łukasiewicz and Salamucha), as well as of the first ideas on three–valued logic of William of Occam (Salamucha and Michalski);

(6) the attempt at a synthetic appraisal of the history of modern logic (Sleszyński).



Tadeusz Kotarbiński



Joachim Metallmann

The decisive contribution to the exceptional character of Polish logic of that period is made not so much by the achievements in teaching as by those which consist in original work in the field itself. Some can be found in the handbooks on logic or in the works on the history of logic. The rest are contained in the numerous original articles published at the time. (Amongst the most relevant are: Czeżowski 1918a and 1927; Łukasiewicz 1920, 1930a, 1930b and 1936c; Ajdukiewicz 1921a, 1934e, 1934f and 1935h; Kuratowski 1921; Chwistek 1922b, 1922c, 1922d, 1924a, 1929, 1932b, 1932c and 1938c; Leśniewski 1927–1931, 1929c, 1932 and 1939; Tarski 1930b, 1933a and 1935e; Zawirski 1934a).

These attainments which are purely original contributions to the field of logic itself and which are presented in these articles amongst others consist in, first of all, new logical theories, in particular:

(1) axiomatic systems of protothetic, both implicational and equivalential based on one axiom (Leśniewski);

(2) a matrix–based system of a three–valued propositional calculus (Łukasiewicz);

(3) matrix–based systems of finitely and infinitely many–valued propositional calculi (Łukasiewicz);

(4) predicate calculi based on natural deduction techniques (Leśniewski and Jaśkowski);

(5) axiomatic systems of syllogistic (Ajdukiewicz and Łukasiewicz);

(6) an axiomatic system of ontology (Leśniewski and Sobociński);

(7) the pure theory of types (Chwistek);

(8) an axiomatic system of mereology (Leśniewski);

(9) a theory of the syntactic categories of language (Leśniewski and Ajdukiewicz) and of the syntactic coherence of compound expressions (Ajdukiewicz);

(10) a directional theory of meaning (Ajdukiewicz);

(11) the theory of semantic models (Tarski);

(12) an axiomatic system of logical semantics (Chwistek);

(13) the calculus of systems (Ajdukiewicz, Łukasiewicz and Tarski);

(14) foundations for a theory of interrogatives (Ajdukiewicz).

Then there are those attainments which consist in improvements to existing theories. These are:

(1) a simplification of the formalization of the implicational system of the classical propositional calculus to three axioms and two rules of inference (Tarski) and the discovery of the shortest single axiom constructed out of thirteen signs — in Polish notation (Łukasiewicz);

(2) the discovery of the shortest single axiom consisting of eleven signs of the equivalential calculus (Łukasiewicz);

(3) the reduction of the number of axioms in the classical propositional calculus based on alternative and negation (the *AN*–calculus) first of all to four then to three (Łukasiewicz);

(4) the reduction of the number of axioms in the classical propositional calculus based on implication and negation (the *CN*–calculus) first of all to three, one exposition with a longest axiom of eleven signs, a second with one of fourteen signs (Łukasiewicz) — and later on to a single axiom of fifty three signs (Tarski), then shortened to twenty seven (Sobociński), twenty five and twenty three signs (Łukasiewicz);

(5) the reduction of the number of axioms of the implicational classical calculus with falsehood to three axioms (Tarski);

(6) the simplification of the single axiom of the classical propositional calculus based on disjunction to one having twenty four signs and four variables (Łukasiewicz, Sobociński, Tarski and Wajsberg);

(7) the presentation of an adequate matrix–based system (Jaśkowski) and an axiomatization based on implication, conjunction, alternative and negation

of the intuitionist propositional calculus (Słupecki);

(8) a partial axiomatization based on negation and implication (Wajsberg) and a complete axiomatization based on implication, negation and using *T*–functors (three–valued truth–operators) of a three–valued propositional calculus (the *CNT*–calculus) (Słupecki and Sobociński);

(9) an axiomatization of a model propositional calculus (Słupecki);

(10) an extended axiomatization of the predicate calculus (Wajsberg);

(11) the simplification of the theory of types (Chwistek);

(12) an exposition of set–theory based upon the simplified theory of types (Wilkosz);

(13) the reduction of the theory of relations to set–theory (Kuratowski);

(14) a generalization of set–theory (Tarski);

(15) a presentation of a general theory of signs (Ossowski);

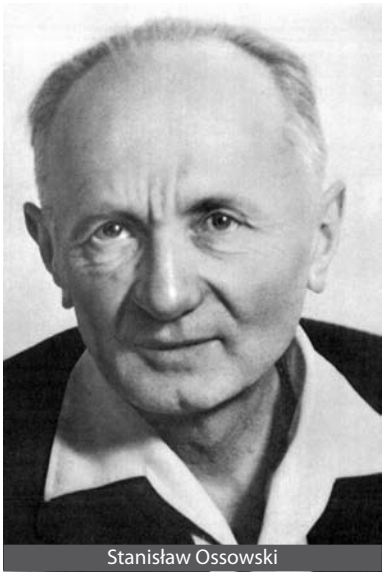
(16) an exact analysis of individual semiotic functions of language (Kotarbiński);

(17) an exact distinction of general sentences of various types (Kotarbiński);

(18) an attempt at making the theory of modal sentences more precise (Czeżowski);

(19) an attempt at making an exact distinction between names and predicates (Kotarbiński);


Kazimierz Ajdukiewicz


Stanisław Ossowski

(20)attempts at making the definition of extensionality more precise (Leśniewski) and the classic definition of truth (Tarski);

(21) the introduction of the concept of the denominate (Kotarbiński);

(22) an attempt at clarifying the extensional relations of independence, sub–opposition, opposition and contradiction (Czeżowski);

(23) an exact rendering of the concept of vagueness (Kotarbiński);

(24) an attempt at making a clear distinction between axioms and rules of inference (Łukasiewicz and Tarski);


Janina Kotarbińska

(25) the drawing of a clear distinction between rules of formation and rules of proof (Chwistek);

(26) an exact rendering of rules of definition (Chwistek and Leśniewski);

(27) a generalization of the theory of definition (Ajdukiewicz);

(28) a clarification of the concept of explanation and of causal law (Kotarbińska).

Thirdly numerous new theses, mainly methodological, were validated, namely:

(1) only the functors of disjunction or simultaneous denial lend themselves for use as the single primitives of an axiomatized classical propositional calculus (Żyliński);

(2) the axiomatized classical implicational calculus is complete (Tarski and Wajsberg);

(3) the axiomatized implicational calculus with negation is complete and independent (Łukasiewicz);

(4) many–valued propositional calculi are incomplete and non–contradictory (Łukasiewicz and Tarski);

(5) the extended predicate calculus is complete (Wajsberg);

(6) the system of strict implication is not reducible to one of material implication (Wajsberg);

(7) the probability of a sentence in a many–valued calculus is not a value of the sentence (Ajdukiewicz);

(8) in order to prove a given implication it suffices to deduce its consequent from its antecedent (Tarski);

(9) the conjunction of all those consequences of a thesis which are not equivalent to it logically implies that thesis (Ajdukiewicz);

(10) every class of sentences is denumerable given certain assumption (Tarski);

(11) there are certain theses of set theory which are not provable using techniques of pure logic (Chwistek);

(12) purely syntactic operations which always transform true sentences into true ones are not reducible to rules of inference applied in the deductive sciences (Tarski);

(13) there are a number of set theories, not one complete one (Chwistek);

(14) the sources of the logical and semantic antinomies are to be found in violations of the rule of definition (from this results ambiguity of expressions), failing to keep the syntactic categories of language separate or carelessness

in distinguishing object–language from meta–language (Leśniewski);

(15) the concept of truth for formulae of a deductive system in a language of first–level cannot be expressed in that language (Tarski);

(16) the rules of inference applied in a given deductive system do not belong to that system, and for this reason must be expressed in ordinary language (Leśniewski);

(17) definitions are not only conventional (and superfluous) abbreviations, but also constitute a means of choosing a language (Leśniewski);

(18) the set of theses of a given deductive system depends not only upon the choice of axioms but also upon the rules of inference applied (Leśniewski);


Alfred Tarski

(19) the choice of language influences the concept of empirical knowledge (Ajdukiewicz);

(20) every meaning postulate has amongst its logical consequences a thesis that the objects referred to do exist (Ajdukiewicz).

Fourthly, new methods of analysis appreared, the most important being:

(1) Polish notation: a bracketless, punctuationless script for expression belonging to the language of the propositional calculus (Łukasiewicz and Chwistek);

(2) the method of matrices: a means of establishing by matrix the truth–value of sentences (Łukasiewicz);

(3) generalizing deduction: the proof of a thesis on the basis of its particular case (Łukasiewicz);

(4) indexing: fractionary determination of syntactic categories of expressions (Ajdukiewicz);

(5) the elimination of hipostasis (the misinterpretation of abstract nouns): a reistic interpretation upon scientific theses (Kotarbiński);

(6) meta–theoretical paraphrase: the solutions of problems of a theory in the language of a meta–theory (Kuratowski and Tarski);

(7) semantic paraphrase: translating philosophical problems into the language of semantics (Ajdukiewicz);

(8) constructionism: the solution of scientific problems by analyzing complex concepts and replacing these by primitive concepts delineated by axioms or definition (Chwistek).

On top of this, and fifthly, certain methods already applied were streamlined. Of particular importance were:

Jerzy Słupecki

Stanisław Jaśkowski

(1) the generalization of the technique of reducing all axioms of the classical propositional calculus to one (Tarski);

(2) an exact presentation of the method of giving proofs of completeness (Sleszyński);

(3) a generalization of the procedure for proving consistency and completeness of the axiomatics of a deductive system (Łukasiewicz);

(4) a more precise rendering of the technique for establishing formal validity of arguments (Łukasiewicz).

In this cornucopia of achievements the following must be granted positions of particular prominence: the reconstruction of the syllogism and the regulative theory of meaning of Kazimierz Ajdukiewicz; the many–valued propositional calculus of Jan Łukasiewicz; the deduction system for quantifiers of Stanisław Jaśkowski; the system of protothetic, ontology and mereology of Stanisław Leśniewski; the pure theory of types and logical semantics of Leon Chwistek; the calculus of systems and model–theory of Alfred Tarski. Their exalted position is guaranteed by their general relevance to philosophy.

Thus the logistic interpretation of traditional syllogistic undertaken by Ajdukiewicz showed that the ultimate assumptions of the syllogistic were two axioms; one asserting that there are no empty names, the other that there exist at least three objects (in other words there are two terms which intersect). Such an interpretation demanded an extension of the axiom system based on alternative and negation to encompass these two axioms, definitions of four kinds of categorical sentences, a rule of substitution for name–variables, which would not enable substitution of empty names, and a rule, prohibiting invalid moods.

Again, the construction of many–valued systems by Łukasiewicz was meant, in the intent of their creator, to facilitate a solution of the philosophical dispute between determinism and indeterminism (to the advantage of the latter), to

make the content of model concepts more tangible and lay the foundations for a logical theory of probability. Research on these calculi brought, moreover, a generalization of the concept of a logical matrix.

The relevance of the directive–based system of Jaśkowski, on the other hand, consists in its being a solution to the task of formulating deductive systems which differ from the axiomatic method. Its principles, moreover, turned out to be nearer to the simplified methods of proof, actually applied by mathematicians amongst others (techniques of natural deduction). On top of this its rules of inference were so selected that the class of axioms could be empty — thus the tendency then common to shorten and simplify the axiom set as much as possible was taken to its very limit. And in this the status of logical laws was finally clarified as that of theses which are acceptable without having to assume anything.

Similar merits could be seen in Leśniewski's protothetic, ontology and mereology. The theory of syntactic categories underlying the first two systems admirably reflected those linguistic intuitions accompanying at least the Slavonic languages which support a classification of expressions according to the parts of speech. Similarly the mereological concept of class proved superior to that of the distributive class, not just because it did not lead to logical antinomies in the mereology, but also because it was closer to the ordinary commonsensical interpretation of the properties of classes. So it is not at all strange that the ontology became an apt basis for philosophy (for reism) and later for the theory of machine–translation, whereas mereology applied itself more to geometry and certain concepts of biology.

The notion of following a path consistent with opinions of commonsense also influenced Chwistek when he created the pure theory of types. Even before this the idea of a simplified (simple) theory of types was intended to remove from the ramified theory that part which was least clear by rejecting the distinctions of order amongst functions. Thanks to the idea that the type–level of a function is determined by the type–level of free variables occurring in it (and not — as was accepted in the ramified theory — by bound variables and quantifiers), it was impossible to engender logical antinomies in the simple theory. But this theory did not resolve the semantic antinomies. From the pure theory of types — bringing with it the reduction of the concept of class to that of function — Chwistek did not hesitate to remove the existential axioms, even at the cost of rendering such a reduced theory incapable of supporting large areas of mathematics. The removal of the existential axioms — in particular of the principle of reducibility — was in his view, a necessary condition for ridding logic (and mathematics) of idealist metaphysics. For these axioms assume the existence of non–construable entities, i.e. entities which cannot be unambiguously defined by means of a finite number of terms. This same desire to beware of the pitfalls of metaphysics found expression in his logical semantics. This was meant to be a deductive theory of expressions, in which the only unformalized


Bolesław Sobociński

operations would rest upon a distinction of shape in a certain number of signs and the application of a few rules for creating complex expressions. Thanks to this the foundations of logic and mathematics — which logical semantics ought to provide — would not suffer coming into conflict with the principles of commonsense.

Tarski was able to develop such a theory to the highest level of formalization and generality in the form of his calculus of systems. In Chwistek's logical semantics the primitive concept was that of containment (of one expression in another). Tarski based his calculus on the concept of entailment (of one expression by another) which was determined by axioms. To this concept all other concepts were reduced, including that of definability. The role of the concept of entailment (deducibility) in the calculus of systems was in model–theory taken over by the concept of fulfillment (of a given sentential function by certain entities), for which Tarski gave an exact definition (in the language of set–theory) and which allowed him then to formulate the classic definition of truth in such a way as to prevent the occurrence of semantic antinomies.

Ajdukiewicz had recourse to other preventive measures in his directional theory of meaning. The meaning of a given expression was identified in this theory with the class of all the expressions in the given language equivalent to this expression. The language however was subject in this theory to very strict conditions of closure and coherence. It was thus meant to be a creation which was unambiguously determined by the vocabulary and complete scope of the meaning–directives (axiomatic, deductive and empirical ones, amongst others) which characterized the means of using expressions. The place of the concept of truth was taken by that of a world–picture, i.e. the set of all theses accepted on the basis of experience in a given conceptual apparatus. If Ajdukiewicz did eventually reject this theory (in favor of a co–referential one), then this was under the influence of those same philosophical motives which influenced Leśniewski and Chwistek amongst others, and to which he himself gave the name of anti–irrationalism.

2. The inheritance

Such numerous and important attainments had never before been the lot of Polish logicians. The fact that their originators all belonged to the three generations hailing from the years 1878–1884, 1886–1897 and 1901–1906 is not as

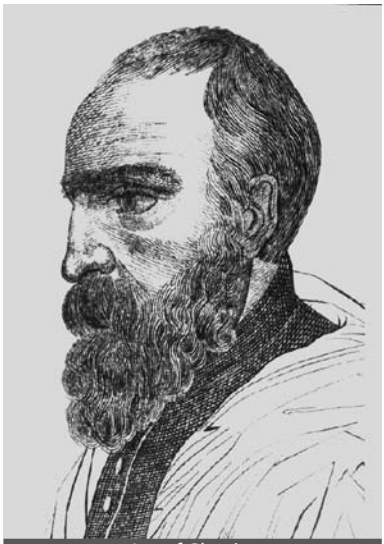
surprising as is sometimes thought. Even more than a hundred years ago Henryk Struve correctly observed:

> Logic and practical philosophy, or ethics, are the two branches of philosophy most, perhaps exclusively, cultivated in Poland. The literature devoted to the first of these disciplines is, it seems to me, decidedly more extensive than that pertaining to the latter; as a result the history of logic is the most important area in a general history of philosophy in Poland (Struve 1870: IX).

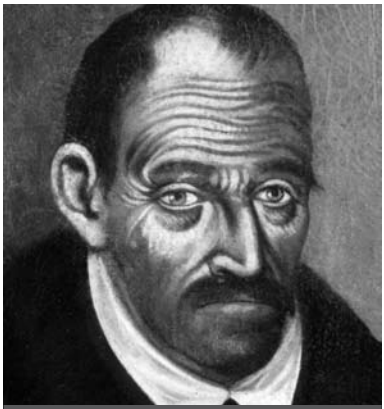
Indeed, as early as the second half of the fourteenth century there appeared in Poland the first logical essays. Their authors were Jan of Grotków, Jan Isner and Jan of Ziębice and all three came from Silesia which at that time was under the influence of the Czech center of studies in logic in Prague. The birth during the first half of the fifteenth century of an indigenous school at the University of Cracow is due to Benedykt Hesse and Bartłomiej of Radom as well as to students of the former, namely, Piotr of Sienno, Jan Wacięga and Jan of Słupcza. Common to both centers and to both generations was a tendency towards nominalism and towards mixing logical problems — which then were limited mainly to analyzing the principles of valid argument — with ontological ones. The first period in the history of logic in Poland, covering the turn of the fourteenth and fifteenth centuries, was, then, one could say, the period of ontologism.

In the second period — the period of grammaticalism — i.e. at the turn of the fifteenth and sixteenth centuries, the place of nominalism was taken over by realism. Most of the work undertaken at

Jan Wacięga



Jan of Głogów



Jakub Górski

Marcin Śmiglecki

Bartłomiej Keckermann

Jan Makowski

that time consisted of analysis of language, especially of its semantic functions. The works of the leading logicians of the period bear witness to this. They were: Jan of Głogów, Michał Twaróg, Michał Falkener, Jan of Stobnica — a pupil of Twaróg, and Mikołaj of Giełczew — a pupil of Jan of Stobnica. At this time there appeared what was perhaps the first Polish logical essay in print (Jan of Głogów 1499) and the first Polish manual on logic (Michał Falkener 1504) which distinguished itself through its great didactic merits; the essays of the previous period are known only in manuscript–form.

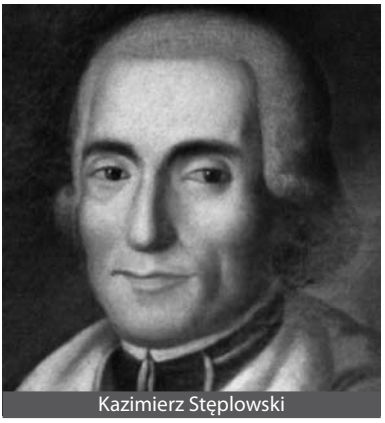
The third period — of epistemologisim — is really to be found in the first half of the seventeenth century; in the second half only Jakub Górski was active. In this period the following amongst others worked on logical problems: Adam Burski, Marcin Śmiglecki, Bartłomiej Keckermann, Marek Korona, Mikołaj Mościcki, Samuel Wierzchoński, Jan Makowski (the elder) — a pupil of Keckermann — and Stanisław Pudłowski. Their place of work was already no longer limited to Cracow for they worked in other towns of Little Poland as well and, what is more important, in other areas of the cosmopolitan Commonwealth: in Ruthenia, Lithuania and Prussia. Most common at the time were investigations concerning the basis of knowledge: of the way sentences are connected (instead of the hitherto more usual investigations turning on connections between terms), and of the principles of induction, of analogical inference and of the essence of causal dependence (Górski 1563; Keckermann 1599; Burski 1604). At this time a number of valuable logical manuals appeared (Keckermann 1605; Śmiglecki

1618; Wierzchoński 1620; Mościcki 1625; Makowski the elder 1660). Also there was a first attempt at constructing a logical symbolism (Pudłowski 1634).

The history of old logic in Poland is brought to an end by the period of didacticism lasting throughout the second half of the seventeenth and first half of the eighteenth centuries. Logic was the concern of the following at this time: Tomasz Młodzianowski, Wojciech Tylkowski, Łukasz Załuski, Szymon Makowski (the younger), Jan Morawski, Ferdynand Ohm–Januszowski, Adam Krasnodębski, Stefan Sczaniecki, Adrian Miaskowski, Kazimierz Ostrowski, Aleksander Podlesiecki and Kazimierz Stęplowski. The main centers of logic were in Great Poland, in Little Poland (especially during the first half of the eighteenth century), in Lithuania and in Mazovia. Typical of the time was a concentration on teaching activity, which was more common than work of an original nature. Works which were of a fundamentally logical nature came in the form of logical manuals which were usually part of more comprehensive outlines of philosophy (Morawski 1660; Tylkowski 1669 and 1680; Młodzianowski 1671 and 1682; Krasnodębski 1678; Makowski the younger 1679; Ohm–Januszowski 1692; Sczaniecki 1694; Ostrowski 1719; Miaskowski 1720; Podlesiecki 1731a; in the first half of the seventeenth century only Załuski 1640).

The second half of the eighteenth century brings the first harbingers of modern logic. In Mazovia, Ruthenia and Lithuania, later also in Great Poland and Little Poland and abroad, a new generation of logicians appeared. To this generation belong Hieronim (Stanisław) Konarski, Stanisław Kleczewski, Benedykt


Stanisław Konarski


Kazimierz Stęplowski


Kazimierz Narbutt

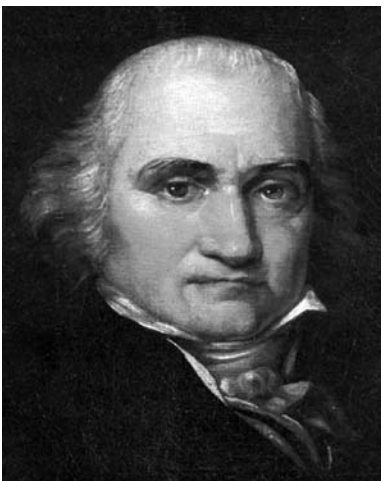
Dobszewicz, Ignacy Włodek, Jan Benisławski, Kazimierz Narbutt, Marcin Nikuta, Patrycy Przeczytański, Jan Śniadecki, Anioł Dowgird, Feliks Jaroński, his pupil Józef Jankowski, Michał Wiszniewski, Józef Gołuchowski, Bronisław Trentowski and Adolf Kudasiewicz. As a result of their labors the previously widespread tendency to disseminate more widely knowledge on matters of logic was brought into disrepute. On top of this the fruits of previous logical investigation itself were also rejected. Without a doubt this general evaluation was exaggeratedly negative; even contemporaries pointed that out (Stęplowski 1753). It did however have certain positive consequences. It meant, for instance, that attempts were made at making psychology a foundation for logic (psychology then being a kind of rationalistic quasi–epistemology). These attempts at first were hardly noticeable (Dobszewicz 1761; Konarski 1767; Narbutt 1769; to a certain extent Kleczewski 1772; Benisławski 1774; Nikuta 1798 as well), then much more audacious (Jaroński 1812; Przeczytański 1816; to a certain extent Gołuchowski 1821; Jankowski 1822; extensively in the work of Śniadecki 1822; Dowgird 1828; Wiszniewski 1848). This engendered an interest in the foundations of logic and lasted throughout next period as well, but the interest was all the more general as a result of such investigations after the foundations in the realms of epistemology (Włodek 1780–1814; Wiszniewski 1834), of ontology (Trentowski 1844) and even in grammar (Kudasiewicz 1858). But the conviction that logic must be founded on psychology held the most general sway. The first period of modern logic, therefore, i.e. the turn of the eighteenth and nineteenth centuries, is best called the period of psychologism.

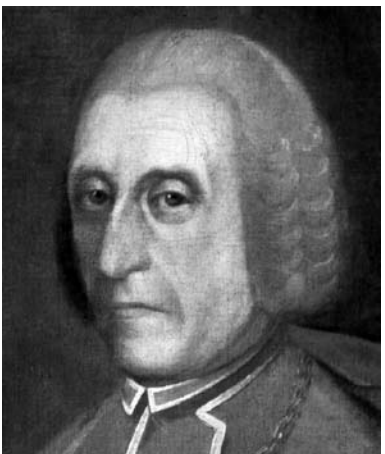
The period in which Polish logicians attained their highest achievements, the period of algebraicism, is the sixth period in the history of Polish logic and the second period of modern logic, which follows that of psychologism, though only after a lapse of five years which was effectively barren in logical terms (1865–1869). Within this period of algebraicism one can distinguish four subordinate periods: 1870–1882, 1884–1889, 1900–1917 and 1918–1939. The first three have all the signs of being periods of preparation before the flowering of Polish logic which occurred between 1918 and 1939, a flowering which was mercilessly interrupted, once again for a period of five years, by the events of the II world war.

This period of preparation stands out firstly because of the hitherto unheard–of growth in the number of centers where logic was pursued, secondly on account of the increase in the number of essays in circulation. At the peak of the period of psychologism, between 1842 and 1864, there were only ten scholars working on logic, and they only published in those twenty years a mere fifteen essays. Between 1870 and 1882 on the other hand fifteen scholars published thirty essays; between 1884 and 1899 thirty scholars published sixty essays; and from 1900 to 1917 sixty scholars published two hundred essays, and one might add that in 1912, for instance, as many essays were published as in the course of the thirteen years from 1870 to 1882.

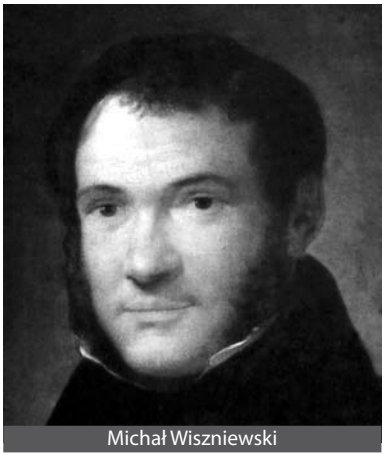
The individual regions of the old Commonwealth were not, however, at that time in equal measure «saturated» with logic. The most robust centers of research belonged to Ruthenia and Little Poland. Prime of place should be accorded to that at Lvov, which employed the following amongst others: Aleksander Raciborski, Stanisław Piątkiewicz, Wacław Wolski, Kazimierz Twardowski, Jan Łukasiewicz, Bronisław Bandrowski, Wacław Sierpiński, Zygmunt Zawirski, Kazimierz Sośnicki, Stanisław Leśniewski, Tadeusz Kotarbiński, Tadeusz Czeżowski and Kazimierz Ajdukiewicz. The center at Cracow functioned around the following, amongst others: Józef Kremer, Stefan Pawlicki, Antoni Molicki, Konstanty Czaykowski, Franciszek Gabryl, Konstanty Michalski and Leon Chwistek. Partly connected with Cracow were Władysław Biegański and Franciszek Sękowski. In Mazovia, on the other hand, only Henryk Struve, Władysław Gosiewski, Adam Mahrburg, Władysław Mieczysław Kozłowski (the younger), Józef Abramowski and Stefan Mazurkiewicz worked on logic. Edward Stamm still belonged to the center of Warsaw, although he worked elsewhere. In Great Poland it was only Kazimierz Wize and Czesław Znamierowski who first started work on logic; in Prussia there was Władysław Świtalski, who was loosely connected with the rest of the country (amongst other ways by membership in the Polish Philosophical Society). The logical center in Lithuania, which after the January Uprising experienced particularly cruel persecution on the part of the partitioning power, was reborn only during the twenties, mainly thanks to the participation of Tadeusz Czeżowski. Outside Poland the following amongst others

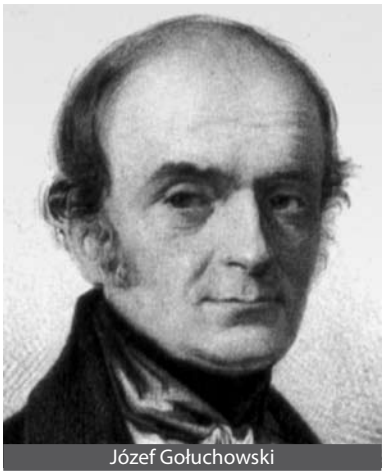

Marcin Nikuta


Jan Śniadecki


Benedykt Dobszewicz


Anioł Dowgird


Michał Wiszniewski


Józef Gołuchowski

worked in logic: Bronisław Trentowski (in Germany), Platon Porecki (in Russia) who moreover did not keep in touch at all with centers in Poland, Wincenty Lutosławski (in Switzerland, England and France) and Józefa Kodisowa, born Krzyżanowska (in the United States).

In the second half of the nineteenth century it was not only the number of logicians which increased, but also the size of what one might call the passive logical community. The contributing factors in this were firstly the appearance of logic amongst subjects on the curricula, where either Polish or the language of the relevant partitioning power was the teaching–medium, of grammar schools (gimnazja) in each region of the old Commonwealth: Little Poland and Ruthenia (1855), Great Poland and Prussia (1862), Mazovia (1863 and in the final instance 1871) and finally Lithuania (1871). An even greater contributing factor was, secondly, the renewal of courses of lectures on logic, given in Polish, at university–level: in the Warsaw School of Further Education (1862–1869), at the Jagellonian University (1870) and at the University of Lvov (1871). It is perhaps worth mentioning that the revival of logic–teaching not only constituted a means of inculcating the habits of disciplined thought (Kaszewski 1861; Bobrzyński 1912), but also enabled people to act in more decisive ways, particularly in matters affecting society generally (Krupiński 1878).

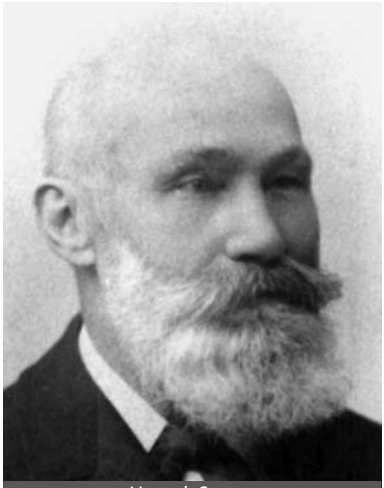
The introduction of logic as the subject of lecture–courses engendered a demand for text–books. At the beginning this was solved by translating foreign works. Of six translations made of works on logic in the years 1870–1882 as many as five were of manuals on logic; amongst these

was the excellent translation of Alexander Bain's *Logic* from the pen of Franciszek Krupiński (1878). Gradually, however, more and more, original manuals began to be written. In the last twenty years of the period of psychologism only two manuals appeared, of these one was of university–level. If one discounts reprints, then in the years 1870–1882 four manuals appeared, of these, one of university–level; between 1884 and 1899 eight manuals were published, two of these being of university–level; between 1900 and 1917, on the other hand, fourteen manuals appeared; three of which were of university–level. In the years 1884–1899 the number of translations of foreign manuals fell to three (out of seven translations of logical works) and between 1900 and 1917, although there was no remarkable change in the number of translations of other works on logic — there were six works published — not one manual of logic was translated. The original Polish manuals were of unequal worth. A few of them were excellent (Twardowski 1901c; Biegański 1907d and 1916), a few were decidedly bad (Dzieduszycki 1895; Brzozowski 1905). The rest had their weaker and their stronger sides. Amongst the former was the inclusion of a lot of padding in the form of irrelevant information (Kremer 1876; Nuckowski 1903a), obscure layout and vagueness in the setting out of proofs (Kozłowski the younger 1916) and blatant mistakes (Kremer 1876; Kozłowski the elder 1891). On the positive side were accessibility (Pawlicki 1895; Pechnik 1897; Twardowski 1901c; Struve 1907; Biegański 1907d and 1916; Gabryl 1912), clarity (Zagórzański 1873; Kremer 1878), objectiveness (Zagórzański 1873), and just careful use of language (Kautny 1871; Kremer 1878). Undoubtedly a merit


Józef Kremer


Władysław Kozłowski


Stefan Pawlicki



Henryk Struve

Aleksander Raciborski

of certain of the manuals was the interconnection of short histories of logic (Pawlicki 1895; Gabryl 1899; Mahrburg 1902; Biegański 1907d), and above all the provision of sets of exercises (Kozłowski the elder 1891; Nuckowski 1903a; Lutosławski 1906; Biegański 1907d and 1916). Of value also was the idea of preparing manuals on logic intended for certain well–defined areas of the reading–public: for physicians (Biegański 1894), teachers (Baranowski 1895; Twardowski 1901c) and for civil servants (Heryng 1896).

Individual problems of logic were variously treated by the various authors of these manuals. Of equal consequence in this were the personal preferences of the author and the tendencies and preferences common to the age in which the book was written. And it was at this time that currents in research began to change relatively quickly. Not everyone was able to grasp the rejuvenating effect that this difference of opinion was having on logic: intuitionism rivaled with intellectualism, formalism or ontologizing anti–psychologism with psychologism (Biegański 1912). But just about everybody felt the need to continue the work of laying a foundation for logic begun in the period of psychologism (Heryng 1896).

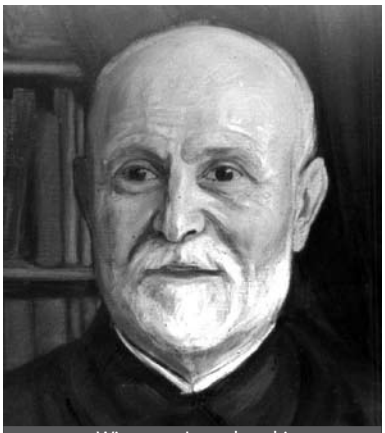
The first thirteen years of the period of algebraicism (1870–1882) were characterized by research in methodology (Molicki 1879). The development of methodology at this time is undoubtedly connected with the watch–words of the epistemologization of logic which were current in the years 1842–1864. The fruits of previous generations' work in logic, so negatively but superficially evaluated and well nigh rejected as a whole during the period of psychologism, now became the object of profounder reflection (Struve 1870). It was still held that logic should be given a foundation on psychology, but here psychology was no longer the rationalistic kind as before but an empirical psychology (Kremer 1878). A consequence of this conviction was the undertaking of investigations in the area dividing psychology and logic, and these were rewarded between 1884 and 1899 in the form of fundamental results in the field of psycho–logic

(Twardowski 1894 and 1898). Concurrent with these developments began a gradual retreat from psychologism. Attempts were made, not always in full consciousness of what was actually happening, to augment logic with grammar, which like psychology at this time had yielded to the challenge of empiricism (Gabryl 1899). Historical investigations began to encompass the logic of Ancient Greece: Plato (Lutosławski 1897) and Aristotle (Gabryl 1897; Łukasiewicz 1910a). Works were appearing which broke with the hitherto usual attitude of disrespect towards the results of classical Greek logic (Zarański 1882; Czaykowski 1894–1895; later Twardowski 1910a; Łukasiewicz 1911a). Investigations in methodology were continuing (Raciborski 1886; Biegański 1894). In the next eighteen years, from 1900 to 1917, a decidedly anti–psychologistic trend set in (Twardowski 1912) along with one toward grammaticalism, which this time was fully conscious. Both these currents favored the rebirth of interest in semiotics (Bandrowski 1905d). The investigations in the history of logic which were continually being undertaken (Twardowski 1910a; Łukasiewicz 1911a) influenced methods of solving problems in pure logic (Łukasiewicz 1910a). Essays on previous work in logic in Poland (Struve 1911), especially pertaining to the period of ontologism (Michalski 1916), occasioned a revaluation of attitude to the past attainments of the tradition these logicians were part of. The analysis of different problems of methodology continued undisrupted (Bandrowski 1904; Łukasiewicz 1906a, 1907b and 1913a). At the end of these thirteen years the first attempts at algebraicizing logic were beginning to be made (Łukasiewicz 1910a; Stamm 1911–1912;


Adam Mahrburg


Władysław Biegański


Władysław Mieczysław Kozłowski


Wincenty Lutosławski


Józefa Kodisowa


Franciszek Gabryl

Chwistek 1912; Leśniewski 1916; in the years prior to this time Piątkiewicz 1888). This heralded that blossoming in logistic which characterizes the inter–war years.

The legacy of the years from 1870 to 1917, years embracing three preparatory subordinate periods, as one might call them, which preceded the golden age of Polish logic (1918–1939), was the result of the work of three generations of logicians: of the generation of Henryk Struve, that of Władysław Biegański and that of Kazimierz Twardowski. But these three men themselves made the greatest contribution. One could say that Struve's concern was with tradition, Biegański's with thoroughness and Twardowski's was with the future of logic in Poland. Thanks to the indefatigable researching of Struve, the originators of those achievements in Polish logic of the inter–war period were able to appreciate the wealth of our logical past. Thanks to the comprehensive knowledge of Biegański they were able to become acquainted with the contemporary state of logic in the world. Thanks to Twardowski's work as a teacher they could justifiably cherish the hope that the legacy jointly assimilated by them would not fall on stony ground.

3. The sources

The year 1904, the year of the founding of the Polish Philosophical Society in Lvov, turned out to be felicitous for Polish logic; and not just because it was in that year that as many as five logicians, all of them amongst the originators of those attainments of the inter–war years, were born; I have in mind Izydora Dąmbska, Seweryna Łuszczewska, Adolf Lindenbaum, Henryk Mehlberg and Jerzy Słupecki. The year was also felicitous in that the

Society managed to bring together a large proportion of logicians then active and a high proportion of the members of the Society constituted from the beginning the logicians.

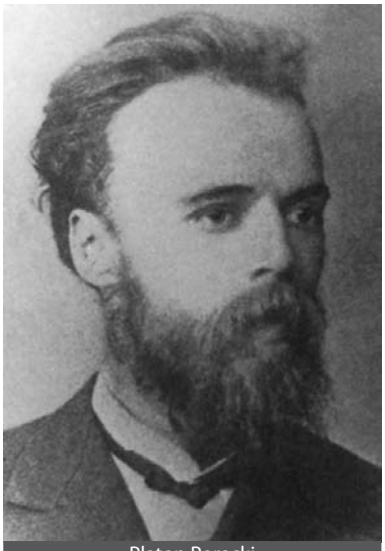
A similar tendency could be noted in the remaining philosophical societies in the country. Logic was the subject of three, successive, presidents of the Cracow Philosophical Society, founded in 1909: Maurycy Straszewski, Witold Rubczyński and Zygmunt Zawirski. In the Warsaw Institute of Philosophy, founded in 1915, Łukasiewicz led the section of logic and, after the death of Władysław Weryho in 1916 was in charge of all the activities of the Institute. The first secretary of the Poznań Philosophical Society was Władysław Mieczysław Kozłowski (the younger) who was also concerned with matters of logic; the society was founded in 1921. Tadeusz Kotarbiński presided over the Warsaw Philosophical Society from the time of its inception in 1927, and then presided over the whole Polish Philosophical Society from the time of the general unification of the provincial societies in 1948. His successor was also a logician, Klemens Szaniawski. During the whole of the existence of the Vilna Philosophical Society, from 1928, that is, until after the end of the II world war, its president was Tadeusz Czeżowski.


Edward Stamm


Czesław Znamierowski

So it is not a coincidence that one fifth, and in some years a higher proportion, of all the meetings of the Polish Philosophical Society should have been devoted exclusively to logic. It is not a coincidence that the first paper on logic should have been presented to the Society by Jan Łukasiewicz as soon as the fourth meeting, which took place on the 29th of March 1904 and the guest speaker at the fifth meeting on the 13th of April of the same year, was also a logician, Bronisław Bandrowski. It is not a coincidence that the first section should have been the section of logic. Nor is it coincidental that on the first roll of members of the Society we should find the names of Struve, as one of the two


Henryk Hoyer


Platon Porecki

founding–members, and of Biegański and Twardowski amongst the circle of the fifty eight active members.

> The Polish Philosophical Society will not serve the purposes of any one philosophical approach to the exclusion of others, for it is our wish that all approaches come under our auspices. We want to be free of one–sidedness; we want to be as many–sided as possible. The one and only dogma of the Society will be our conviction that dogmatism is the greatest enemy of all academic investigation.

These remarks were made by Twardowski (1904b: 241). But the conviction which Twardowski spoke of was shared by both Struve and Biegański. In this way an environment was created which to a great extent accelerated the transformations which were coming to the surface in the field of logic in Poland from 1870 onwards.

One can best assess those transformations by following the objections raised against the usual ways, common to manuals on logic of the day, of outlining the area of logical investigation. The usual views were that the object of logical investigation was either knowledge or reasoning, or language, or methods of proof, or just reality.

Arguments against these views went as follows. If knowledge pure and simple were the object of logical investigation (Straszewski 1872 and 1900; Mahrburg 1901; Stamm 1911d), then logic would in no wise differ from epistemology. At the same time, within epistemology one is after criteria for the truth of various individual constituents of knowledge but logic at the most establishes a test for the mutual consistency of these constituents. Their tasks are moreover different and one ought to be on one's guard against mixing logic and epistemology (Raciborski 1885b; Heinrich 1901; Biegański 1903a and 1912a; Gabryl 1912). All the more should one regard the attempts at basing logic upon epistemology as miscarried. The same can be

said of attempts at finding a foundation for logic in psychology, be it the old rationalistic psychology or the newer empirical kind. When one accepts the concept of reasoning as the object of logical investigation (Kautny 1871; Raciborski 1886; Hoyer 1888; Biegański 1912a; Rubczyński 1919), then there is a real danger of being under the impression that logic is part of psychology (Ochorowicz 1872; Twardowski 1898; Biegański 1897a and 1903a; Znamierowski 1912). But that would be a false impression. Logical assertions have the status of normative rules, whereas the assertions of psychology are descriptive laws (Ochorowicz 1872; Zagórzański 1873; Kremer 1878; Mahrburg 1902a; Biegański 1903a). Rules of logic are unassailable and unchanging, psychological laws can be disputed and changed (Łukasiewicz 1907c; Kozłowski the younger 1916). The rules of logic provide principles with which the results of certain intellectual processes should comply (namely cognitive processes), but the laws of psychology provide a generalized description of these processes themselves (Molicki 1879; Gabryl 1899; Bandrowski 1904b and 1907; Łukasiewicz 1907c;Twardowski 1912; Zawirski 1914).


Maurycy Straszewski


Julian Ochorowicz

Neither can grammar become the basis for logic. Admittedly, if one assumes, as is sometimes done (Łukasiewicz 1912b; Molicki 1914), that the object of logical investigation is language, then the temptation can arise of reducing logic to grammar (Struve 1870; Trentowski 1874; Raciborski 1885b). However, this particular route constitutes an impasse for all those who deny only that there is identity, but also full correspondence of thought and language (Zagórzański 1873; Dębicki 1876; Świstun 1890; Nuckowski 1903a; Appel 1909; Wize 1914). If there were such a correspondence, then indeed one could arrive at principles of logic from a straight analysis of language–form (Molicki 1879; Bandrowski 1905d). Now principles of grammar have authorizing force usually with reference to a given language (Dębicki 1876; Gabryl 1899), and even within the limits of this relativization they become

transformed throughout different periods in the development of the language (Rozwadowski 1913). Logic, however, does not take into account such limitations; assertions of logic hold in all circumstances and do not change. In this respect they remind one of assertions of mathematics. If it were to happen that there arose a branch of logic whose essence lie in investigating the principles of proof, then assertions in this field would have to be taken as a certain interpretation of algebraic formulae (Struve 1870; Trentowski 1874; Porecki 1884; Raciborski 1885b; Stamm 1911d; Ajdukiewicz 1911). The distinguishing mark of logic in this interpretation would be that the entities referred to in the algebraic formulae would be concepts or propositions, and not, for instance as in set theory, sets (Piątkiewicz 1888; Stamm 1911a; Janiszewski 1914). One could moreover go further and hold that the necessary connections between propositions affirmed in the assertions of logic are really necessary connections between states of affairs which are referred to by the propositions investigated in logic (Bandrowski 1905d). In such a way logic would become a kind of ontology (Horodyski 1914b). However, such a position is not defensible, since one can easily show that the assumption that logical and ontological categories run parallel with each other is mistaken (Raciborski 1885b; Bandrowski 1905d; Pawlicki 1909; Biegański 1912a; Gabryl 1912).

As a result of such considerations there arose the awareness that neither attempts to reduce logic to epistemology, psychology, grammar, algebra or ontology, nor attempts to found logic on any of these disciplines, could succeed. Ultimately the conviction, that logic was independent of these, won the day (Gabryl 1912). But out of research undertaken in various directions, but connected with these very attempts, there arose a wealth of interests and far–reaching solutions which characterize Polish logic of the inter–war years. For it was exactly these investigations which led to the development of methodology, the achievements of psycho–logic, the rebirth of semiotics, the progress in logistic and the discovery, at the threshold of the interwar era, of non–Aristotelian logic.

The immediate source of the development in methodological investigation was the concern with the relation of logic to epistemology. In order to justify a specific position in that dispute it was necessary to have at one's disposal more exact ideas than had hitherto been usual of what truth and reasoning were. The first was considered eventually to be a relative (Kotarbiński 1913a) or an absolute (Twardowski 1900b; Leśniewski 1913c) attribute pertaining to all and only those sentences which were adequately justified (Kozłowski the elder 1898; Biegański 1907d and 1910e). Truth thus characterized was opposed to criteria of truth (Łukasiewicz 1911e) which were usually considered to be found in the measure of agreement holding between attributes predicated of an object and attributes really belonging to the object (Kautny 1871; Łukasiewicz 1907c and 1910a), but sometimes also in the measure of agreement holding between a thought and the relation indicated in that thought as holding between objects (Gabryl 1900) or even between the thought and other constituents of knowledge (Biegański 1910e).

As far as reasoning was concerned, it was generally agreed that it was analyzable as a logical relation holding between experiential and semantic entities (Borowski 1913a). Opinion as to the nature of this relation and of the entities entering into it was, however, divided. On the one hand the relation of agreement between impressions or expressions was taken into account (Kautny 1871; Biegański 1897 and 1903a); on the other the relation of entailment between thoughts (Twardowski 1901c) or sentences (Łukasiewicz 1911d). In connection with the problem of the nature of reasoning the question arose of the basis for asserting a relation of agreement or of entailment. Such a basis began to be looked for in various kinds of real relations (Raciborski 1886; Łukasiewicz 1907; Biegański 1909; Sękowski 1910b; Sośnicki 1910c; Zieleńczyk 1910; Kodisowa 1910a; Borowski 1913a), especially in the carefully analyzed relation of cause and effect (Niedźwiecki 1874; Hoyer 1897; Gabryl 1902; Bandrowski 1904b; Łukasiewicz 1906b; Borowski 1913a).


Jan Sleszyński


Władysław Heinrich

Accompanying these general investigations into the nature of reasoning were analyses of its various forms. It was perceived that depending on whether the direction of reasoning is in agreement with that of entailment, as in the case of inference and confirmation, or not so, as in the case of demonstration or explanation, reasonings can be divided under the headings: deductive and reductive (Twardowski 1901c; Łukasiewicz 1910a and 1911b; Ajdukiewicz 1913a; Kozłowski the younger 1916). Particular attention was paid to reductive reasonings. At first it was accepted that proof was a certain (complete) kind of justification (Biegański 1909a; Kotarbiński 1913d). For proof so understood exact and at the same time general conditions of completeness were found (Sleszyński 1913c). Similarly the concept of explanation was brought under the more general concept of clarification (Heryng 1896; Hoyer 1897; Sękowski 1910b; Borowski 1913a). Here a dispute developed on the role of clarification and description in

science (Heryng 1896; Hoyer 1897; Kodisowa 1910a). This dispute led to the realization that in science a pure description is essentially incomplete and does not lead to new discoveries and that clarification is indispensable (Sękowski 1910a; Zieleńczyk 1910). On occasion logicians concerned themselves with, first of all, the relationship of clarification to induction, understood at that time largely (Kozłowski the elder 1893; Kozłowski the younger 1916) but with exceptions (Gosiewski 1904) as deduction in reverse. Secondly an important step was taken toward grasping the structure of scientific theories: they began to be regarded as a set of assertions ordered by the entailment–relation (Mahrburg 1897; Łukasiewicz 1906b and 1911b). At the same time it was recognized that there was a disparity amongst the members of the set, and the first attempts at establishing the status of the laws belonging to it (Korzybski 1870), and in particular of their hypothetical character (Łukasiewicz 1906b; Twardowski 1907a; Borowski 1913a) were begun.

In this way the discovery of the foundations of logic in epistemology prepared a basis for later attainments in methodology, particularly in the field of meta–logic.

It was a different direction which the investigations of those who wanted to found logic on empirical psychology took. Intentions of constructing an intensional logic — and thus of reconstructing the true course of cognitive processes in the mind (Biegański 1901 and 1903a; Kozłowski the younger 1916) — were not in fact realized (Biegański 1912a). But attempts at making psychology a foundation for logic fructified in the form of essential issues in the field of psycho–logic (Stögbauer 1910a) mentioned above. The first of these issues consisted in an exact differentiation between the actual process and the object of a given presentation (Twardowski 1894). Thanks to this distinction one could then show what the difference between presentations and propositions in general consisted in (Twardowski 1894 and 1901c; Jawicówna 1905) as well as indicate within the sphere of presentations the difference between concepts and images (Raciborski 1886; Kozłowski the elder 1892; Twardowski 1898, 1901c and 1904a; Biegański 1900; Gabryl 1904 and 1912; Stögbauer 1910a; Kozłowski the younger 1916). This also enabled one avoiding the hitherto not unknown tendency of confusing the logical content of a concept with its psychological content (Abramowski 1915b).

At this point problems arising from the tendency to underpin logic with psychology converged with problems arising from the tendency to establish a more exact link between logic and grammar, and this led to the rebirth of semiotics. Although it is indeed the case that grammar must assume the laws of logic, and not *vice versa* (Zagórzanski 1873), certain observations made within grammar can contribute to a clarification of certain matters pertaining to logic (Rubczyński 1911a), on condition, that is, that, while investigating the logic of natural language (Zagórzański 1873), one does not lose sight of two things: the fact that language has many functions (Bandrowski 1905d; Twardowski 1910b; Biegański

1915; Kozłowski the younger 1916) and the danger of a vicious circle where language is used to describe language (Hoyer 1897). Among the problems of semiotics most attention was devoted to the key question of the meaning of expressions. Some logicians identified meaning with a presentation (an image or a concept) connected with a given word and correspondingly with a thought (a belief or proposition) connected with a sentence (Kautny 1871; Rozwadowski 1903; Gabryl 1904; Struve 1907; Twardowski 1910b). Others considered meaning to be an external object (real or abstract) which is referred to by a given word (Kaunty 1871; Bandrowski 1905d and 1907; Łukasiewicz 1907c; Biegański 1913 and 1915), and the relation between object which a sentence refers to (Ostrzeniewski 1890; Leśniewski 1911c), or just the essence of these objects (Molicki 1879). Both these views were then assimilated by introducing the notion of dual semantic function in language: on the one hand, the function of expression (immediate reference) and, on the other, of indication (mediate reference). Expressions immediately refer to presentations or thoughts and mediately to objects or relations between them (Kautny 1871; Gabryl 1899; Twardowski 1901c; Nuckowski 1903a; Biegański 1903a, 1913 and 1915, Bandrowski 1905d; Łukasiewicz 1907c; Zawirski 1914). Some logicians, on the other hand, tried to reduce the meaning of words to the meaning of sentences, identifying the meaning of a word with the totality of sentences in which that word is used (Bandrowski 1905d; Biegański 1913 and 1915; Kozłowski the younger 1916). Within the realm of sentences particularly searching analyses awaited existential and model sentences. As far as the first is concerned, this came about because it appeared at the time that the reduction of all other indicative sentences to them would be a profitable undertaking (Zawirski 1914). It turned out, however, that under a certain interpretation (Łukasiewicz 1907c) existential sentences are without truth–value (Leśniewski 1911a and 1913d), so


Izydora Dąmbska


Adolf Lindenbaum

that if such a reduction really could be effected, it would have unusually paradoxical consequences. In the case of modal sentences investigation showed that the identification of varieties of these bad hitherto proceeded, not according to one, as usually believed, but according to as many as four principles of subdivision (Zawirski 1914). Of the varieties of modal sentence only ones expressing possibility and necessity had been given logically satisfactory (free, that is, from, on the one hand, subjectivism, on the other, ontologizing assumptions) characterizations (Kotarbiński 1912), having recourse, namely, to agreement between subject and predicate or the relation of entailment between sentences (Łukasiewicz 1907c; Biegański 1912a). The achievement of a purely logical characterization of sentences expressing possibility and necessity inclined logicians toward renewed reflection on the problems of analyticity (Biegański 1903a; Wolfke 1906), definability (Molicki 1914) and the principles of classification (Biegański 1903a; Sośnicki 1911). Moreover the foundations of a logical theory of questions were laid in that the concept of a question was supplemented and given sharp boundaries (Twardowski 1901c; Leśniewski 1911a) together with the concepts of proper and improper answer (Twardowski 1901c). Last of all, there evolved from these investigations contributions to a general theory of signs: basic language–forms were characterized in terms of language seen as a system of signs of a particular kind (Molicki 1879; Twardowski 1910b), as were the main forms such signs could take (Kautny 1871, Gabryl 1899 and 1903–1906; Bandrowski 1905d; Biegański 1913 and 1915).

So the achievements of the golden age in the field of semiotics were an extension of the results of investigations undertaken in the years 1870–1917 in the boundary–areas of logic, psychology and grammar.

The source of the inter–war attainments in logistic consisted in the progress made here in this preparatory period under the influence of attempts at finding an answer to the problem of the relationship of logic and algebra.

In the beginning the algebraicisation of logic had a number of opponents in Poland: they denied that logistic had any potential for new discoveries (Krupiński 1879), or the necessary versatility (Pawlicki 1895; Koch 1910; Gabryl 1912), or exactitude (Biegański 1903a). Defendants of algebraicisation answered these objections by reminding that it was exactly this algebraicisation which modern logic had to thank for the theory of relations unknown to traditional logic (Łukasiewicz 1910a), the generalized theory of inference (Porecki 1900, Łukasiewicz 1910a; Biegański 1912a; Stamm 1913c; Kozłowski the younger 1916) and the liberation from the mistakes of epistemologism, psychologism and grammaticalism (Łukasiewicz 1910a; Biegański 1912a; Kozłowski the younger 1916). However, logicians involved in the development of logistic themselves made a discovery which cast doubt on all their constructions to date — as yet very distant from their later perfection (Piątkiewicz 1888; Sleszyński 1893; Biegański 1903c; Łukasiewicz 1910a; Stamm 1911c). The antinomies inherent in the foundations of these constructions were uncovered. At once attempts were begun to overcome these

antinomies either by making the relevant concepts more exact, amongst these the concept of a part (Łukasiewicz 1907a) and of class (Smolka 1913; Czeżowski 1914; Leśniewski 1914b), or by jettisoning certain logical laws: the law of non–contradiction (Łukasiewicz 1910a), the law of excluded middle (Leśniewski 1913b), and the law of reducibility (Chwistek 1912). And so the analysis of the content of the concept of class became a stimulus for the construction of mereology (Leśniewski 1916). On the other hand research into the consequence of rejecting certain of the theses hitherto considered to be the most fundamental laws of logic evolved into parallel investigations into axiomatic deductive theories (Porecki 1899; Sleszyński 1913c; Zaremba 1916), in particular of axiomatic set theory (Sierpiński 1912) and the foundations of probability theory (Porecki 1887a; Gosiewski 1904 and 1906). This area of logical investigation, begun in Poland at the turn of the century, turned out to be the most fertile and produced the most indisputable gains.

The most important revolution in logic, however, took place as a result of research in logico–ontology. For it was in the attempts at distinguishing logic and ontology that the later achievements in investigations in many–valued logics bad their beginnings; it is here that these logics have their immediate source. Analysis effected in connection with the discovery and search for ways of disposing of the logical antinomies showed that the so–called laws of logic are not ultimate (Łukasiewicz 1910a) nor mutually dependent (Ajdukiewicz 1913a) and can moreover be replaced by others with a corresponding change in the system they underlie (Biegański 1912a). The one justification for these


Seweryna Łuszczewska–Romahnowa


Henryk Mehlberg


Klemens Szaniawski

principles are formal proofs (the corresponding definitions) or just practical considerations (Łukasiewicz 1910a; Stamm 1910c) — and not material proofs (Łukasiewicz 1910a). This had the effect of making an issue of the question whether the rule enjoining rejection in sciende of internally contradictory objects was fundamental (Łukasiewicz 1910a; Chwistek 1917). Amongst such objects were held to be universals (Leśniewski 1913d). However logicians began to defend the position that universals are not contradictory objects, but rather are such that the principle of contradiction does not in effect apply to them (Biegański 1903a; Łukasiewicz 1910a), in the same way as that in which it has no application to certain sentences about the future (Kotarbiński 1912). At the same time in the field of the theory of probability the idea became current that probability should be understood as a property of certain undetermined sentences rather than of events (Łukasiewicz 1913a). And this very coincidence of circumstances led to the birth of non–Aristotelian logic.

The upheavals which took place in these directions were shortly to issue in an unusually fecund vintage of logical achievement. As yet we have not been able to complete the harvest.

* * *

Such is the inheritance, such the attainments and such their immediate sources of Polish logic.

The greatest obstacle dividing people is their lack of knowledge about themselves.

These words of Tadeusz Czeżowski (1948b: 14) concern not only, I think, our contemporaries, but also our forbears. I think they also concern logicians, especially in that when it comes to views on logical matters the distinction between truth and falsity is more easily drawn that in other areas. In view of this, the least danger for a history of logic is that it becomes a history of past mistakes or a graveyard of oddities or in any case it can easily be dealt such a reproach if such pitfalls are not avoided.

2. The development of the Polish philosophy of science and philosophy of nature before the II world war

1. The origins of the Polish philosophy of science and philosophy of nature, and its later development until the 19th century

The first known Polish philosopher was Witelo (cir. 1230 – cir. 1314), a physicist and the author of *Perspectiva* and *De causa primaria poenitentiae et de natura daemonum*. The issues which he addressed in those treatises included the problems of various modes of knowledge. However, the emergence of a true philosophical milieu in Poland is connected with the founding of the Cracow Academy in 1364.

In the 15th century, aspects of methodology and the philosophy of science were essential parts of treatises that contained comments on Aristotle's *Analytics, Topics, Physics*, etc. The issues raised by Cracow philosophers included questions concerning the operations of defining, classifying and proving. The problems of induction were also analyzed. Five personages should be mentioned in this context: Andrzej Wężyk (cir. 1377 – 1430), the author of *Exercitium librorum "Physicorum"*; Benedykt Hesse (cir. 1389 – 1456), who discussed, among others, the problem of movement in *Quaestiones super libros "Physicorum"* (where he adopted the conception of impetus); Jan of Słupcza (1408–1488), the author of a commentary on Aristotle's *De caelo et mundo*; Jan of Głogów (cir. 1440 – 1507), who was not only a philosopher but also an astronomer and geographer and who considered, among others, the problem of *principium individuationis* in his treatise *Exercitium veteris artis*; and Jakub from Gostynin (cir. 1450 – 1506), who analyzed the notion of cause in *Theoremata, seu preopositiones auctoris causarum* containing his commentary on Proclos' *Liber de causis*.

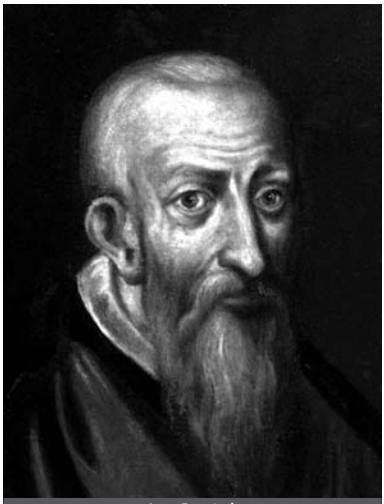
In the 16th century, the following philosophers dealt with issues in philosophy of science: Michał Twaróg (cir. 1450 – cir. 1520) in *Quaestiones in tractatus "Parvorum logicalium" Petri Hispani* (where he discussed the problem of *suppositio,* among others); Michał Falkener (cir. 1460 – 1534), a philosopher and astronomer in *Epitoma figurarum in libros "Physicorum" et "De anima" Aristotelis*; Wojciech Nowopolczyk (1508–1559) in "Oratio de laude physices"; Jakub Górski (1525–1585) in *Commentariorum artis dialecticae libri decem. De revolutionibus*, the work of the greatest scientist of the century, Mikołaj Kopernik (1473–1543), can also be considered a contribution to natural philosophy: it was of great methodological significance, as it had overcome both dogmatism and crude empiricism.

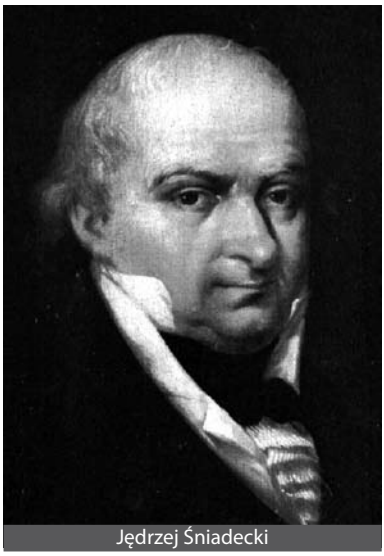
Witelo of Legnica

Among 17th–century philosophers, Adam Burski (cir. 1560 – 1611) occupies a particularly prominent place. In his *Dialectica Ciceronis*, Burski advocated stoic empiricism and recommended the inductive method (prior to Francis Bacon). Bacon's methodology was disseminated in Poland by Jan Jonston (1603–1675). General methodology was one of the principal subjects of the famous manuals of those times: *Logica selectis disputationibus et quaestionibus ilustrata* by Marcin Śmiglecki (1564–1618), and *Systema logicae tribus libris adornatum* by Bartłomiej Keckermann (1572?–1609?). With regard to the issues of natural philosophy, the question of vacuum was debated particularly intensely by Polish thinkers: this is revealed by a comparison of positions adopted in this context by Jan Brożek (1585–1652) in his *Peripateticus cracoviensis*, Wojciech Wijuk–Kojałowicz (1605–1677) in *Oculus ratione correctus*, and Ferdynand Ohm–Januszowski (1639–1712) in *Summa philosophica*. In *Prelectiones philosophicae in octo libors Physicorum* by Tomasz Młodzianowski (1622–1686), modes of existence of matter were described. On the other hand, Adam Kwiryn Krasnodębski (1628–1702) was occupied by some problems of the philosophy of physics in *Philosophia Aristotelis explicata*, and Adam Kochański (1631–1700) raised questions in the field of the philosophy of mathematics in *Analecta mathematica*, co–authored by Kasper Schott (1608–1666).

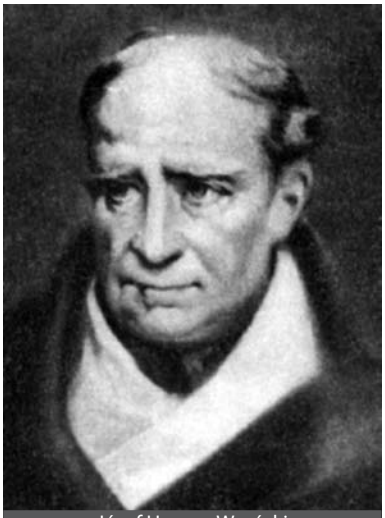
In the 18th century, Marcin Świątkowski (cir. 1620 – 1790), the author of *Prodromus Polonus eruditae veritatis*, emerged as a precursor of the philosophy of science; Hieronim (Stanisław) Konarski (1700–1777) in *De arte bene cogitandi ad artem bene dicendi* analyzed modes of reasoning; the philosophy of physics was one of subjects of *Commentariorum philosophiae, logicae scilicet, metaphysicae, physicae generalis et particularis* by Antoni Skorulski (1715–1777), *Propositiones philosophicae ex physica recentiorum* by Antoni Wiśniewski (1718–1774), and *Carmina* by Ignacy Wilczek (1728 – after 1788). The notion of causality was analyzed in detail by Benedykt Dobszewicz (1722–1794) in *Placita recentiorum philosophorum explanata*, whereas Samuel Chróścikowski (1730–1799) wrote on features of the matter in *Fizyka doświadczeniami potwierdzona* [*Physics confirmed by experiments*]. On the other hand, Ignacy Włodek (1723–1780) proposed an original classification of the sciences in his *O naukach wyzwolonych w powszechności i szczególności księgi dwie* [*Two books on liberal arts in general and in particular*].

In the Polish philosophy of science, the first half of the 19th century is associated with the name of Jan Śniadecki (1756–1830), a mathematician and philosopher who advanced empiricism in his papers collected in *Pisma rozmaite* [*Miscellaneous writings*]. His brother, Jędrzej Śniadecki (1768–1838), a chemist and biologist, the author of *Teoria jestestw organicznych* [*A theory of organic beings*] and "Mowa o niepewności zdań i nauk na doświadczeniu fundowanych" ["A speech on the uncertainty of sentences and sciences founded on experience"] appealed to the unity of experience and reason. The classification of the sciences preoccupied Józef Łęski (1760–1825) in *Rozprawa o nauce przyrodzenia* [*A treatise on the science of nature*]. In Poland of that time, epistemology founded on common sense had a prominent advocate in the person of Anioł Dowgird (1776–1835), the author of *Wykład przyrodzonych myślenia prawideł* [*An exposition of the natural rules of thinking*]. The renaissance of methodological empiricism was the mark of the epoch. Michał Wiszniewski (1794–1865) published *Bakona metoda tłumaczenia natury* [*Bacon's method of explaining nature*], and Dominik Szulc (1797–1860), a student of Jan Śniadecki, emerged as a precursor of Polish positivism in his *O źródle wiedzy tegoczesnej* [*On the source of modern knowledge*]. In contrast to these trends, an eminent mathematician, Józef Hoene–Wroński (1776–1853), developed an extremely speculative system of all branches of philosophy, including the philosophy of nature (despite his professional mastery of mathematics, his philosophical views, collected in *Lœvre philosophique*, were rather obscure).


Jan Brożek


Jędrzej Śniadecki

In the second half of the 19th century, positivism and scientism became prominent in Poland as in other European countries. Wojciech Urbański (1820–1889), a physician, was one of the early positivists. His papers were published as *Pisma mniejsze* [*Minor writings*]. Władysław Kozłowski (the elder) (1832–1899), a psychologist and sociologist, whose works were published posthumously in *Pisma*


Józef Hoene–Wroński


Tytus Chałubiński

filozoficzne i psychologiczne [*Philosophical and psychological writings*] was a mature advocate of scientism. The program of the positivist movement was formulated by Julian Ochorowicz (1850–1917) in *Wstęp i pogląd ogólny na filozofię pozytywną* [*An introduction to and an overview of positive philosophy*]. The program was criticized by Stefan Pawlicki (1839–1916) in "Studia nad pozytywizmem" ["Studies on positivism"]. In *Kilka uwag o podstawie i granicach filozofii* [*A few remarks on the foundations and limits of philosophy*], he discussed, among others, the relations between philosophy and the sciences. His adversary was Marian Morawski (1845–1901), the author of the treatises *Filozofia i jej zadanie* [*Philosophy and its task*] and *Celowość w naturze* [*Teleology in nature*]. In that period, an important role in the development of the anti–speculative philosophy of science was played by physicians. The first impulse was given by Ferdynand Dworzaczek (1804–1876) in "Rzecz dotycząca filozofii medycyny" ["On the philosophy of medicine"]. The classic volumes in the Polish philosophy of medicine are the treatise *Metody wynajdywania wskazań lekarskich* [*Methods of searching for medical indications*] written by Tytus Chałubiński (1820–1889), a physician and naturalist, and *Logika medycyny, czyli zasady ogólnej metodologii nauk lekarskich* [*The logic of medicine, or the principles of the general methodology of the medical sciences*], written by Władysław Biegański (1857–1917). In another book, *Neo–Teleologia* [*Neo–Teleology*], Biegański defended the teleological method of explaining biological phenomena referring to a purpose or a function. His adversary was Adam Mahrburg (1855–1913), an opponent of teleological explanations, and a defender of empirical instrumentalism; his works were collected in *Pisma filozoficzne* [*Philosophical writings*]. More general questions were raised in the methodological text "O metodzie badania naukowego" ["On the method of scientific study"] written by another physician, Henryk Hoyer

(1834–1907). Other topics in philosophy of science discussed in Poland during that period that should be mentioned include the problem of prediction, investigated by Stanisław Kramsztyk (1841–1906) in *Szkice przyrodnicze z dziedziny fizyki, geofizyki i astronomii* [*Studies of nature: essays in physics, geophysics and astronomy*], and the problem of causality, discussed by Aleksander Raciborski (1845–1920) in "Pojęcie przyczynowości w *Systemie logiki dedukcyjnej i indukcyjnej* J.S. Milla" ["The concept of causality in J.S. Mill's *System of logic ratiocinative and inductive*"]. The philosophy of mathematics occupied Samuel Dickstein (1851–1939) in *Matematyka i rzeczywistość* [*Mathematics and reality*], and the methodology of history was studied by Zofia Daszyńska–Golińska (born Poznańska) (1866–1934) in *Szkice metodologiczne* [*Methodological essays*].


Marian Smoluchowski

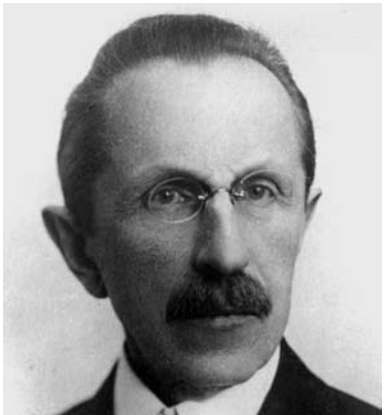
The great Polish physicist of the beginning of our century, Marian Smoluchowski (1872–1917), authored important ideas in the methodology of statistical physics, and Czesław Białobrzeski (1878–1953) developed an Aristotelian approach to quantum mechanics.

2. The Polish philosophy of science and philosophy of nature from the beginning of the 20th century to 1945

In the 20th century, many professional philosophers in Poland dealt seriously with philosophy of science and philosophy of nature.

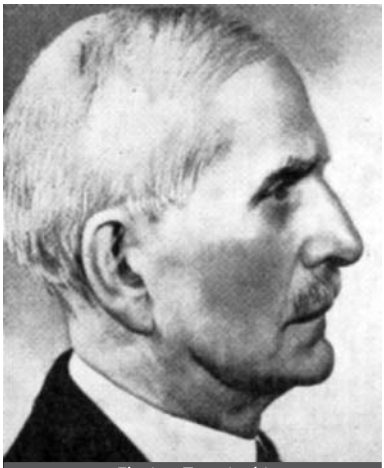
An original approach to general methodology was introduced by Leon Petrażycki (1877–1931) in *Nowe podstawy logiki i klasyfikacja umiejętności* [*New foundations of logic and classification of sciences*]. Leon Chwistek (1884–1944) published the inspiring book *The limits of science*, where he presented the conception of scientific theories as results of a schematization of reality, and outlined the so–called rational meta–mathematics. Napoleon Cybulski (1854–1919) discussed the problem of reductionism in the work "O współczesnym witalizmie i mechanizmie" ["On contemporary vitalism and mechanism"]. The problem of determinism was discussed by Władysław Horodyski (1885–1920), the author of *Pojęcie stosunku przyczynowego* [*The notion of a causal relation*], Edward Stamm (1886–1940), a mathematician, the author of "Przyczynowość a stosunek funkcjonalny" ["Causality and the functional relation"], Adam Wiegner (1889–1967), the author of *Uwagi nad indeterminizmem w fizyce* [*Remarks on indeterminism in physics*], and Joachim Metallmann (1889–1942), the author of *Determinizm nauk*


Stanisław Kobyłecki


Tadeusz Garbowski


Leon Petrażycki

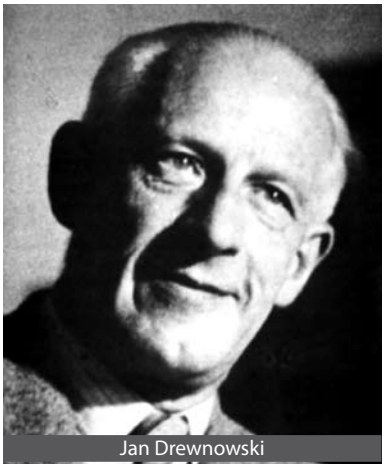
przyrodniczych [*Determinism of the natural sciences*]. Helena Konczewska (1877–1959) supplied a multi–faceted analysis of the notion of substance in *Le problème de la substance*. The mind–body problem occupied Władysław Mieczysław Kozłowski (the younger) (1858–1935) in *Przyrodoznawstwo i filozofia* [*Natural science and philosophy*]. The evolutionary paradigm was defended by Józef Nusbaum–Hilarowicz (1859–1917) in *Idea ewolucji w biologii* [*The idea of evolution in biology*], and by Tadeusz Garbowski (1869–1940) in *Organizm a społeczeństwo* [*Organism and society*]. Stanisław Kobyłecki (1864–1939) supported the idea of separating scientific facts and their interpretations in *Postulaty psychologii doświadczalnej* [*Postulates of experimental psychology*]. Józefa Kodisowa (born Krzyżanowska) (1865–1940), in papers collected in *Studia filozoficzne* [*Philosophical studies*], and Władysław Heinrich (1869–1957) in the work "O metodologii nauk" ["On the methodology of the sciences"] developed the position of empirio–criticism. Investigation in the field of the methodology of medicine was continued by Edmund Biernacki (1866–1911) in *Zasady poznania lekarskiego* [*Principles of medical knowledge*], and by Władysław Szumowski (1875–1954) in *Logika dla medyków* [*Logic for physicians*]. A distinctive approach to the sociology of science was presented by Florian Znaniecki (1882–1958) in *Przedmiot i zadania nauki o wiedzy* [*The object and aims of the science of knowledge*]. Bronisław Malinowski (1884–1942), a sociologist and ethnographer, employed the functional method of explanation in sociology and ethnography, in his papers collected in *"A scientific theory of culture" and other essays.*

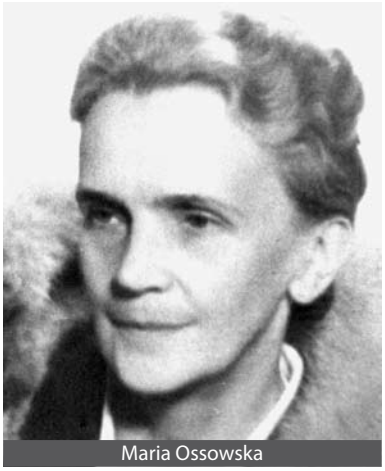

Florian Znaniecki

Each of scholars mentioned above worked alone, so to speak. The situation changed in the case of Kazimierz Twardowski (1866–1938). Twardowski was primarily interested in the philosophy of psychology not in the philosophy of natural sciences. As Franz Brentano's student, Twardowski was awarded his doctoral degree in Vienna and was a professor of philosophy at the University of Lvov from 1895 onward. He had many students and was a founder of the Lvov School, which became known as the Lvov–Warsaw School after the I world war when some of its members became professors of the University of Warsaw. It was a philosophical movement that instilled analytical and scientific philosophy in Poland. An enemy of «philosophical systems», Twardowski fostered analysis of specific problems and concepts in a clear, precise and consistent way. The majority of philosophers presented in this volume are his disciples or disciples of his disciples.

The Lvov–Warsaw School attached great importance to formal logic and had an excellent «logical branch». Among the representatives of Polish logic were: Stanisław Leśniewski (1886–1939), who developed some original formal systems including that of ontology and mereology, Jan Łukasiewicz (1878–1956), the author of many–valued logic, Alfred Tarski (1902–1983), famous for his definition of truth, and Andrzej Mostowski (1913–1975), who investigated the foundations of mathematics. All of them also engaged in an in–depth analysis of the philosophical problems arising from their formal works. Especially sensitive to those issues was Łukasiewicz.

The «philosophical branch» of the Lvov–Warsaw School (which also used logic to a great extent) continued Twardowski's tradition. Below is a list of its most distinguished members. Bronisław Bandrowski (1879–1914) dealt with the problem of induction. Zygmunt Zawirski (1882–1948) was one of the most outstanding Polish philosophers of physics, a forerunner of historical methodology, a pioneer of axiomatizing empirical sciences (especially physics), who initiated discussions on the logical foundations of quantum mechanics in Poland. Outside Poland, he is known primarily as the author of the monograph *L'évolution de la notion du temps.* Tadeusz Kotarbiński (1886–1981) is the author of a materialistic and nominalistic ontological conception known as *reism* (or *concretism*). His book *Gnosiology* was an academic textbook and, at the same time, an exposition of reism and his other original views. Kazimierz Ajdukiewicz (1890–1963) published in *Erkenntnis*, presenting his


Jan Drewnowski


Maria Ossowska


Józef Bocheński

profound epistemology known as *radical conventionalism*. Tadeusz Czeżowski (1889–1981) analyzed various methodological and epistemological concepts, adopting rather unorthodox positions in many fields. Edward Poznański (1901–1976), jointly with Aleksander Wundheiler (1902–1957), analyzed the notion of truth in physics. Jan Rutski (1903–1939) contributed a logical analysis of statistical dependencies. Izydora Dąmbska (1904–1983), the youngest of Twardowski's disciples, wrote about the status of conventions and scientific laws. Adolf Lindenbaum (1904–1941) was an eminent logician; his wife Janina Hosiasson–Lindenbaumowa (1899–1942) examined the reliability of the method of induction. Henryk Mehlberg (1904–1979) wrote about time and other general issues in philosophy of science. Janina Kotarbińska (1901–1997), Tadeusz Kotarbiński's second wife, analyzed the concepts of chance, of laws of nature, of determinism, and others. Seweryna Łuszczewska–Romahnowa (1904–1978) worked in the fields of semantics and methodology and constructed a systematic theory of classification. Maria Kokoszyńska–Lutmanowa (1905–1981) was an insightful critic of relativism; she analyzed semantic and methodological concepts, making valuable distinctions. The couple Stanisław Ossowski (1897–1963) and Maria Ossowska (1896–1974) worked in semiotics. They were among the pioneers of the science of science. Later on, Ossowski became a prominent sociologist and Ossowska an eminent ethicist.

The Lvov–Warsaw School co–operated closely with the Vienna Circle. Both schools were akin in many respects.

Nevertheless, there were essential differences between them. While members of the Lvov–Warsaw School made many efforts to highlight those dissimilarities, commentators often overlooked them. In particular, the Vienna Circle dismissed any metaphysics, whereas the Lvov–Warsaw School was opposed to speculative metaphysics not to metaphysics (ontology) in general. These differences were competently listed by Zawirski. Hence, the Lvov–Warsaw School cannot be included among the positivist schools, although many philosophers, especially adversaries of the Lvov–Warsaw School, called its members "positivists".


Maria Kokoszyńska–Lutmanowa


Andrzej Mostowski

There were many adversaries of the Lvov–Warsaw School in Poland between the two world wars (and later as well). Even though they were not philosophers of science, we will list the most eminent among them: Roman Ingarden (1893–1970), the founder of the phenomenological school in Poland, Henryk Elzenberg (1887–1967), a philosopher of culture, Wincenty Lutosławski (1863–1954), a messianist, Stanisław Ignacy Witkiewicz (1885–1939), a «biological monadist», many traditional Thomists. It must be stressed that there were also Thomists who were adherents of the Lvov–Warsaw School and tried to develop the Thomist philosophy and even theology in a more precise manner, by making use of the tools of logic. This circle included Józef M. Bocheński (1902–1994), Jan Franciszek Drewnowski (1896–1978) and Jan Salamucha (1903–1944). The latter contributed a logical analysis of some of St. Thomas' proofs for the existence of God.

One more personage must be mentioned in this context, namely Ludwik Fleck (1896–1961). He was a microbiologist who also dealt with the methodology of science. His papers in this domain differed significantly from the Lvov–Warsaw School paradigm. Fleck's ideas were in fact hardly noticed by the members of the school. Many years later, his work was praised by Thomas S. Kuhn and inspired a new trend in the philosophy of science.

Jerzy Giedymin

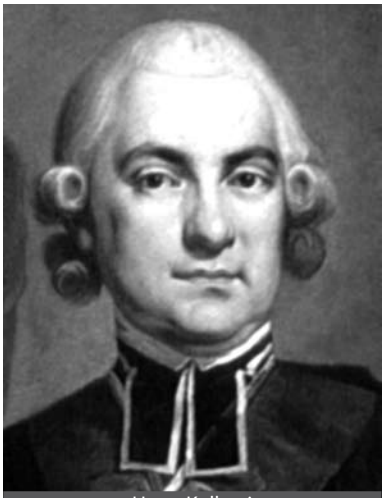
During the German occupation (1939–1945) many philosophers were murdered by the Nazis. The greatest losses were among those of Jewish origin (among the above–mentioned: Metallmann and both Lindenbaums), but others, including priests (Salamucha) lost their lives, too. A few members of the Lvov–Warsaw School left Poland before or during the war. They did not return after 1945 and worked abroad (Łukasiewicz, Bocheński, Tarski). However, most remained in Poland (Kotarbiński, Ajdukiewicz, Czeżowski, Zawirski, Dąmbska, Kokoszyńska, Kotarbińska, Rohmanowa, also Ingarden and Elzenberg) and resumed their university work after the war.

3. The rise and decline of the modern scientific philosophy in Warsaw

1. Traditions


Sebastian Petrycy

Philosophy has been cultivated in Poland for eight centuries and always in close connection with the general European tradition. This connection is manifold, even if we ignore the normal interchange of ideas by the medium of publications (for a long time written in Latin) and if we limit ourselves to the period when Poland was integral and independent, excepting the postpartition years, when (for a century) Polish provinces found themselves in the possession of Austria, Prussia, and Russia. Firstly, the majority of outstanding Polish philosophers studied or completed their studies outside Poland, The oldest scientific contacts of this kind concern Italy (and France). Two 13th century Polish philosophers studied (i.a.) in Italy — Piotr (the elder) of Cracow (at Bologna and Padua) and Witelo of Legnica (at Padua). And this situation did not change up to the end of the 18th century. Let us mention, for example, the most distinguished Polish philosophers who studied in Italy: in the 15th century: Grzegorz of Sanok (at Rome) and Jan Ostroróg (at Bologna); in the 16th century: Sebastian Petrycy (at Padua) and Marcin Śmiglecki (at Rome); in the 17th century: Jan Brożek (at Padua) and Adam Kochański (at Florence); in the 18th one: Kazimierz Narbutt (at Rome) and Hugo Kołłątaj (also at Rome). In the l4th–l5th centuries Polish philosophy (and science in general) was bound by the strongest ties to Bohemia. Twenty Polish philosophers of that period (from Jan Isner to Marcin Król) studied at Prague. Later this contact lessened, but in the 16th century Andrzej Frycz Modrzewski, and in the 17th century Jan Makowski (the elder) were students of Prague University. In the 15th century Poles began to go to German–speaking countries: to Austria — for example, Andrzej of Malbork (to Vienna) in the 15th century, Stanisław Orzechowski (also to Vienna) in the 16th century, Aron Aleksander Olizarowski (to Graz) in the 17th century, and Stefan Łuskina (to Vienna) in the 18th century; or to Germany — for example, Paweł of Worczyn (to Leipzig) in the 15th century, Grzegorz Paweł of Brzeziny (to Wittenberg) in


Hugo Kołłątaj

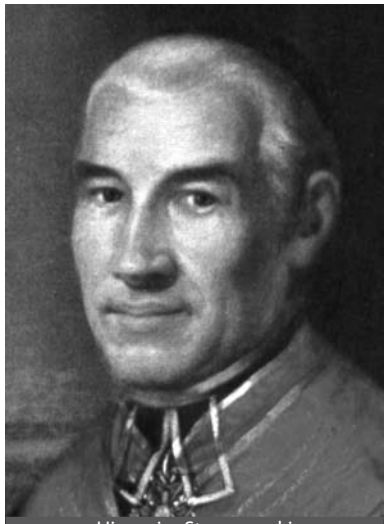
the 16th century, Jan Schulz–Szulecki (to Frankfurt an der Oder) in the 17th century, and Marcin Świątkowski (to Halle) in the 18th century.

Secondly, many foreign philosophers lived and wrote — for varying periods of time — in Poland. The list opens with a Czech, Jan Štekna, a Thomist (14th century). Then Italians: Filippo Buonaccorsi — called "Callimachus" — a humanist (15th century), Fausto Sozzini, an Aryan (16th century), Valeriano Magni, an anti–Aristotelian (17th century), and Giovanni Battista Albertrandi, an anti–sentimentalist (18th century). In the 17th century we have among others an Austrian, Baron Johannes Ludwig Wolzogen, and a German, Johannes Crell. The special feature of this intellectual import consisted in the opening of the Theatins College in Warsaw; two Italians, devotees of *philosophia recentiorum* — Antonio Maria Portaluppi and Giuseppe Torri — were professors at this college (the future Polish king, Stanislaus Augustus Poniatowski, being their student). In Poland there were also active Jewish thinkers, including such completely different persons as Israel ben Elieser — called "Baal–Shem–Tov", the originator of Chassidism, and Salomon ben Jehoshua — called "Maimon", the representative of Haskalism. Finally, let us add two of the heroes of this text: Henryk Struve, born in Germany, and Adam Mahrburg, who was descended from an Austrian family (living at first near Ljubljana): one part of this family emigrated to Poland, another — to Italy…

2. Foundations

Warsaw had no school on university standing up until the middle of the 18th century. Not until the Piarist Collegium Nobilium (1740–1832) and the Royal Chivalrous School (1765–1794) were established did the situation change. Before this, Warsaw — the capital city of Poland since 1611 — was philosophically as well as intellectually a provincial city, remaining under the shadow of such academic centers as Cracow, Vilna, and Lvov. The dominant school of thought of the philosophical environment of the Collegium Nobilium was rationalism — *philosophia recentiorum* — touched with antischolasticism (Hieronim Stanisław Konarski, Antoni Wiśniewski), utilitarianism (Samuel Chróścikowski, Bartłomiej Kamieński) and physiocracy (Antoni Popławski, Hieronim Stroynowski). Utilitarian (cf. Marcin Nikuta) and physiocrat (cf. Józef Kajetan Skrzetuski) ideas were also widespread at the Chivalrous School. It was the period when voices speaking out against practicing speculative metaphysics appeared in Warsaw for

the first time. They came from the circle of professors at the Collegium Nobilium (Wiśniewski) as well as at the Chivalrous School (led by Adam Kazimierz Czartoryski). In particular, the Warsaw Jesuit, Łuskina, was impetuous in his appearances against philosophical speculation, discarding it in favor of exact sciences (he was a physicist, like Wiśniewski and Chróścikowski). This was in harmony with the policy pursued by the Board of National Education toward Cracow University, which had just been turned into the General School of the Kingdom of Poland. In 1778 the number of its philosophical chairs was reduced from twenty four to two: namely the chair of metaphysics and the chair of ethics (or moral philosophy). In 1780 Kołłątaj abolished philosophical chairs altogether, and this state of affairs survived up until 1802, even after the closing of the university by the Austrian authorities in 1792 (i.e. in the year prior to the second partition of Poland). It was 1809 before the chair of *philosophia speculativa* was re–established.


Hieronim Stroynowski

Two professors who held the chair in philosophy at the Royal University of Warsaw — founded in 1816, and dissolved by the Russians in 1831 — criticized speculative philosophy. The first of them, Adam Ignacy Zabellewicz, stressed that the aim of philosophy lay in "discovering the conditions of the whole of knowledge" or "laws governing the activity of the human mind" (1819: 73, 76). The second of them, Krystyn Lach Szyrma, added: "the so–called *Absolutum* is nothing but presumption" (1825a: 14) — and he also concentrated on finding "connections of thoughts", *de associatione idearum* (1825b: 283). Metaphysics had its opponent too, in the professor of mechanics, Adrian Krzyżanowski, who was in favor of the reduction of philosophy to theory of science. Philosophy at the Warsaw General School — which existed for only seven years in the second half of the 19th century (1862–1869) — was again thought in the positivistic spirit: Struve fought *ex cathedra* against "romantic dreaming"; Stefan Pawlicki exhorted the achievement of the program of scientism.

3. Infrastructures

Between 1831 and 1862 Warsaw was deprived of a university in general; between 1869–1905 it was deprived of a Polish university although there was a Russian university with Struve as a lecturer of philosophy (from 1871 to 1903). It was superficial like in Czech Prague with its German university. But, firstly, Russians made up a tiny part of the population of Warsaw, and, secondly, Prague


Krystyn Lach Szyrma

had its own legal Czech university at that time, while the Polish Flying University, active in Warsaw from 1882, was an underground institution.

Nevertheless, this institution was of vital importance, considering that lectures in philosophy were delivered there by such persons of note as Mahrburg (from 1890) and Marian Massonius (from 1893).

The status was changed in 1905 when the Czar's authorities condescended to open a private foundation — the Society of Educational Courses. Philosophy at this quasi–university was thought initially by Mahrburg, Massonius, and Józefa Kodisowa, and then by Ignacy Halpern–Myślicki (from 1907) and Benedykt Bornstein (from 1915).

But the true turning point came in 1915: after capturing Warsaw, the Germans agreed to open a university. That was Polish in the strict sense of the word. Philosophy at the Theological Faculty of this university was taught, among others, by a psychologist, Stanisław Kobyłecki (from 1919), and by an apologist, Wincenty Kwiatkowski (from 1930). At the Faculty of Mathematics and Natural Sciences, the philosophy chairs were taken by Jan Łukasiewicz (from 1915) and Stanisław Leśniewski (from 1919); Władysław Tatarkiewicz (1915–1919, and from 1923) and Tadeusz Kotarbiński (from 1918) took the philosophy chairs at the Faculty of Humanities; Kazimierz Ajdukiewicz also –for a short time (1926–1928) — gave lectures in philosophy. The teaching staff of Warsaw University there also included the *Privatdozents:* Alfred Tarski (from 1926), Henryk Elzenberg (1928–1936), Maria Ossowska and Stanisław Ossowski (from 1935), Dina–Janina Sztejnbarg–Kotarbińska (from 1935), and Bohdan Kieszkowski (just before the outbreak of war).

The older generation — Łukasiewicz, Leśniewski, Kotarbiński, and Ajdukiewicz — studied philosophy at Lvov, under Kazimierz Twardowski; Tatarkiewicz also came into contact with him briefly. The representatives of the younger generation were — with exception of Elzenberg — students of the former: Tarski studied under Łukasiewicz and Leśniewski, the Ossowskis and Sztejnbarg under Kotarbiński, Kieszkowski under Tatarkiewicz. It is interesting however, that the majority of them also studied philosophy at foreign universities: Łukasiewicz at Graz (1909) under Alexius Meinong, Leśniewski at Munich (before 1910) under Hans Cornelius, Tatarkiewicz at Marburg (1907–1910) under Hermann Cohen and Paul Natorp, Elzenberg at Paris (1905–1909) under Henri Bergson, the Ossowskis at Cambridge (1933–1935) under George Edward Moore. This

custom was interrupted with the outbreak of the II world war: the physical isolation was intended to lead to intellectual deterioration…

As well as at the state university, philosophy was studied in Warsaw at the private Free Polish University, established in 1918 from the former Society of Educational Courses. The lecturers of this society, Kodisowa, Halpern–Myślicki and Bornstein, became professors of philosophy at the new university; then Adam Zieleńczyk (from 1920) and Stefan Rudniański (from 1928) joined them.

In 1927 there came into being an institution which united both the philosophical circles. It was called the Warsaw Philosophical Society, created by the merging of the Warsaw Psychological Society (active since 1907) and the Warsaw Philosophical Institute (active since 1915). It is worth noting that the Warsaw Psychological Society was a stand–in for a philosophical society. Firstly, psychology then had the reputation of being a fundamental philosophical discipline, if not indeed a modern form of philosophy itself. Secondly, the Czar's authorities simply would not agree to the word "philosophical" in the official name of a society: the Russian fear of philosophy went as far as a dread of the word "philosophy" itself.

Lecturers in philosophy and other university disciplines used to meet at the Warsaw Society of Sciences, inaugurated in 1907. It referred to the Society of Friends of Sciences, active in Warsaw during the years 1800–1832 (NB. the first president was the Italian Albertrandi, mentioned above).

Only the Messianic Institute, founded in 1919 by the votaries to the ultra–speculative philosophy of Józef Maria Hoene–Wroński — with Józef Jankowski, Paulin Chomicz, and Jerzy Braun at the head — kept partly to itself.

A sign of the beginning of disintegration even in the analytic circle was the inaugurating in 1938 of the Polish Logical Society (which was a continuation of the Logical Section of the Warsaw Philosophical Society), incorporating the ultra–analytic wing of the Lvov–Warsaw School.

This state of affairs endured up to 1939, when the Germans after their victorious attack upon Poland captured its capital. But these Germans were quite different from those of 1915. The Germans of 1915 threw open the door for Polish higher educational institutions — including the university; the Germans of 1939 ordered the closure of all of these institutions. Warsaw University had to start its underground life again.

It seemed that after the defeat of the Germans in 1945 the situation would normalize. But the Russians, who chased the German troops from Poland, turned out to be new occupiers. Warsaw University was not transformed (as in 1869) into a Russian institution «by language», but it was made to change into a Russian institution «by spirit». This «reconstruction» first of all affected Warsaw philosophy. Łukasiewicz (from 1944) and Tarski (from 1939) remained in exile — they did not want to return to the country in the new situation (or rather could not), Leśniewski had died, Kieszkowski had to hide for political reasons, Tatarkiewicz (from 1949) and the Ossowskis (from 1952) were barred from


Marian Massonius

teaching by the Communist regime and Kotarbiński received permission to teach only the ideologically neutral logic.

Instead, party ideologists supported by Moscow and their obedient (for the time being …) pupils held the philosophy chairs. The Theological Faculty was simply rented from the University (in 1954). In 1952 the Free Polish University disappeared (the word "free" was not suspect to Communists only in the phrase "free–thinker," i.e. "atheist"…); none of its philosophers were alive: Halpern–Myślicki died in 1935, Bornstein died in 1948, Zieleńczyk was murdered in 1943 and Rudniański was murdered in 1941. The Warsaw Philosophical Society and the Messianic Institute were not dissolved *de iure,* but ceased their activities *de facto.* Then it was said that the former was «dormant» until 1956; but the latter fell «asleep» forever. In 1952 *Przegląd Filozoficzny* [*The Philosophical Review*], which had been edited for half a century, was eliminated.

The political terror abated a little in around 1955.

Ajdukiewicz took the second (after Kotarbiński) chair of logic (in 1955); Tatarkiewicz and the Ossowskis were able to revive their lectures (in 1956); the Warsaw Philosophical Society rose from the dead as the Warsaw Branch of the Polish Philosophical Society. But all of them remained under the ideological dictation of the Communist party.

4. Programs

Four main philosophical trends coexisted in interwar Warsaw: neocriticism, neoscientism, neoscholasticism, and neomessiamsm.

The Warsaw neocriticism was the earliest of them. It first appeared in the environment of the Society of Educational Courses; then — to a certain degree — at the Free Polish University. The program of this formation — as Mahrburg gave mental shape to it — was a program of a scientific philosophy, i.e. a philosophy "arising from the lively interconnections with sciences in general, and considering its duty acting as a scientific discipline" (1903a: 205). The realization of such a program required the liquidation of traditional metaphysics as simply irrational, i.e. methodologically undisciplined and having maximalistic ambitions. It was compatible with the postulates of Immanuel Kant, to whom the Polish neocriticists referred directly or indirectly (through Albert Lange). According to this program, metaphysics was to be replaced

by the investigations of experimental psychology, intensively pursued later by the neocriticists.

It is interesting that the representatives of the dominant tendency at Warsaw University (apart from its Theological Faculty) — for lack of a better word we can call this tendency "neoscientism" — attacked with extreme vigor just neocriticism (with Kant himself), although the programs of both formations were very similar. The neoscientists also declared in favor of scientific philosophy, i.e. being "anti–irrationalistic" (according to Ajdukiewicz's terminology), of methodological precision, and the «minimalistic» way of philosophy (according to Tatarkiewicz's terminology). Kotarbiński — in his opening lecture at Warsaw University in 1918, known from a short summary in *Fragmenty filozoficzne* (1934: 1) — proclaimed that he wanted to pursue only "small", and not "great", philosophy, and in 1921 even proposed abandoning the name "philosophy" itself. Leśniewski said he was a "philosophical apostate" (1927–1931: 174). Other people did not go as far. According to the majority of them, metaphysics was possible as well as necessary; they demanded the reform — and not the denial — of traditional metaphysics.

Łukasiewicz (1936: 202) called on philosophers to attend to only "scientific problems", i.e. problems that were intelligible (compare the famous disqualifying statement: "I do not understand" of Leśniewski, who also demanded an «understanding» approach to logic). Łukasiewicz called on philosophers to attend to only "univocally formulated" problems, in order for them to check the correctness of their solutions "with the help of strictly determined methods". He wrote (1906: 16):

> The work deprived of scientific method is no scientific work at all, but only dreaming on the subject of science.

There were two reasons for the Warsaw neoscientists' critical attitude to neocriticism. Firstly, they objected that the neocriticists were not really scientifically oriented investigators: not really «scientifically disciplined» people. Secondly, the Warsaw neoscientists — even if influenced by Franz Brentano, as pupils of his pupil, Kazimierz Twardowski — were anti–psychologists. It was not to their liking to found philosophy on experimental psychology, and all the more to reduce philosophy to psychology — even to descriptive psychology along Brentanian lines.

In short: Warsaw neocriticism as well as Warsaw neoscientism claimed to be scientific philosophy; but the former had a marked empirical stamp, the latter had an analytical one. Mahrburg characterized his empiricism in such a way:

> I am a relative empiricist and moreover an empiricist of necessity, because I know no sources of knowledge beside experience (1892: 632).

Philosophical analysis was considered by Łukasiewicz as a product of using the axiomatic method in philosophy.

> We should lean on sentences that are as far as possible intuitively clear and sure, and consider these sentences as axioms […]. All remaining theses [should be] unconditionally proved on the grounds of these axioms […]. The results obtained should be continually compared with data of intuition and experience, as well as with issues of other sciences, especially natural ones (1928: 4–5).

One needs to stress, however, that among the analyticists a marked polarization was apparent — on the grounds of the attitude to natural language. All of them claimed that it was a bad theoretical instrument, but for some of them — such as Tatarkiewicz and Kotarbiński — it was enough to use language in as precise as possible a way (in Kotarbiński it meant making its dehypostasis); whereas others — like Łukasiewicz and Leśniewski — discarded natural language completely in favor of some artificial language, "the precision scaffolding of the symbolic language", according to Łukasiewicz's expression (1936: 202). At the same time there was something specific for the symbolic–logical wing of the Warsaw analyticists. Twardowski in Lvov came out with the so–called symbolomania and pragmatophobia. For his Warsaw successors an anti–formalistic and anti–intentionalistic approach to logic was characteristic (even non–classical logics were «dipped» by them in extensional logic). The former resulted in the fact that only Warsaw was the place for raising "scientific semantics" (Tarski's term). The latter, inversely, was prevented from developing pragmatic issues (Ossowska's works constituted an exception).

The reconstructivistic–constructivistic polarization had an especially dramatic course in Łukasiewicz and Leśniewski, because the first — pre–Warsaw — stage of their creative activity belonged to the reconstructivistic trend. Łukasiewicz transvalued his views in this area independently, and Leśniewski rejected "grammatical philosophy" (as he called it) owing to external impulses: an acquaintance with Łukasiewicz's work *O zasadzie sprzeczności u Arystotelesa* [*On the principle of contradiction in Aristotle*] (1910a) and discussions with Leon Chwistek, who was staying in Warsaw in 1920. NB. The presentation of mereology, published by Leśniewski (1916), was made in natural language.

This polarization in the limits of the analytical tendency — we could say: the polarization of a methodic nature — encountered another polarization of an ontic nature, staying in the background of the controversy about universals between realism (supported among others by Łukasiewicz and Tatarkiewicz) and nominalism (supported among others by Kotarbiński and Leśniewski).

Two remaining tendencies in Warsaw philosophy were the branches of «ideological» philosophy. Neoscholasticism, connected mainly with the university Theological Faculty, but present in Warsaw even earlier (for example at the

Metropolitan Ecclesiastical Seminary), as well as neomessianism, connected first of all with the Messianic Institute, were in opposition to scientific philosophy. They disagreed, however, in the radicality of their programs. The neomessianists, negating the postulate of the precision (and of the literality) of philosophical language, favored metaphors as the most accurate medium of expression in philosophy. The significance of metaphors in philosophy was even stressed by such a «moderate» irrationalist as Elzenberg.

The neoscholasticists — following in St. Thomas' footsteps (along the lines of Désiré Mercier) — agreed to the so–called analogical (i.e. aliteral) terminology, but were generally conscious of its defects. The maximalism of neoscholasticism was also much less «bumptious» than the maximalism of neomessianism. Generally speaking, neoscholastic philosophy had speculative shades, while neomessianistic philosophy had more visionary connotations. Otherwise, although neocriticism and neoscientism condemned both the "obscure speculations" (Łukasiewicz's expression) of the neoscholasticists and the inspired visions of the neomessianists, neoscholasticism was closer to them (or to neoscientism at least) than neomessianism was. It was of no little importance, that both Thomism and Brentanianism had common Aristotelian roots (let us remember that Brentano himself was a deacon of the same order as St. Thomas was). For that reason, Łukasiewicz could rehabilitate mediaeval scholasticism. On the other hand, another Warsaw philosopher, Jan Salamucha, could — successfully — realize the program of analytic reconstruction with reference to strict Thomistic problems (incidentally, a Czech ethician, František Jehlička, was one of Salamucha's teachers…).

5. Coryphaei

Four main philosophical tendencies appeared in Warsaw, but only neocriticism and then neoscientism — and its coiyphaei: Mahrburg, and then Łukasiewicz, Leśniewski, Kotarbiński, and Tatarkiewicz (constituting also the group of outstanding exponents of one of the main branches of the Lvov–Warsaw School) — led the fashion of Warsaw philosophy.

That is how people of the period saw these figures.

Mahrburg:

> As a man, he was pure and severe, tough in the old Polish style, accessible so far as knowledge really went — but intolerant of loquacity and superficiality […]. The circle of his close colleagues and friends [surround him] with deep respect, carried sometimes to adoration […]. This witty and cheerful friend, manifesting the contemporary decadence by no feature of his mentality or character, a loving head of his family, an enthusiastic admirer of Chopin […], a man with a strange combination of coolness of mind, warmth of soul, and force of character, he had his evident idiosyncrasies: he liked solitary walks and excursions; he sometimes had very long periods of silence (Spasowski 1914: XLII, LXIII–LXIV, LXXXI).

Łukasiewicz:

He was of middling height, always correctly dressed, rather shy. Like every great scholar, he was moderately absent–minded […]. He linked together a liking for beauty with an adherence to precision (Bocheński 1993b: 116–118).

The following anecdote captures his personality in a nutshell. One day Józef M. Bocheński visited him and found his master typing a logical text. Łukasiewicz, at the sight of his arrival, took a written sheet of paper from his typewriter and said: "Dear father, how beautiful, and how evidently true it is!". The beautiful and evidently true formula began like this: *CCCKCCKCKKKKCCCKC…* (Bocheński 1993b: 117).

Leśniewski:

He was a man […] of a great posture. He received […] [his guests] always smoking his enormous pipe and drinking coffee from his enormous pot (Bocheński 1993b: 118). His calm, serene way of dealing with people suggested a comparison with a worthy, tame bear, never getting irritated, because constantly sure of his power (Kotarbiński 1958: 296).

His intellectual life was characterized by an extreme sense of precision. An anecdote, recounted by Kotarbiński, says that in his youth he liked to force his colleagues, who he bad met in cafes, to have long discussions on the subject of how to find a translation of the word "zur" in the title of Anton Marty's *Untersuchungen zur Grundlegung der allgemeinen Grammatik und Sprachphilosophie*, that would render the idea precisely. Despite:

Biting the mark with extraordinary precision, when it came to purely objective matters, this man was sometimes irrational in his estimations, where matters of the beast were concerned (Kotarbiński 1958: 306).

Kotarbiński:

A characteristic figure, more old–fashioned to look at than the silhouettes of his equals, thanks to his Sarmatic moustaches. His way of life harmonized with his aspect: a gallantry in manners that was quite behind the times; cordial, an irresistible laugh in moments of good cheer. Humor without gall, wit without malice, seriousness without unction. He refuses irony on principle as being base […]. He finds the greatest satisfaction in non–banal conversations in the company of his friends […]. With a touch of melancholy he says he is like the «worst» saint — Thaddeus, the patron saint of hopeless matters (Pelc 1966: 313).

Tatarkiewicz:

At first sight he would take a sympathetic stand on all the sincere views he encountered. However he was strict when the matter was about moral positions in social or

national life […]. He also made severe judgments in the domain of aesthetics […]. Here his great carefulness regarding the aesthetics of his apartment, his clothes, and — most of all — where words came from (Swieżawski 1987: 239).

A propitious fate enabled him to succeed in avoiding traumata and complexes; he owes his satisfaction with his life to his own temper and the active balance in his life to fate, his temper, and his own work.

His personal charm, good humor, elegance in manners as well as in dress, his talent of being together with people, all these qualities win him everyone's liking and make him popular in society. […] This is an image of a happy man and a happy life, in three meanings of the word "happiness", differentiated by Tatarkiewicz himself: of success, of eudaemony, and of satisfaction (Pelc 1976: 177).

6. Brentanians

All the representatives of the Warsaw branch of the Lvov–Warsaw School were, of course, Brentanians, as Brentano's philosophical agitates. Moreover, we find *direct* references to Brentano in their works.

There are also traces of Brentano in the philosophical production of the extra–analytical Warsaw thinkers of the period discussed. For instance, Struve was probably the first philosopher in Warsaw to mention — in his *Wstęp krytyczny do filozofii* [*Critical introduction to philosophy*] (1896) — Brentano's remarks from "Über die Grunde der Entmutigung auf philosophischen Gebiete" (1874b) on the problem of disagreements between philosophers' opinions. Then, the «original» Brentanian (or idiogenetic — in the Polish tradition) theory of propositions, presented in *Psychologie vom empirischen Standpunkt* (1874a), was critically analyzed by Biegański in his *Teoria logiki* [*Theory of logic*] (1912); he recognized the Brentanian theory as unsatisfactory: it did not give an account of an analytical component of judgments (in judging, we break down presentations into their elements: properties, relations etc.). The topical text on the occasion of Brentano's death was published by Halpern–Myślicki (1917).

But to return to what I was saying about Twardowski' s Warsaw pupils and «grandpupils», the most critical views on Brentano were Leśniewski's views — expressed in his "Przyczynek do analizy zdań egzystencjalnych" ["A contribution to the analysis of existential sentences"] (1911). He expressed himself rather ironically on Brentano and the so–called Austrian School. His criticism concerned — as in the case of Biegański — the Brentanian theory of propositions. Leśniewski wrote:

The theory says that all propositions can, without changing their meaning, be reduced to existential propositions […]. Were it really so […], we would have to draw […] the absurd conclusion that no proposition containing a negative copula can be true (1911: 14).

In his paper "Czy prawda jest tylko wieczna, czy też i wieczna i odwieczna?" ["Is all truth only true eternally or is it also true without a beginning?"] (1913), Leśniewski also expressed himself with disapproval of Brentano's identifying "to exist" with "to be able to be justly accepted". NB. Biegański in his *Teoria logiki* [*Theory of logic*], mentioned above, found Leśniewski's criticism as to the existential theory of propositions groundless; according to Biegański, Leśniewski mixed two notions of existence: subjective and objective (and only the former, i.e. the existence of the subjective object of presentation, could not be rejected in acts of judging).

After Leśniewski, Ajdukiewicz — in his "Założenia logiki tradycyjnej" ["Foundations of traditional logic"] (1926) — referred to Brentano as one of first scholars to existentially interpret categorical sentences. In his "Kierunki i prądy filozofii współczesnej" ["Trends and currents of modern philosophy"] (1937), Ajdukiewicz generally characterized Brentano as the thinker who — in the Aristotelian–scholastic spirit — treated the relation between thoughts and their objects as the intentional relation, and not as the relation of identity (i.e. not in the spirit of Hume and the empiriocriticists).

In 1936 Tatarkiewicz published a review of Brentano's *Vom Ursprung sittlicher Erkenntnis* (1889). He returned to Brentano's views several times. His most important text is the chapter "Brentano" in the book *Nineteenth century philosophy. Twentieth century philosophy* (1973), which is the English translation of the third volume of *Historia filozofii* [*The history of philosophy*] (1931–1950). We may say that it is the Warsaw analogue of Roman Ingarden's remarkable monograph "Filozofia w rozumieniu Brentany" ["The notion of philosophy in Brentano"] (1936b), published in French as "Le concept de philosophie chez Franz Brentano" (1969). According to Tatarkiewicz, the most important point in Brentano's philosophy was the view that evidence is the only criterion of truth (but evidence of true propositions themselves, and not evidence of the intuition grasping such sentences). Tatarkiewicz stressed — in his "Réflexions chronologiques sur l'époque où vécu Husserl (1959) — the revolutionism of Brentano's conception of the intentional act; and — in the paper "Pojęcie wartości" ["The notion of value"] (1968) — the fact that Brentano was the precursor, in *Vom Ursprung der sittlichen Erkenntnis* (1889), of the idea of the theory of values.

For Kotarbiński, Brentano — or more exactly the «late» Brentano, i.e. the Brentano of "Von den wahren und fiktiven Objekten" (1911) — was, first of all, the precursor of reism. He recalled this fact many times, e.g., in the review of Oskar Kraus' *Wege und Abwege der Philosophie* (1935), in the paper "O realizmie w szkole Franciszka Brentana" ["On realism in Franz Brentano's school" (1937a), in his *Wykłady z dziejów logiki* [*Lectures on the history of logic*] (1957), and in the ample text "Franciszek Brentano jako reista" ["Franz Brentano as reist"] (1967); Kotarbiński, of course, being a somatistic monist, distanced himself from Brentano's dualism.

Brentano's views on ethics were analyzed in Warsaw by Ossowska, in her *Podstawy nauki o moralności* [*Foundations of the science of morality*] (1947), being in preparation since 1933. She discussed Brentano's intuitionism concerning the problem of the truthfulness of moral norms. According to Ossowska any intuition (even the intuition of evidence) could be reduced to dispositions for stereotyped behavior, instilled during our childhood.

Last but not least, one should mention Łukasiewicz's references to Brentano. In his *Aristotle's syllogistic from the standpoint of modern formal logic* (1951) Łukasiewicz admitted he borrowed the distinction of two intellectual acts — allowing (*anerkennen*) and rejecting (*verwerfen*) — from Brentano's *Psychologie* (1874a).

7. Results

Certainly, all the Warsaw philosophical formations could glory in important — from their own point of view — results. However only among the achievements of the Warsaw analyticists are there such results which — to use Łukasiewicz's words — represented "fast issues of methodical inquiry" (1936: 202). Of course, results from the domain of logic come to the fore. It is true that certain branches of logic — the methodology of empirical sciences especially — were also intensively developed by Warsaw neocriticists. But unquestioned progress was made by neoscientists — first of all in the field of logical calculi and of the methodology of deductive sciences.

To these results — which are the products of Łukasiewicz or which were developed thanks to his inspiration — there belong, firstly, various axiomatic systems of classical propositional calculus (expressed in Łukasiewicz's original bracketless symbolism, invented in 1924), as well as of: (i) its generalization in the form of many–valued logics, NB. created by Łukasiewicz in 1922, under the influence of Kotarbiński's remarks on "undetermined" judgments (1913); (ii) its enlargement in the form of modal logic; and (iii) its attenuation in the form of intuitionistic logics. We also have here axiomless systems (i.e. systems of natural deduction), constructed by Łukasiewicz's pupil, Stanisław Jaśkowski (1934). The creators of all these systems struggled to construct them not only according to the standard criteria of non–contradiction, of completeness (i.e. with tautologies as consequences of their axioms), and of fullness (i.e. with the constants used being enough to define all the constants of a given calculus). In the case of axiomatic systems their creators struggled to construct them not only as being independent (as to their axiomatics as well as their terms), but also as having as short as possible and, at the same time organic, axioms.

Among the very important logical results we find, secondly, non–standard (and expressed in non–standard «categorial» symbolism) versions of perfect systems of the generalized calculus of propositions (with quantification) and the «free» calculus of quantifiers, constructed by Leśniewski under the form of his protothetics and ontology (1927–1931), as well as his non–standard

version of the theory of sets — in the form of his mereology. These systems fulfill Łukasiewicz's conditions, mentioned above, as well as Leśniewski's additional criteria of categorial «economy» and canonity.

Thirdly, mention should be made of the methodological or — strictly speaking — metalogical (metamathematical) achievements, attained first of all by Tarski, in the form of «definitional» syntactic (1930) and semantic constructions, with his semantic theory of truth (1933) at the core — being an essential step towards the theory of models, and giving an explanation of the notion of "correspondence" with the help of the notion of "fulfillment by any sequence of terms". It is worth saying that these constructions arose — in the first place — from Leśniewski's conception of the stratification of language and required both his distinction between language and metalanguage and his theory of semantical categories (1927–1931).

The first position among the factors decisive in terms of the plurality and the quality of the results in the Warsaw Logical School is held by the fact that in Warsaw there was close cooperation between the logician–philosophers (Łukasiewicz and Leśniewski; then Bolesław Sobociński and Czesław Lejewski) and the logician–mathematicians (Tarski, Jerzy Słupecki, Jaśkowski and Andrzej Mostowski). Thanks to this cooperation the slogan "logic for logic" could be successfully realized: logic was neither «purely» philosophically oriented, nor «purely» mathematically oriented. NB. Tarski wrote about himself in (1944: 281) that he was "a mathematician — or a logician, or even perhaps a philosopher in some sense". But this tendency corresponded to a certain tendency (the strongest one in Leśniewski) to ontologize that is to intend logical systems as describing some special aspects of the real world.

Very important results were obtained, fourthly, in the domain of general methodology, and of the methodology of the empirical sciences and the humanities. As far as the first domain goes, the project of classification of reasoning by Kotarbiński (1929) claims attention; as far as the second one goes, we should distinguish: the analysis of induction made by Kotarbiński's pupil, Janina Hosiasson–Lindenbaumowa (1928; 1934), as well as the defense of naturalistic and anti–naturalistic approaches to humanities, formulated by Kotarbiński (1929) and Ossowski (1935) respectively.

When it comes to metaphysics, the «maximalistic» product created in the Warsaw circle was — lit from all possible angles — the ontological doctrine of reism (connected with the reistic program of unifying knowledge and the reistic criterion of the meaningfulness of utterances); then, the epistemological doctrine of presentationistic imitationism (i.e. of the so–called radical realism). These doctrines were created by Kotarbiński, but — as it afterwards appeared — were anticipated in the «late» Brentano. The remaining results were of a «minimalistic» character; belonging here are the analyses of the problem of causality (Kotarbińska 1931) and determinism (Łukasiewicz 1922, Kotarbińska 1932–1933); the mind–body problem by Henryk Mehlberg (1937)

and the problem of the spatio–temporal structure of the universe (Mehlberg 1935–1937).

Original ethical systems — claiming to be the realization of Twardowski's program of scientific ethics — also came from the circle of Warsaw neoscientists: Kotarbiński's practical realism, and Tatarkiewicz's objectivistic absolutism.

A separate group of further results of the Warsaw analyticists can be found in their historical works. Here it is, first of all, a question of: (i) Tatarkiewicz's standard *Historia filozofii* [*History of philosophy*] (1931–1950); (ii) Łukasiewicz's modernized interpretation of Aristotelian syllogistics (1939) and Stoic propositional logic; then (iii) the analysis of mediaeval philosophy and the logic of St. Thomas and William of Occam — made by Salamucha (1934a; 1935b; 1937a; 1937d), one of Łukasiewicz's pupils.

8. Publications

The period 1880–1980 in Warsaw philosophy falls almost uniformly into five twenty–year periods. The first two periods are marked by neocriticism. The foundations had already been laid by Warsaw positivism; its programmatic publication was *Wstęp i pogląd ogólny na filozofię pozytywną* [*An introduction to and a general view of positive philosophy*] (1872) by Julian Ochorowicz. The main philosophical works of the period 1880–1900 concerned the methodology of the empirical sciences: "O metodzie badania naukowego" [On the method of scientific inquiry] (1888) by Henryk Fryderyk Hoyer, and *Logika medycyny czyli zasady ogólnej metodologii nauk lekarskich* [*The logic of medicine, or principles of the general methodology of medical sciences*] (1894) by Władysław Biegański (who was a philosopher and a physician living in Częstochowa, but connected with Warsaw).

A very similar intellectual atmosphere lingered on in the period 1900–1920, or at least until the outbreak of the I world war. Mahrburg published his considerations "W sprawie naukowości metafizyki" ["On the scientificity of metaphysics"] (1903b); Kodisowa published her *Studia filozoficzne* [*Philosophical sketches*] (1903), referring to empiriocriticist epistemology; Massonius, his *Agnostycyzm* [*Agnosticism*] (1904); Biegański, his *Traktat o poznaniu i prawdzie* [*Treatise on knowledge and truth*] (1910) and *Teoria poznania ze stanowiska zasady celowości* [*Theory of knowledge from the point of view of the teleological principle*] (1915), in which he argued his opinion that the aim of science is foresight (he named this view "previdism").

However, in this period the harbingers of neoscholasticism and neomessianism were already on the scene. At the beginning, Idzi Benedykt Radziszewski published his "Odrodzenie filozofii scholastycznej" ["Renaissance of scholastic philosophy"] (1901). Then, during just one year — though *outside* of Warsaw — works constituting important positions within the analytical as well as the visionary current appeared. In Cracow, Łukasiewicz published his famous treatise *O zasadzie sprzeczności u Arystotelesa* [*On the principle of contradiction*

in Aristotle] (1910a), and at the same time Tatarkiewicz took his doctorate in Marburg with the thesis *Die Disposition der aristotelischen Prinzipien* (1910). In Lvov, *Idee. Wstęp do filozofii dojrzałości dziejowej* [*Ideas. An introduction to the philosophy of historical ripeness*] (1910) by Brzozowski appeared, and a little later, in Warsaw, *Drogi i bezdroża filozofiii* [*Ways and tracklessnesses of philosophy*] (1912) by Zieleńczyk. The presence of the name of Aristotle in the titles of first two works by two analytic philosophers — representing two different wings of the Lvov–Warsaw School: constructivistic (or logistic) and reconstructivistic — is very significant. NB. The founder of the School, Twardowski, published his *Sześć wykładów o filozofii średniowiecznej* [*Six lectures on mediaeval philosophy*] (1910) in the same period.

The central phase of the years 1880–1980 — the inter–war period — was marked by the Lvov–Warsaw School, which, after the re–opening of the university, dominated Warsaw philosophy. Therefore one could say that during the first half of the 20th century *scientific* philosophy kept its ascendancy, and the word "science" was continuously repeated by Warsaw philosophers. In 1897 the inaugural issue of *Przegląd Filozoficzny* [*Philosophical Review*], appeared with Mahrburg's text "Co to jest nauka?" ["What is science?"]; in 1935 in the periodical *Polish Science* the Ossowskis published their text "Nauka o nauce" ["The science of science"]. The outbreak of the II world war made it impossible to print the opening issue of *Collectanea Logica.* The pressure of criticistic–scientistic ideas was so strong, that even irrationalists yielded to its style of expression. It was not by accident that Bornstein entitled one of his first works (1916) *Elementy filozofii jako nauki ścisłej* [*Elements of philosophy as a strict science*]*;* a dozen or so years later (in 1930) Elzenberg wrote about "Nauka i barbarzyństwo" ["Science and barbarity"]; and the title of Braun's book (of 1939) was *Wrońskizm a nauki formalne* [*Wroński and the formal sciences*].

The apogee of the central phase — i.e. the years 1927–1931 (just after the *coup d'état* by Józef Piłsudski in 1926) — saw an explosion in publications. In the course of these years were edited, e.g., such essential positions of the Warsaw representatives of Twardowski's School as "O podstawach matematyki" ["On the foundations of mathematics"] (1927–1931) or the presentation of Leśniewski's ontology and protothetics; *Główne zasady metodologii nauk i logiki formalnej* [*Main principles of the methodology of sciences and of formal logic*] (1928) or Ajdukiewicz's Warsaw lectures; *Elementy logiki matematycznej* [*Elements of mathematical logic*] (1929) by Łukasiewicz; *Elementy teorii poznania, logiki formalnej i metodologii nauk* [*Elements of the theory of knowledge, formal logic, and the methodology of sciences*] (1929) by Kotarbiński; "Untersuchungen über den Aussagenkalkül" (1930) by Łukasiewicz and Tarski; *Historia filozofii* [*History of philosophy*] in two volumes, then enlarged to three volumes (1931–1950) by Tatarkiewicz. A little later, Tarski's *Pojęcie prawdy w językach nauk dedukcyjnych* [*The concept of truth in the languages of deductive sciences*] (1933) was published.

But two remaining — ideological — currents, present in Warsaw philosophy, can also be proud of positions that were very important for them, such as Bornstein's *Architektonika zmysłowości i rozsądku* [*The architectonics of sensuality and reason*] (1927), Kazimierz Kowalski's *Istota i cel filozofii według zasad neotomizmu* [*The essence and the aim of philosophy according to the principles of neo–Thomism*] (1929) and his *Podstawy filozofii* [*Foundations of philosophy*] (1930), as well as Salamucha's *Pojęcie dedukcji u Arystotelesa i św. Tomasza z Akwinu* [*The notion of deduction in Aristotle and St. Thomas Aquinas*] (1930).

The first two twenty–year periods after the II world war were marked by philosophical barbarity, trying by means of political and administrative methods to impress a totalitarian ideology. It is interesting, however, that even the immense (quantitatively!) literary production of the initial period of Soviet occupation — appeared in the form of a *scientific* philosophy. In the second twenty–year period the impetus of this ideological offensive clearly broke down, and many ideological bonzes openly or quietly criticized it in the end.

And after 1980, in Warsaw, and all over Poland, there came not only the gradual return of political freedom, but also the gradual return of philosophy to its general European and own native tradition.

4. The conceptual system of the Lvov–Warsaw School

1. Language as a tool

Kazimierz Twardowski wrote in 1919 in his famous paper "On clear and obscure style of philosophical writing":

> Human speech is not only an outward manifestation of thought, but also its instrument […]; when thinking, we think in words, and hence in speech (1919–1920: 347).

This metaphor of language as a tool becomes intelligible in the light of two distinctions made in 1934 by Twardowski's great disciples: Tadeusz Kotarbiński and Kazimierz Ajdukiewicz. Analyzing the notion of act, Kotarbiński (1934) distinguished, i.a., its author, its tool, its material, and its product (i.e. its intended result). Ajdukiewicz (1934b: 101) distinguished among the acts of thinking the articulated judgings (i.e. judgings expressible in sentences), and among the latter the verbal judgings (i.e. judgings containing acts of assertion and presentations of a respective sentence).

Appealing to these distinctions, we can state precisely the positive part of Twardowski's thesis saying that in verbal thinking language plays the part of its tool as well as its material. The situation is analogous to the role of a piece of chalk during the act of writing on the blackboard.

The sentence:

(1) I claim that *p*

is an external *expression* of my verbal act of judgment, and the sentence:

(2) *p*

is a *tool–material* of this act of judgment.

Now it is obvious that the full reconstruction of the language used by the representatives of the Lvov–Warsaw School is a crucial question, when we want to work according to standards of the School.

2. Conceptual system

In his well–known works "Sprache und Sinn" (1934a) and "Das Weltbild und die Begriffsapparatur" (1934c), Ajdukiewicz introduced the notion of *conceptual apparatus* or the class of all senses ascribed to expressions of a certain (consistent and closed) language. He contrasted this notion with the notion of *language* on the one hand, and with the notion of *world–image* or the class of all sentences which can be constructed with the aid of notions belonging to a given conceptual apparatus and which should be claimed in the face of experiential data on the other hand.

The aim of reconstructing the language of the Lvov–Warsaw School is understood here as reconstructing the conceptual apparatus of this language, or rather the system of semantic links between notions belonging to this apparatus. This system may be called by the name of the *conceptual system.*

Such a reconstruction requires one premise and one limitation.

The (idealizing) premise is that there is exactly one philosophical language of the Lvov–Warsaw School. This premise has a very important consequence. If there is — in principle — only one philosophical language of the School, then the comparison of world–sub–images, peculiar to particular representatives of the School, does not require translating languages expressing these sub–images into a certain common language of interpretation, different at least from one of interpreted languages. Thus there is no ground for troubles starting up in the case of «dipping», e.g., the phenomenological or neoscholastic language in the analytic one.

The limitation is that the reconstruction is limited to the conceptual system of the objective language of the School. The conceptual system of pure logical language is also ignored. The main reason is that the opinion of its «universality» raises no controversy.

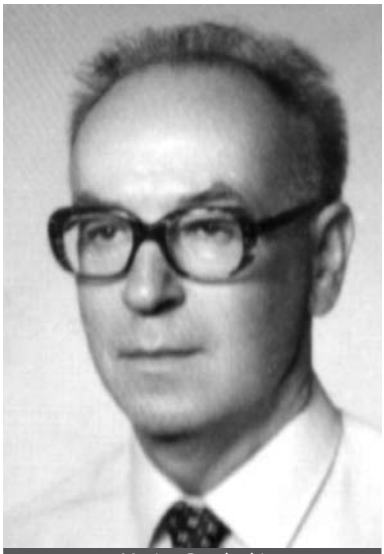
3. The rules of conceptual optimization and precision

Assuming that there is exactly one conceptual apparatus of the Lvov–Warsaw School, we must be aware of two tendencies in its development. The first one is a tendency initiated by Twardowski himself, namely the tendency towards an essentially enriched list of conceptual items. "Essentially enriched" means that new concepts are not fully defined with only the aid of old conceptual items. The second one is a tendency connected mainly with Kotarbiński, namely the tendency towards impoverishing this list.

There is a kind of common background of these two tendencies. The matter is about a certain version of Occam's razor, i.e. the old scholastic dictum: *entia non sunt multiplicanda praeter necessitatem.* This version goes as follows: before introducing new notions we should examine whether they could be spared. According to such a rule of conceptual optimization all concepts belonging to the domain of the relation of being–nothing–but should be eliminated from the philosophical conceptual apparatus.

NB. Both the rule of conceptual optimization and the rule of conceptual precision are the fundamental methodological rules scrupulously observed in the Lvov–Warsaw School.

Conforming to this rule in practice, we are obliged to find such a known relation to a known object, which determines notions under consideration. If it is impossible to construct a satisfactory product and to select suitable domains or counterdomains of former relations, we can and should find either new relations or a set of new objects satisfying these conditions.


Marian Przełęcki

4. The role of metaphors

The rule of conceptual precision as a current in the Lvov–Warsaw School will be analyzed in detail by Marian Przełęcki (1998). Let us stress only two aspects of this rule. The philosophical language of the Lvov–Warsaw School is precisely determined with regard to both its semantic and its pragmatic functions.

We can find many beautiful archaic metaphors in Kotarbiński's works. Tatarkiewicz's writings are distinguished by their elegant expressiveness. That is really true! But carrying only literal senses is the relevant semantic function of this language. And only intellectual expressions (i.e. expressing convictions, and not, e.g., emotions or ecstasy) is its relevant pragmatic function.

Kotarbiński's metaphors are easily understood against the background of his literal considerations. Tatarkiewicz's expressiveness does not cover intellectual contents of his language.

In the light of these facts, when two outstanding representatives of the School, Tadeusz Czeżowski (1958a/1969) and Przełęcki (1982) admit metaphorical utterances serving as expressions of our experience of a mysteriousness of the world or a sense of human life, and when they declare that such an experience cannot be, in principle, literally verbalized, their liberalism in this point should be treated as a serious impairment of methodological foundations of the School.

5. Ideal and real notions

For many philosophers the ideal situation is when elements of the conceptual apparatus of a philosophy fit with elements of the «philosophical» world and *vice versa.* Thus the second tendency, mentioned above, is accompanied by the postulate (present in Kotarbiński's writings) to regard the supposed objects as corresponding to «pared» parts of language as hypostases required by ontological reduction.

This situation can be described with the distinction made by Jan Łukasiewicz in his "Analiza i konstrukcja pojęcia przyczyny" ["Analysis and construction of the notion of cause"] (1906). He identified notions with abstract objects, and distinguished among them two kinds: «ready–made» notions and notions which had to be constructed. According to Łukasiewicz, the latter can be either ideal or real.

To construct an abstract object means to search out some properties, to take into consideration the problem, which of them can be interconnected, and which of them must be removed, and to obtain in such a way a set of properties, linked together with relations […]. [Among abstracts ideal notions are] such abstract objects, which are constructed by our mind apart from the fact, whether they refer to something in reality or not, i.e. which do not aim to cover concrete objects […]. [Real notions, on the contrary, are] such abstract objects, which are constructed by our mind on account of reality, i.e. which do aim at covering some concrete objects (1906: 13–14).

A characteristic feature of the conceptual system of the Lvov–Warsaw School is that its notions have been created with the intention of being real notions.

6. Objects: thoughts, signs, and goods

Now, let us present the main semantic nests–bonds of the Lvov–Warsaw School conceptual apparatus.

Its central bond is the semantic nest of the notion of object. We can identify this nest with the semantic range of ontology.

This ontological nest has three main «exits»: into semantic ranges of (descriptive) psychology, (logical) semiotics, and (moral) axiology.

The semantic range of psychology is concentrated around the notion of thought, i.e. object concerning something. The semantic range of semiotics is concentrated around the notion of sign, i.e. object referring to something. The semantic range of axiology is concentrated around the notion of good, i.e. the object desired by something (somebody). The notion of the supreme good, or God, leads us towards the semantic range of theology.

It is commonly held that theology, as well as psychology and semiotics, are rather outside the area of philosophy. But from the ranges of psychology and semiotics we may come back to it, namely to the semantic range of epistemology, because its central notion, i.e. the notion of judgment, can be interpreted either as thought stating something, or as a sign serving the same purpose.

7. The semantic nest of the object

The full peculiarity of the Lvov–Warsaw conceptual apparatus is perceptible only within the particular nest–bonds.

Le us have a closer look at the narrow semantic nest of the notion of object. We have here two chains of semantic links.

One chain leads up to the notion of a state of affairs *via* the conceptual pairs part/whole (or element/set), relation/arguments and property/thing.

The notion of part (or element) is meant here as the notion of object belonging to something (i.e. whole or set respectively). The notion of relation is meant here as the notion of an object occurring between other objects (i.e. arguments). The notion of property is meant here as the notion of an object characterizing something. Having these three notions, we can introduce the notion of a state

of affairs saying that it is identical with the fact that something is either part of a certain object, or a relation between some objects, or a property of a certain object.

The other chain leads up to two pairs of notions: cause/effect and act/product. The first step on this way is the notion of spatio–temporal — or existing — object. The second step constitutes the notion of variable object. Thus a cause is a (variable) object determining something, whereas an act is a (variable) object tending towards something.

In this way we obtain a system of notions as nuclei of successive semantic sub–nests.

Let us notice that using this very limited fragment of the semantic nest of the object, we can exemplify the program of optimizing philosophical terminology. Let us identify the notion of the soul as the notion of the object containing (as its parts) thoughts that are causes of some acts.

If we accept such an explanation, we shall be entitled to consider the introduction of the soul into our conceptual apparatus as an inessential enlargement of it.

8. The historical order of concepts

There are two quite different orders in the area of concepts: the order of their semantic subordination and the order of the historical sequence of their appearance in the range of a philosopher's attention.

True enough, almost all the main semantic nests of the Lvov–Warsaw School conceptual apparatus — in their rudimentary form — first appeared in Twardowski's writings. But in general — the central notions of this apparatus were subjected to profound considerations only in writings of Twardowski's disciples.

The most important exceptions are constituted by the notion of thought, which was deeply analyzed (together with its full psychological nest) by Twardowski himself in his *Zur Lehre vom Inhalt und Gegenstand der Vorstellungen* (1894), and the notion of judgment analyzed in his paper "O idio– i allogenetycznych teoriach sądu" ["On idio– and allogenetic theories of judgment"] (1907). Then various notions of good were successively analyzed by Władysław Tatarkiewicz, in the monograph *O bezwzględności dobra* [*On the absoluteness of good*] (1919); the notion of object by Marian Borowski in a series of works opened by the paper "Co to jest przedmiot" ["What is an object"] (1920); the notion of a sign by Stanisław Ossowski in his paper "Analiza pojęcia znaku" ["Analysis of the notion of a sign"] (1926). It is a significant fact that the first analyses of the notion of God in the School were developed no earlier than 1934, by Jan Salamucha in his paper "Dowód *ex motu* na istnienie Boga" ["The proof *ex motu* of the existence of God"] (1943a).

From a chronological point of view, the notion of a cause was the starting point in the analysis of the semantic nest of the notion of object: it was analyzed by Łukasiewicz in his paper "Analiza i konstrukcja pojęcia przyczyny"

["Analysis and construction of the notion of cause"] (1906), mentioned above. This paper inaugurated a series of original analyses of other notions of this nest: the notion of existence by Stanisław Leśniewski in "Przyczynek do analizy zdań egzystencjalnych" ["A contribution to the analysis of existential sentences"] (1911); the notion of an act by Twardowski himself in his paper "O czynnościach i wytworach" ["Acts and products"] (1912a); the notion of a part by Leśniewski in his *Podstawy ogólnej teorii mnogości* [*Foundation of the general theory of set*] (1916); the notion of property by Kotarbiński in the paper "Sprawa istnienia przedmiotów idealnych" ["The question of the existence of ideal objects"] (1921a); the notion of state of affairs by Leśniewski in his "Grundzüge eines neuen Systems der Grundlagen der Mathematik" (1929), assuming that Leśniewski's protothetic (i.e. a kind of propositional calculus) is interpreted objectively; the notion of relation by Alfred Tarski in his paper "On the calculus of relations" (1941); and, finally, the notion of change by Ajdukiewicz in the article "Zmiana i sprzeczność" ["Change and contradiction"] (1948b).

9. Classical texts concerning the indicated notions

Only the first deep studies of the indicated notions undertaken by representatives of the Lvov–Warsaw School are mentioned here. It is impossible to mention the works which continued these studies in the School.

We are able, however, to list the works which are the «last words» (so to speak) of the School in these areas.

The main semantic nest–bonds indicated in chronological order are:

1925 — Władysław Witwicki, *Psychologia* [*Psychology*];

1933 — Alfred Tarski, *Pojęcie prawdy w językach nauk dedukcyjnych* [*The concept of truth in the languages of deductive sciences*];

1947 — Maria Ossowska, *Podstawy nauki o moralności* [*Foundations of the science of morality*];

1965 — Józef M. Bocheński, *The logic of religion*;

1972 — Witold Marciszewski, *Podstawy logicznej teorii przekonań* [*Foundations of a logical theory of belief*].

The nest of the notion of object is:

1954–1955 etc. — Czesław Lejewski, "A contribution to Leśniewski's mereology" etc.;

Władysław Witwicki


Roman Suszko


Bogusław Wolniewicz


Witold Marciszewski

1955 — Jerzy Słupecki, "Leśniewski's calculus of names";

1960 — Tadeusz Pszczołowski, *Zasady sprawnego działania* [*Principles of efficient action*];

1963b — Zbigniew Jordan, "On logical determinism";

1965 — Roman Suszko, *Wykłady z logikiformalnej* [*Lectures on formal logic*];

1975 — Zdzisław Augustynek, *Natura czasu* [*The nature of time*];

1985 — Bogusław Wolniewicz, *Ontologia sytuacji* [*Ontology of situation*];

1989 — Tomasz Placek, "Paradoksy ruchu Zenona z Elei a problem *continuum*" ["Zeno's paradoxes of movement and the problem of *continuum*"];

1993 — Jerzy Perzanowski, "Locative ontology".

After this list we are entitled to formulate a very broad hypothesis: the essential progress in analyzing the notions pertaining to the main semantic nest–bonds arises in the second generation of the School (i.e. after 30 years or so), whereas the analyses of notions pertaining to more detailed nests arise rather in the third generation of the School.

Such regularity might imply that there was a very important work including an analysis of the notion of an object published in circa 1950. Unfortunately, there is known no such a work, written by any representative of the School.

Is it, however, acceptable to recognize in Roman Ingarden's *Der Streit um die existenz der Welt* (1947–1948) the work we are seeking. After all, the Polish version of its first two volumes was published just in 1947–1948! Indeed, many parts of this book are written in conformity to the spirit of the School.

10. Summing up and continuing


Andrzej Grzegorczyk

Andrzej Grzegorczyk wrote in 1993 in his book *Życie jako wyzwanie* [*Life as a challenge*]:

> I present a manner of philosophizing which is very primitive. […] I would like to call it a proto–philosophy. According to this manner, making precise some relatively simple […] notions, and formulating a simple […] general hypothesis with the aid of them, is considered a cognitive achievement (1993: 5).

Grzegorczyk is regarded as a representative of the Lvov–Warsaw School, and he admits membership of it. This fact is confirmed, i.a., by his initial ontological declaration, including, as he writes, "the general conceptual structure applied […], to the description of the world". The declaration goes like this:

> The world […], contains objects […] having various properties, connected by various relations, and belonging to various sets (1993: 27).

It is easy to notice that Grzegorczyk's ontological declaration resorts to all the notions mentioned above as links of the first semantic chain relating the central ontological notion of an object with the notion of a state of affairs. NB. Grzegorczyk's analyses go further precisely along the second ontological chain, i.e. towards the notions of case and act.

He declares however that his book "does not carry summing up its tradition, but is a *continuation* [my emphasis, JJ] of this tradition" (1993: 6).

Deriving from the same tradition, we are convinced, however, that the philosophical production of the Lvov–Warsaw School is not yet fully exhausted, at least in Poland. Therefore a clear arrangement of this heritage is an important task.

11. Various world–images and a common conceptual apparatus

In his monograph *Logic and philosophy in the Lvov–Warsaw School,* published in 1985, Jan Woleński wrote:

> We assume […] that the following features are characteristic for scientific, including philosophical, schools: (a) common genealogy […]; (b) time, continuity and the place of activity; (c) the consciousness of being members of a school; (d) common views (1985/1989: 302–303).


Jan Woleński

It is generally assumed that the ideological bonds of the School were not determined by any set of commonly accepted opinions on more or less fundamental philosophical problems, but by a common intellectual attitude. In fact, the representatives of the School included philosophers with very diverse theoretical orientations and world–views (1985/1989: 1).

Employing Ajdukiewicz's terminology we can express the opinion that the representatives of the Lvov–Warsaw School had various world–images.

But the hypothesis that they shared at least a common conceptual apparatus seems to by very probable.

5. The Lvov–Warsaw School and its influence upon the Polish philosophy of the twentieth century

1. Thesis

Many factors influenced Polish philosophy of the second half of the 20th century; among those factors were philosophical traditions that had been present in Poland for a long time as well as traditions that appeared only after the II world war, with the influence of foreign ideas (mainly European and American analytic thought) and external political circumstances also playing a formative role. But it was the Lvov–Warsaw School whose influence proved decisive — in any case upon what was of the greatest value in Polish philosophy of this period

Firstly, the majority of the most respected philosophers were students of the School's representatives and many of them also declared their membership of it. Secondly, the School determined the program of scientific philosophy that held well in Poland — not without intervals of course — during the course of the entire 20th century. This was the program formulated by Twardowski at the beginning of his Lvov professorship and articulated emphatically by Łukasiewicz in Warsaw. In the second fifty–year period, the postulate of the scientific character of philosophy was strongly re–accentuated by Grzegorczyk (1989). Thirdly, in the School two complementary methods of realizing this program were present: the method of semantic analysis (Twardowski, Czeżowski) and the method of formal reconstruction (Łukasiewicz, Leśniewski). Fourthly, problems which were exposed and elaborated by representatives of the first generation of the School have remained central in the research of their successors. Fifthly, solutions obtained by the main Polish philosophers of the last fifty–year period usually referred to the results achieved in the School, either improving upon them or being counterproposals springing from reliable criticisms of those results.

We shall concentrate upon the last two matters, because their importance is not only of a historical or local character: a systematic examination of the theoretical problems and results reached in modern Polish philosophy may be of use for many philosophers–specialists in their current research and may make the actual state of Polish and, in consequence, Euro–American philosophy easier for a philosopher–amateur to comprehend (and who of us is not just an amateur in the majority of philosophical disciplines?!)

Before going into the influence of the Lvov–Warsaw School on the Polish philosophy of the second half of the 20th century, we shall briefly describe the stages 20th–century Polish philosophy went though and its institutional and publishing basis.

2. Division into periods

From the perspective of the Lvov–Warsaw School, twentieth–century Polish philosophy began … in the 19th century (in 1895 to be precise) when Twardowski, the founder of the School, took the chair of philosophy at Lvov University. The century which has passed since that memorable year falls naturally into five twenty–year phases, preceded by the five–year prologue (1895–1900).

2.1. Phase of crystallization

During the first twenty years (1900–1920) — let us call them the phase of crystallization — the process of forming the creative personalities of the main representatives of the first generation of Twardowski's students took place; the majority of them having been born in the 1880s: Witwicki (b. 1878), Łukasiewicz (b. 1878), Bandrowski (b. 1879), Zawirski (b. 1882), Sośnicki (b. 1883), Leśniewski (b. 1886), Kotarbiński (b. 1886), Tatarkiewicz (b. 1886), Kaczorowski (b. 1888), Tennerówna–Gromska (b. 1889), Czeżowski (b. 1889) and Ajdukiewicz (b. 1890). This was a generation to which Znamierowski (b. 1888), a philosopher and jurist, and Janiszewski (b. 1888), a mathematician, also belonged. Notwithstanding the fact that they studied abroad (Znamierowski with Cornelius and Janiszewski with Poincaré), both of them found themselves in the orbit of the influences of Twardowski's School and played an important part in it. Janiszewski was one of the main initiators of the co–operation between mathematicians and philosophers, which resulted in the Warsaw Logical School. Znamierowski brought about a fusion of Petrażycki's philosophy of law with the paradigm of Twardowski's School. In the first five years of this period, the majority of the representatives of the second generation of the School came into the world: Tarski (b. 1901), Sztejnbarg–Kotarbińska (b. 1901), Poznański (b. 1901), Wundheiler (b. 1902), Wajsberg (b. 1902), Bocheński (b. 1902), Salamucha (b. 1903), Dąmbska (b. 1904), Łuszczewska–Romahnowa (b. 1904), Słupecki (b. 1904), Mehlberg (b. 1904), Lindenbaum (b. 1904), Presburger (b. 1904), Kokoszyńska–Lutmanowa (b. 1905), Blaustein (b. 1905), Jaśkowski (b. 1906), Sobociński (b. 1906) and Swieżawski (b. 1907). Iwanicki (b. 1902) was born at the same time. His path was similar to that taken by Twardowski's students, although he studied not in Lvov but in Strasbourg. All of them would join the group of their earlier–born colleagues: Korcik (b. 1892), Pański (b. 1894), Wallis (b. 1895), Niedźwiecka–Ossowska (b. 1896), Drewnowski (b. 1896), Ossowski (b. 1897) and Hosiasson–Lindenbaumowa (b. 1899). This period was ended by the premature death of two uncommonly talented scholars: Bandrowski (d. 1914) and Janiszewski (d. 1920), mentioned above and by the outbreak of the I world war (waged in great part on the Polish territories), accompanied — in Poland's case — by the Bolshevik invasion (luckily victoriously repulsed), which interrupted normal scientific activities.

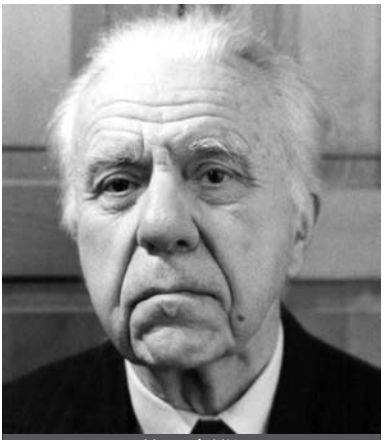
2.2. ***Phase of prosperity***

The second twenty–year period (1920–1940) was also closed by violent military and political events: in 1939, Poland was attacked by its allied neighbors — Nazi Germany and Bolshevik Russia; this time, it was defeated and lost its independence for fifty years. In philosophy — as well as in the whole Polish culture — this second period was a phase of splendid creative prosperity: talents which crystallized during the former period bore fruit in the form of original scientific work — ideas, conceptions and systems. At the same time, in the first part of the period, come into the world the future apostles and improvers of these results, who would come to belong to the third generation of the School: Łoś (b. 1920), Ziembiński (b. 1920), Gumański (b. 1921), Mortimer (b. 1921), Lazari–Pawłowska (b. 1921), Gregorowicz (b. 1921), Grzegorczyk (b. 1922), Przełęcki (b. 1923), Kubiński (b. 1923), Stonert (b. 1923), Pelc (b. 1924), Pawłowski (b. 1924), Szaniawski (b. 1925), Giedymin (b. 1925), Augustynek (b. 1925), Pogorzelski (b. 1927), Wolniewicz (b. 1927), Czerwiński (b. 1927), Iwanuś (b. 1928), Koj (b. 1929), Malewski (b. 1929), Skolimowski (b. 1930), Kwiatkowski (b. 1930), Surma (b. 1930), Żarnecka–Biały (b. 1930), Marciszewski (b. 1930), Ziemba (b. 1930) and, just after them, Wójcicki (b. 1931), Kmita (b. 1931) and Siemianowski (b. 1932). They joined the people born in the previous ten years: Zbigniew Jordan (b. 1911), Lejewski (b. 1913), Mostowski (b. 1913), Borkowski (b. 1914), Mazierski (b. 1915), Kalinowski (b. 1916), Rasiowa (b. 1917), Hiż (b. 1917), Kamiński (b. 1919) and Suszko (b. 1919).

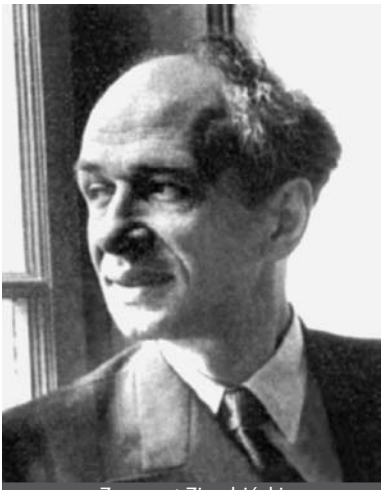
In his remarkable *Historia filozofii* [*History of philosophy*], Tatarkiewicz


Jerzy Kalinowski


Helena Rasiowa


Henryk Hiż

Stanisław Kamiński



Zygmunt Ziembiński

Jerzy Pelc

Zdzisław Augustynek

Leon Koj

Ryszard Wójcicki

characterized the situation of Polish philosophy at the threshold of the second half of our century:

> The second great war found it in blooming state […]. It was destroyed by occupants between 1939 and 1944. The great part of young generation perished in fights or was murdered in German [and Russian, let us add] camps. And the great part of scientific workshops, libraries and institutes, was devastated, robbed, razed to the ground. For Poland, much more than for other countries, these years closed an important and rampant, but short and unfinished epoch (1931–1950, t. III: 371).

2.3. *Phase of destruction*

The external circumstances mentioned above meant that the third twenty years (1940–1960) deserve the name of the phase of destruction. Firstly, at the beginning Twardowski (d. 1938), Borowski (d. 1938) and Leśniewski (d. 1939) died and war devoured Wajsberg (d. 1939), Lindenbaum (d. 1941), Pański (d. 1942), Hosiasson–Lindenbaumowa (d. 1942), Blaustein (d. 1944) and Salamucha (d. 1944). Next, Zawirski (d. 1948) and Witwicki (d. 1948) passed away. Afterwards, the country was exposed to the darkest five years of communist terror. Soon after, both Łukasiewicz (d. 1956) and Wundheiler (d. 1957) died, both having earlier emigrated. It is hardly surprising that Polish analytical philosophy — which was an object of special pressure of the ideologists of the regime — went into the intellectual underground or, at best, was reduced to formal logic. At the time, this looked like the final destruction of the analytical tradition in Poland. Skolimowski, a historian of this tradition, wrote in 1967:

> The continuous development of the analytical movement [in Poland] led to its finest results in the late 1920s and in the 1930s. The war shattered this continuity. After the war, analytical philosophy never regained its previous strength; the 1950s saw its definitive decline (1967: 260). [In the early 1960s], the analytical movement becomes emasculated (1967: XI). Analytical philosophy is no longer a dominant trend in Poland; its strength has been diluted; its output drastically limited (1967: 235).

Writing these words, Skolimowski could not know, of course, that in this period the future representatives of the fourth generation of Twardowski's successors were born and that they would give the analytic direction to the Polish philosophy in the last ten years of the 20th century. Herbut (b. 1933), Batóg (b. 1934), Stanosz (b. 1935), Majdański (b. 1935), Bryll (b. 1935), Zwinogrodzki (b. 1935), Zamecki (b. 1936), Nowaczyk (b. 1936), Leszko (b. 1937), Chwedeńczuk (b. 1938), Kiczuk (b. 1938), Bronk (b. 1938), Pietruska–Madej (b. 1938), Nieznański (b. 1938) and Prucnal (b. 1939) were born before the war. Then, successively: Zamiara (b. 1940), Woleński (b. 1940), Wybraniec–Skardowska (b. 1940), Żabski (b. 1940), Kałuszyńska (b. 1941), Omyła (b. 1941), Zdzisław Kowalski (b. 1942), Leszek Nowak (b. 1943), Perzanowski (b. 1943), Jacek Hołówka (b. 1943),

Adam Nowaczyk

Barbara Stanosz

Elżbieta Pietruska–Madej

Jerzy Perzanowski

Witold Strawiński

Jacek Paśniczek

Schrade (b. 1943), Górnicka–Kalinowska (b. 1943), Wajszczyk (b. 1944), Teresa Hołówka (b. 1944), Grzegorz Malinowski (b. 1945), Zygmunt (b. 1945), Jadacki (b. 1946), Życiński (b. 1948), Żegleń (b. 1949), Patryas (b. 1949), Grobler (b. 1949), Murawski (b. 1949), Strawiński (b. 1949), Tuchańska (b. 1949), Czelakowski (b. 1949), Jodkowski (b. 1950), Kleszcz (b. 1950), Buszkowski (b. 1950), Muszyński (b. 1951), Grabowski (b. 1951), Paśniczek (b. 1951), Pogonowski (b. 1951), Czarnocka (b. 1952), Sady (b. 1952), Jonkisz (b. 1953), Judycki (b. 1954), Pietruszczak (b. 1954), Gorzka (b. 1955), Rosiak (b. 1956), Jedynak (b. 1956), Czerniawski (b. 1957), Szubka (b. 1958) and Andrzej Wiśniewski (b. 1958).


Andrzej Wiśniewski

2.4. ***Phase of restoration***

The fourth twenty years (1960–1980) constitute a phase of the restoration of the Lvov–Warsaw School's influence on Polish philosophy. This phenomenon occurred even though three important representatives of the first generation of Twardowski's School passed away: Ajdukiewicz (d. 1963), Sośnicki (d. 1971) and Tennerówna–Gromska (d. 1973), as well as Znamierowski (d. 1967). Also some members of the second generation died: Ossowski (d. 1963), Jaśkowski (d. 1965), Korcik (d. 1969), Kaczorowski (d. 1971), Ossowska (d. 1974), Drewnowski (1978) and abroad — Poznański (d. 1974) and Zbigniew Jordan (d. 1977). It was especially poignant that three pillars of the third generation died: young Malewski (d. 1963) together with Mostowski (d. 1975) and Suszko (d. 1979), both being in the prime of their creative life. On the other hand, within this period fall the dates of birth of the representatives of the fifth generation of successors of the School–tradition: Placek (b. 1960), Biłat (b. 1960), Krysztofiak (b. 1963), Bigaj (b. 1964), Wojtysiak (b. 1967), Wójtowicz (b. 1967), Rojszczak (b. 1968), Odrowąż–Sypniewska (b. 1971) and Tałasiewicz (b. 1973).

2.5. ***Phase of expansion***

In the period of the fifth twenty years (1980–2000) we witnessed the phase of expansion. True enough, the last representatives of the first generation of the School passed away: Tatarkiewicz (d. 1980), Czeżowski (d. 1981) and Kotarbiński (d. 1981). After the death of Sobociński (d. 1980), Kokoszyńska–Lutmanowa (d. 1981), Dąmbska (d. 1983), Tarski (d. 1983), Bocheński (d. 1995) and Kotarbińska (d. 1997), Swieżawski is the only active member of the second generation, being


Halina Mortimer

the unquestionable senior of the School. The third generation was decimated as well, for the following philosophers died: Mortimer (d. 1984), Kamiński (d. 1986), Słupecki (d. 1987), Szaniawski (d. 1990), Stonert (d. 1992), Mazierski (d. 1993), Giedymin (d. 1993), Borkowski (d. 1993), Rasiowa (d. 1994), Lazari–Pawłowska (d. 1994), Iwanuś (d. 1995), Pawłowski (d. 1996), Ziembiński (d. 1996), Gregorowicz (d. 1998), Pszczołowski (d. 1999) and Augustynek (d. 2001). At the same time, however, the activity of their students and the students of their students increased dramatically.

3. Institutional and publishing basis

The theoretical efforts of the philosophers would not have been fruitful without the great organizational work of the environment of Twardowski's students and their successors. Let me present the most important organizational enterprises.

In the phase of restoration: the Department of Praxiology at the Polish Academy of Science (1965) was established on Kotarbiński' initiative (1965). At Kotarbiński's, Suszko's and Pelc's suggestion the Polish Semiotical Society (1967) was founded. Yearly Conferences on the History of Logic initiated at the beginning of this period (1959) by Czeżowski became a customary phenomenon in Polish philosophical life. The conference on the analysis of the notion of justification (1961) organized by Ajdukiewicz and the Winter Formal Logic School inaugurated ten years later (1970) were of the utmost significance. The pressure on the political regime was so great that during the second Congress of Polish Science (1953) the communists were forced to put into their ideologists' mouths a declaration of the reintroduction of logic teaching in universities and other academic schools. The quarterly *Ruch Filozoficzny* founded by Twardowski (appearing in 1911–1914, 1918–1939 and 1948–1950) and revived in 1958 and the annual (initially) *Studia Logica* founded by Ajdukiewicz (1953; since 1974 — a quarterly in English) were joined by further periodicals: *Prakseologia* (Polish version) (1962), *Studia Metodologiczne* (1965), *Studia Semiotyczne* (1970), *Bulletin of the Section of Logic* (in English) (1972), *Reports of Mathematical Logic* (in English) (1973), *Zagadnienia Filozoficzne w Nauce* (1978), *Zagadnienia Naukoznawstwa* (1978) and *Reports on Philosophy* (in English) (1977). Important series appeared: *Poznań Studies in the Philosophy of the Science and the Humanities* (in English) (Amsterdam 1975, Rodopi — the initiative came from Leszek

Nowak) and *Poznańskie Studia z Filozofii Nauki* (Polish version) (Poznań 1976, UAM; since 1994 as *Poznańskie Studia z Filozofii Humanistyki*). *Mała encyklopedia logiki* [*Small encyclopedia of logic*] (1970) edited by Marciszewski and *Mała encyklopedia prakseologii i teorii organizacji* [*Small encyclopedia of praxiology and the theory of organization*] (1978) written by Pszczołowski were published. Collected works of coryphaei of the Lvov–Warsaw School were published: Kotarbiński's writings, published during the previous period (1957–1958), were joined by Ajdukiewicz's writings (1960–1965) as well as those of Łukasiewicz (1961), Twardowski (1965), Ossowski (1966) and Tatarkiewicz (1971). Their valuable handbooks were also re–edited: Łukasiewicz's *Elementy logiki matematycznej* [*Elements of mathematical logic*] (1929/1958) and Kotarbiński's *Elementy teorii poznania, logiki formalnej i metodologii nauk* [*Elements of the theory of cognition, formal logic and methodology of science*] (1929/1961). Pawłowski's antology *Logiczna teoria nauki* [*Logical theory of science*] (1966) and Pelc's antology *Semiotyka polska. 1894–1969* [*Polish semiotics. 1894–1969*] (1971) were important editorial events, too.


Władysław Krajewski

In the phase of expansion: the Polish Society of Logic and Methodology of Sciences (1993) was called into being by Wójcicki and Kabziński. Perzanowski inaugurated *The Logical–Philosophical Workshops* (1994). Conferences devoted to the *Application of logic in philosophy and foundations of mathematics* started taking place. Wójcicki organized *The Summer School for Theory of Knowledge* (1998). During the sixth Polish Philosophical Congress (1995), Pelc contrasted literary philosophy with scientific philosophy; only the latter did he recognize as academic philosophy. *Kwartalnik Filozoficzny* (1990; it appeared in 1923–1938 and 1946–1950) and *Przegląd Filozoficzny* (1992), founded by Weryho (it appeared in 1898–1939 and 1946–1949), were resumed. New periodicals were started: *Studies in Logic, Grammar and Rhetoric* (in English) (1982), *Biuletyn Komisji Logiki Towarzystwa Naukowego Warszawskiego* (1991), *Praxiology* (English version) (1992) and *Filozofia Nauki* (1993). Valuable series appeared: *Realizm — Racjonalność — Relatywność* (Lublin 1984, UMCS), *Logika i zastosowania logiki* (Warsaw 1985, PWN), *Studies in Logic and Theory of Knowledge* (in English) (Lublin 1985, KUL), *Znak — język — rzeczywistość* (Warsaw 1990, PTS), *Logic and Logical Philosophy* (in English) (Toruń 1993, UMK), *Filozofia — logika — filozofia logiczna* (Toruń 1995, UMK), *Dialogikon* (Cracow 1995, UJ), *Foundations of*

Science (in English) (Dordrecht 1998, Kluwer — series edited by Wójcicki), *Polish Analytical Philosophy* (in English) (Amsterdam 1999, Rodopi — sub–series of *Poznań Studies in the Philosophy of the Science and the Humanities*). Marciszewski edited *Dictionary of logic as applied in the study of language* (English version) (1983) and *Logika formalna. Zarys encyklopedyczny* [*Formal logic. Encyclopedic outline*] (Polish version) (1981/1987) and Kmita, Szaniawski *et al.* edited *Filozofia a nauka. Zarys encyklopedyczny* [*Philosophy and science. Encyclopedic outline*] (1987). The enterprise of publishing collected papers of the representatives of the first two generations of the Lvov–Warsaw School was continued: the writings of Ossowska (1983), Czeżowski (1989), Kamiński (1989–1998), Kotarbińska (1990), Kotarbiński (1990–2003), Bocheński (1993a), Tarski (1995), Drewnowski (1996), Salamucha (1997) and Łukasiewicz (1998) saw the light of the day. Ajdukiewicz's classic handbook *Zagadnienia i kierunki filozofii* [*Problems and orientations of philosophy*] (1928a/1983) and Łukasiewicz's famous monographs *O zasadzie sprzeczności u Arystotelesa* [*On the principle of contradiction in Aristotle*] (1910a/1987) and *Sylogistyka Arystotelesa z punktu widzenia współczesnej logiki formalnej* [*Aristotle's syllogistic form the standpoint of modern formal logic*] (Polish version) (1951/1988) were re–edited.

It is worth adding that many representatives and sympathizers of the Lvov–Warsaw School (i.e. Dąmbska, Lazari–Pawłowska, Kubiński, Szaniawski, Iwanuś, Leszek Nowak and Perzanowski) became involved in the *Solidarity* movement, though the slogan of non–intervention in political controversies belonged to the program of the School.

The activity of Polish philosophers was accompanied by an increasing interest in Polish analytical philosophy abroad. At the beginning of the phase of expansion (1989) yearly *Philosophical Lectures* devoted to Twardowski were inaugurated in Lvov (which since the II world war has been within the borders of Ukraine). Then, conferences started: *Stanisław Leśniewski aujourd'hui* (Grenoble 1992), *The Lvov–Warsaw Philosophical School and Contemporary Philosophy* (Lvov–Warsaw 1995), *Łukasiewicz in Dublin* (Dublin 1996) and *Alfred Tarski and the Vienna Circle* (Vienna 1997).

This growth in interest was certainly stimulated to a great extent by the promotional activities of the Poles, themselves. Even before the war the state of Polish analytical philosophy was described in French by Zawirski (1935) and in German by Kotarbiński (1933) and Ajdukiewicz (1934a/1935). After the war, new works were written: in English by Zbigniew Jordan (1945; 1963a), Skolimowski (1967), Ingarden (1973/1974), Pelc (1973) and, most importantly, Woleński (1985/1989); in French by Bocheński (1947), Kotarbiński (1956c; 1959) and Ostrowski (1971). Analytico–historical texts by foreigners were also of great importance: in German by Franzke and Rautenberg (1972); in English by Simons (1992) and Smith (1996).

Of course, publishing original texts in English translation was crucial here. The fundamental works of Kotarbiński (1929/1966), Łukasiewicz (1970), Tatarkiewicz (1947/1976), Twardowski (1894/1977; 1999), Leśniewski (1992), Czeżowski

(2000), Salamucha (2003) as well as McCall's (1967), Pelc's (1971/1979) and Krajewski's (2001) anthologies began to appear.

SYNCHORNISM		
YEAR	BORN	DEAD
1866	Kazimierz Twardowski	
1867	Leon Petrażycki	
1868	Władysław Weryho	
…		
1878	Władysław Witwicki Jan Łukasiewicz	
1879	Bronisław Bandrowski Marian Borowski	
…		
1882	Zygmunt Zawirski	
…		
1886	Stanisław Leśniewski Tadeusz Kotarbiński Władysław Tatarkiewicz	
…		
1888	Czesław Znamierowski	
1889	Tadeusz Czeżowski	
1890	Kazimierz Ajdukiewicz	
…		
1893	Roman Ingarden	
…		
PROLOGUE		
1895	Mieczysław Wallis	
1896	Maria Ossowska Jan Drewnowski	
1897	Stanisław Ossowski	
…		
1899	JaninaHosiassion–Lindenbaumowa	
CRYSTALLISATION		
1901	Alfred Tarski Janina Kotarbińska (Dina Sztejnbarg)	
1902	Józef M. Bocheński Józef Iwanicki	
1903	Jan Salamucha	
1904	Izydora Dąmbska Seweryna Łuszczewska–Romahnowa Jerzy Słupecki Henryk Mehlberg	
1905	Maria Kokoszyńska–Lutmanowa	

1906	Stanisław Jaśkowski Bolesław Sobociński	
…		
1911	Zbigniew Jordan	
…		
1913	Czesław Lejewski	
I WORLD WAR		
1914	Ludwik Borkowski	Bandrowski
1915	Stanisław Mazierski	
1916	Jerzy Kalinowski	Weryho
1917	Helena Rasiowa Henryk Hiż	
…		
POLISH–BOLSHEVIST WAR		
1919	Stanisław Kamiński Roman Suszko	
PROSPERITY		
1920	Jerzy Łoś Zygmunt Ziembiński	
1921	Leon Gumański Halina Mortimerowa Ija Lazari–Pawłowska Jan Gregorowicz	
1922	Tadeusz Pszczołowski Andrzej Grzegorczyk	
1923	Marian Przełęcki Tadeusz Kubiński Henryk Stonert	
1924	Mieczysław Lubański Jerzy Pelc Tadeusz Pawłowski	
1925	Klemens Szaniawski Jerzy Giedymin Adam Podgórecki Zdzisław Augustynek	
1926	Zdzisław Pawlak	
1927	Jerzy Pogorzelski Bogusław Wolniewicz Lech Dubikajtis	
1928	Bogusław Iwanuś	
1929	Leon Koj Krystyna Piróg–Rzepecka Andrzej Malewski	
1930	Henryk Skolimowski Tadeusz Kwiatkowski Ewa Żarnecka–Biały Witold Marciszewski Zdzisław Ziemba	

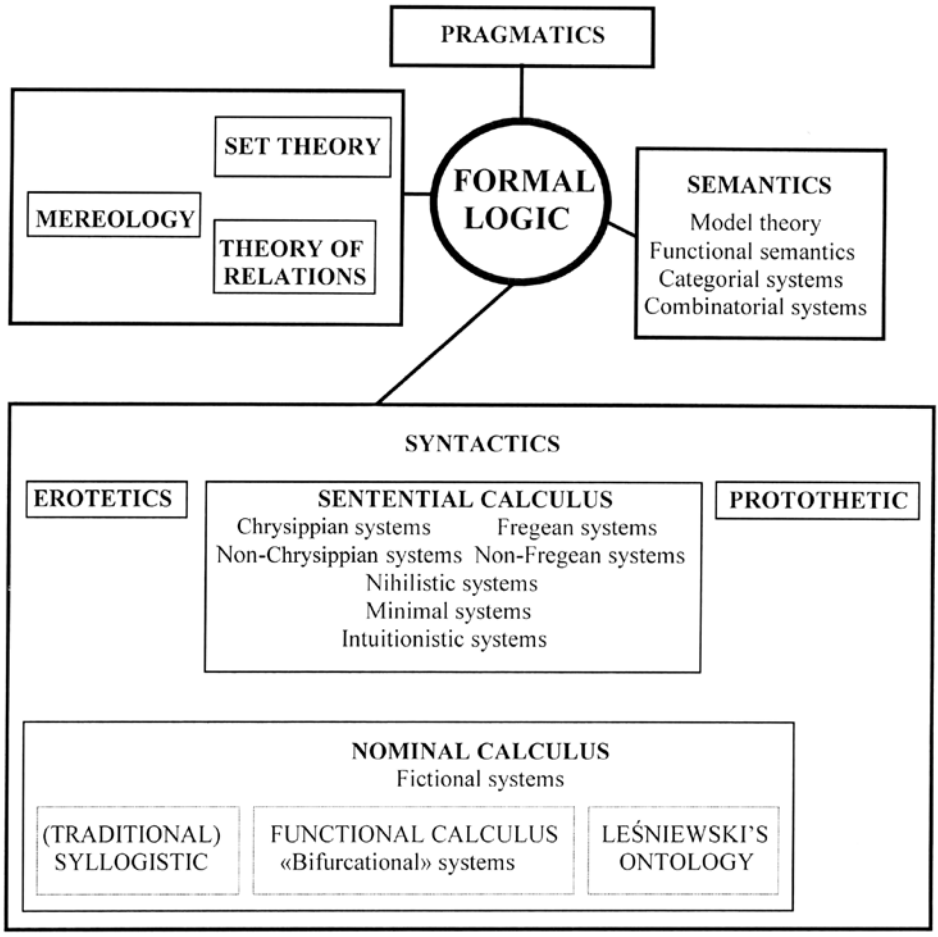
1931	Ryszard Wójcicki Jerzy Kmita	Petrażycki
1932	Andrzej Siemianowski	
1933	Józef Herbut	
1934	Tadeusz Batóg	
1935	Grzegorz Bryll Zygmunt Zwinogrodzki Barbara Stanosz Stanisław Majdański Lesław Włodzimierz Szczerba	
1936	Stefan Zamecki Adam Nowaczyk Ewa Orłowska	
1937	Robert Leszko	
1938	Bohdan Chwedeńczuk Stanisław Kiczuk Andrzej Bronk Elżbieta Pietruska–Madej Edward Nieznański	Twardowski Borowski
II WORLD WAR		
1939	Tadeusz Prucnal Andrzej Bednarczyk	Leśniewski
DESTRUCTION		
1940	Krystyna Zamiara Jan Woleński Elżbieta Wybraniec–Skardowska Eugeniusz Żabski	
1941	Elżbieta Kałuszyńska Mieczyław Omyła	
1942	Michał Tempczyk Jacek Kabziński Zdzisław Kowalski	Hosiasson–Lindenbaumowa
1943	Leszek Nowak Jerzy Perzanowski Jacek Hołówka Joanna Górnicka–Kalinowska	
1944	Józef Wajszczyk Teresa Hołówka Jan Mikołaj Żytkow	Salamucha
1945	Grzegorz Malinowski Jan Zygmunt	
1946	Jacek Jadacki	
…		
1948	Józef Życiński	Zawirski Witwicki

1949	Jerzy Bobryk Urszula Żegleń Wojciech Patryas Adam Grobler Roman Murawski Witold Strawiński	
1950	Michał Krynicki Kazimierz Jodkowski Ryszard Kleszcz Wojciech Buszkowski	
1951	Kazimierz Świrydowicz Zbysław Muszyński Jacek Paśniczek Jerzy Pogonowski	
1952	Teresa Rzepa Małgorzata Czarnocka Wojciech Sady	
1953	Adam Jonkisz	
1954	Andrzej Pietruszczak	
1955	Marcin Mostowski Cezary Gorzka	
1956	Marek Rosiak Anna Jedynak	Łukasiewicz
1957	Jan Czerniawski	
1958	Andrzej Wiśniewski	
1959	Jacek Malinowski	
RESTORATION		
1960	Tomasz Placek Andrzej Biłat	
1961	Andrzej Krzysztof Rogalski	
1962	Marek Lechniak	
1963	Wojciech Krysztofiak	Ajdukiewicz Ossowski Malewski
1964	Tomasz Bigaj	Jaśkowski
…		
1967	Jacek Wojtysiak Krzysztof Wójtowicz	Znamierowski
1968	Katarzyna Kijania–Placek Artur Rojszczak	
…		
1970	Rafał Dudkiewicz	Ingarden
1971	Joanna Odrowąż–Sypniewska	
1973		
1974		Ossowska
1975		Wallis
…		
1977		Jordan

1978		Łuszczewska–Romahnowa Drewnowski
1979		Suszko Mehlberg
EXPANSION		
1980		Tatarkiewicz Sobociński
1981		Czeżowski Kotarbiński Kokoszyńska–Lutmanowa
…		
1983		Dąmbska Tarski
1984		Mortimerowa
…		
1986		Kamiński
1987		Słupecki
…		
1990		Szaniawski
1991		Kubiński
1992		Stonert
…		
1993		Mazierski Giedymin Borkowski
1994		Rasiowa Lazari–Pawłowska
1995		Bocheński Iwanuś Iwanicki
1996		Pawłowski Ziembiński
1997		Kotarbińska
1998		Prucnal Łoś Podgórecki Gregorowicz
1999		Pszczołowski
2000		Kalinowski

4. Formal logic

It is natural that the influence of the Lvov–Warsaw School on Polish philosophy of the second half of the 20th century manifests itself mainly in the domain of formal logic, which became a kind of international visiting card of the School as early as in the 1930s — thanks to a great German thinker, Scholz.



4.1. ***Sentential calculus***

Sentential calculus, which had been an object of investigations under Łukasiewicz's leadership at Warsaw in the period of prosperity, in the next years continued to be studied mainly by logicians assembled around Słupecki and Borkowski. Outside the group were Gumański (1981), who constructed equivalence (reversible) systems, and Pietruszczak (1991), who was occupied with quantifierless calculi. Grzegorz Malinowski (1990) developed Chrysippian (two–valued), as well as non–Chrysippian (many–valued) logic initiated by Łukasiewicz, including three–valued logic. Zawirski's suggestions as to the possibility of using it in physics have been taken up by Kiczuk (1995). But new ideas appeared as well.

Firstly, Łukasiewicz's questioning Chrysippos' principle of bivalence was followed by Suszko, who rejected Frege's principle of identity of denotation of sentences with their truth–value. Thus, the next non–classical logic — after

the non–Chrysippian one — came into being: namely, a non–Fregean logic, which assumes that denotations of sentences are identical with correspondent situations. Omyła (1986) systematized this new logic.

Secondly, systems of nihilistic logic were constructed (Żabski 1995). They were founded upon the conception of truth according to which a sentence of the form "The sentence *p* is true" is synonymous with the very sentence *p*; such systems can be used to solve some antinomies. The genesis of research on «paradoxical» logics was analogous; they allow for a substitution of sentential variables with nonsensical (or sense–losing) expressions (Piróg–Rzepecka 1966; 1977; Rzepecka & Morawiec 1985).

Thirdly, studies in logics which result from the weakening of classical logic by the elimination of some axioms (or rules of inference, respectively) were undertaken. Special attention, inspired by Jaśkowski (1948), was devoted to intuitionistic logic, which rejects the principle *tertium non datur* and which was already an object of Zawirski's interest, as well as to para–consistent logic, allowing for — or rather ignoring — contradiction by removing Duns Scotus' law from among the axioms (Paśniczek 1984b; 1988a).

4.2. *Nominal calculus*

All three versions of nominal calculus considered by Twardowski's immediate students were pursued. Słupecki (1955), Iwanicki (1965) and Kwiatkowski (1980) worked on adequate interpretation of Aristotle's syllogistic, Nieznański proposed for it his own axiomatization (1966) and Iwanuś (1969) discussed — in contrast to Łukasiewicz's standpoint — the possibility of enriching it by introducing names denoting empty and full sets. In the area of functional calculus, codified by Borkowski (1958–1960), interesting results were obtained by the generalization of the notion of quantifiers — by taking into account ramified quantifiers and by the construction of systems containing such «bifurcational» quantifiers (Krynicki, Mostowski & Szczerba 1995). Extending functional calculus (of the first order) to «fictional» (Meinongian) logic — *pendant* to the above mentioned enrichment of syllogistic — made by Paśniczek (1998) is even more interesting. Leśniewski's ontology also continued to be an object of interest (Słupecki 1955; Lejewski 1958; Iwanuś 1969; 1973; Borkowski 1991). Elementary nominal calculi, close to ontology, were built by Kubiński (1971b), while Rogalski (1995) adjusted ontology to the needs of the reconstruction of medieval metaphysics.

4.3. *Erotetics*

The genesis of modern erotetics in Poland can be found in Twardowski's incidental remarks and in Ajdukiewicz's theory of questions developing these remarks. Their ideas were taken up and completed by Giedymin (1964), Kubiński (1971) and Koj and Wiśniewski (1989), as well as by Leszko (1980; 1983), who used for that purpose the theory of graphs and matrices.

4.4. *Mereology*

Attempts at completing Leśniewski's mereology have not ceased. The system of mereology was developed first of all by Sobociński (1954–1955; 1971a; 1971b). Lately, Pietruszczak (1996) studied it intensively and Gorzka (1999) — on Tarski's inspiration — has extended it (by introducing the notion of the diameter of a region) with a view to constructing an ontology without points.

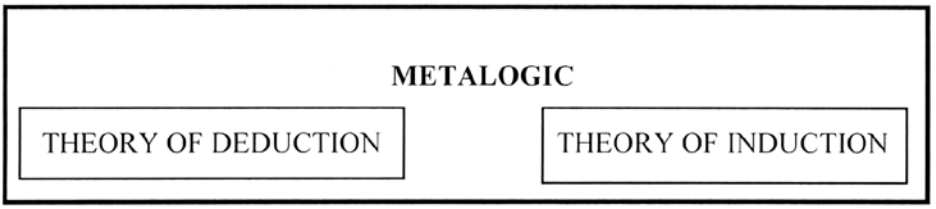
At the same time, attempts at constructing an alternative mereology have started, using the notion of founding (Rosiak 1995; 1996).

4.5. *Metalogic*

Metalogical research went in two directions.

The first (metamathematical) direction, determined by Tarski, contained a generalization of his theory of deductive systems (Słupecki & Bryll 1975; Rasiowa & Sikorski 1963; Rasiowa 1968) and the theory of proof (consequence), in particular (Borkowski 1970; Zygmunt 1984).

The second direction, initiated by Hossiasson–Lindenbaumowa (1928; 1934; 1941), aimed at a satisfactory reconstruction of the logic of induction (Mortimer 1982).



4.6. *Semantics*

The model–theoretical semantics initiated by Tarski turned out to be the dominant semantics in Poland. Pelc (1971) contrasted with it functional semantics — and, broadly, semiotics — as more suitable for the analysis of natural language. Starting from a similar motivation, Wybraniec–Skardowska (1985/1991) chose categorial semantics (she constructed an original axiomatization for it), while Pogonowski (1993) declared for combinatorial semantics. Moreover, specific semantics for languages of many–valued logics were examined (Lechniak 1999).

Among particular semantic problems, the main attention was paid to the problem of empty, ambiguous and quotational subject terms as well as to self–referring expressions, probably because of their antinomiogeneity. After Kotarbiński, semantic functions of empty names were discussed by Dąmbska (1948) and Gumański (1960) as well as by logicians interested in systems that allowed empty names in their vocabulary (Iwanuś 1976; Wybraniec–Skardowska & Chuchro 1991). The problem of ambiguous names was analyzed by Kubiński (1958), by Przełęcki (1964), who extended it to the problem of undetermined expressions and interpreted in the model–theoretical semantics, and by Muszyński

(1988); recently, Odrowąż–Sypniewska has published a detailed monograph concerning this subject (2000). Kubiński (1965) tried to find a remedy for difficulties concerning the usage of quotational names, indicated already by Leśniewski and Tarski. Self–referring expressions were examined by Koj (1967) and Stanosz (1973).

On self–evident grounds, semantic antinomies and paradoxes, which played such an important role in the logical research carried out by Twardowski's students, also attracted a lot of interest. Among people who came back to them were: Suszko (1957), focusing on the liar antinomy (in Łukasiewicz's formulation); Koj (1963), linking semantic antinomies with the problem of transparency; Stanosz (1965), analyzing the paradox of intensionality.

4.7. *Pragmatics*

Two pragmatic relations were the main object of examination: asserting and understanding. The stimulus for examining the former came from Ajdukiewicz and for examining the latter from Dąmbska.

Detailed reviews and systematisations of the problems of assertion were written by Majdański (1974) and Patryas (1987). Koj (1969) and Kmita (1971) analyzed the nature and criteria of understanding (within the framework of the theory of interpretation). A systematic survey of conceptions of understanding was made by Jadacki (1990a).

5. Ontology

In ontology as practised in Poland in the past fifty years, two (actually complementary) tendencies competed one with another: in the last ten years they have been emphatically articulated as Perzanowski's formal ontology program (ontologic) (1988) and as Placek's experimental ontology program (or metaphysics in general) (1995). Both the programs referred to Augustynek's ontological program, the program of experimental ontology being (consciously or not) a radicalization of Augustynek's postulate requiring that ontological system be adequate to modern physics (1970).

5.1. *Theory of being or existence*

In the domain of the theory of being, two thematic spheres dominated: the analysis of the notion of existence and the program of unifying (the picture of) reality.

It was Twardowski, Leśniewski and Ajdukiewicz who initiated in Poland modern analysis of the notion of existence and non–existence. Then, the subject was taken up by Gumański (1960), who formulated it in terms of existential assumptions, Kubiński (1985b), Wojtysiak (2002), who drew subtle semantic distinctions in this area, Czarnocka (1986), who examined the nature and criteria of existence in the natural sciences, and Przełęcki (1979; 1980), who, in discussion with Jadacki (1980), focused upon the ways of eliminating problems connected with sentences about non–being.

The program of unifying reality took either the form of argumentation in favor of the structural unity of the world (Tempczyk 1978; 1981) or the form of realization of the postulate of onto–categorial reduction.

As far as reduction of ontic categories is concerned, the Lvov–Warsaw School entered into the second half of the 20th century with Kotarbiński's reism seriously impaired by Borowski's and Ajdukiewicz's criticism. This criticism was continued by Wolniewicz (1990), Przełęcki (1984) and Szaniawski (1977), who indicated the unlikeliness of a satisfactory interpretation of the distributive notion of a set in this system. However, reism also had its defenders (Czerniawski 1997). In the meantime, competitive conceptions have appeared. In those conceptions categories other than things were accepted as basic categories, namely: properties (attributivism), states of affairs / facts (situationism), events (eventism) and processes (processualism). Żabski gave a formal shape to attributivism (1998) and Leszek Nowak developed the idea of a negative ontology opposed to (positivistic) attributivism (1998–2004). Situationism was elaborated by Wolniewicz (1968; 1985) and Omyła (1996). These attempts were accompanied by the analysis of the notion of a state of affairs covering negative (Kowalski, Krysztofiak & Biłat 1998) and intentional (fictional) states of affairs (Pelc 1983; Paśniczek (ed.) 1991; Paśniczek 1998). The most perfect shape was given to eventism, considered by its author, Augustynek (Augustynek & Jadacki 1993), as an ontology adequate to relativistic physics. Processualism had its adherent in Tempczyk (1986).

The structural basis for these new reductive formal ontologies — and most certainly of eventism — is set theory. Quite different — namely combinatory — character was given by Perzanowski to his refined ontological systems.

5.2. *Theory of necessity and possibility*

The analysis of necessity and possibility has been carried out almost exclusively within the range of modal logic (see below).

5.3. *Theory of time and space*

Augustynek has undertaken detailed studies on time — referring to Leśniewski's and Kotarbiński's polemics, Ajdukiewicz's conception and Zawirski's and Dąmbska's considerations concerning the logical status of sentences about the future. Firstly, he proposed a definition of time (1970) compatible with relativistic physics; secondly, he analyzed various properties of time (topological and symmetric, in particular) (1970; 1975); thirdly, he introduced relational notions of the past, the present and the future (1979). Snihur (1990) was his opponent regarding this last issue.

Perzanowski's analyses concerning space (within the framework of a more capacious system of locative ontology) (1993) are equal to Augustynek's analyses of time.

5.4. *Theory of change and motion*

Theory of change should solve two difficulties: how to get over paradoxes of motion and becoming and how to reconcile changes with identity of changing objects.

Regarding the first matter, Ajdukiewicz (1948a) proved that it is possible to describe change without infringing on the principle of non–contradiction or the principle of excluded middle. In this matter, Placek's subtle analyses (1989; 1995) turned out to be decisive.

Regarding the second matter, Czeżowski wrote a short paper (1951a), while Augustynek gave it more attention, proposing his own definition of gen–identity (1981).

5.5. *Theory of determination and causality*

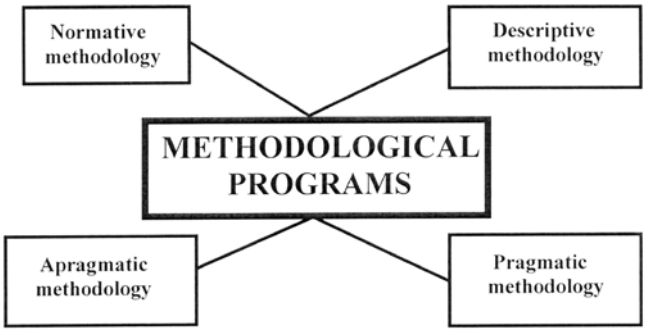
The notions of determination and causality, and determinism and causalism, respectively, so absorbing for Łukasiewicz and (later on) for Kotarbińska, were reconstructed precisely by Mazierski (1961), Augustynek (1962), Zbigniew Jordan (1963b) and Trzęsicki (1989).

6. Epistemology — methodology — praxiology

During the last fifty years traditional epistemology has not been cultivated, in principle, in the Lvov–Warsaw School. It was Ajdukiewicz's standpoint which was decisive here: according to him, epistemological problems could be studied only after a suitable semantic paraphrase and after such a paraphrase they became indistinguishable from respective methodological problems. However, some people saw the necessity of distinguishing epistemology from methodology (Zamiara 1974). On the other hand, methodology itself could be recognized either as a fragment of praxiology, constructed in the second half of our century, or — on the ground of some assumptions — as a fragment of a theory of behavior (Malewski 1964), or, finally, as a fragment of the theory of artificial intelligence (Lubański 1975) and the cognitive sciences (Bobryk 1988).

In the youngest generation there is a tendency to return to traditional problems of epistemology in their original form, but with modern methods, e.g., the realism–idealism controversy (Krysztofiak 1999).

6.1. *Programs*



In Polish philosophy of the last half a century, four main (usually competing) methodological programs have functioned: apragmatical and pragmatical, on the one side and descriptive and normative, on the other. Moreover, they have been realized either by means of semantic analysis or by means of formal reconstruction.

A clear differentiation between the first two programs — referring to the general distinction between acts and results made by Twardowski (1912a) — appeared thanks to Ajdukiewicz (1948c). Thus, it was realized that (apragmatical) meta–science should be carefully separated from psychology and sociology of cognition. Sociology of cognition — with some elements of historiosophy — became an object of greater interest only in the last phase of twentieth–century Polish philosophy (Pietruska–Madej 1980; Jodkowski 1990; Jonkisz 1990; 1998). In this trend they analyzed, in general, such matters as the question of continuity (paradigms) and changeability (revolutions) in science. The meta–scientific attitude was dominant. Psychologico–sociological analyses provoked, at once, serious objections of «apragmatists» (Kałuszyńska 1994b).

Apart from apragmatical or pragmatical interest, methodologists were divided in respect of descriptive and normative approaches. Some of them (Leszek Nowak 1971; 1973; Kmita 1976; Giedymin 1982; Sady 1990) wanted to restrict themselves to logical reconstruction of real procedures used by scholars to obtain these results. Others (Koj 1998; Teresa Hołówka 1998) thought that their main task is formulating indications determining the methodological duties of scientists.

All these programs were criticised by Misiek (1979).

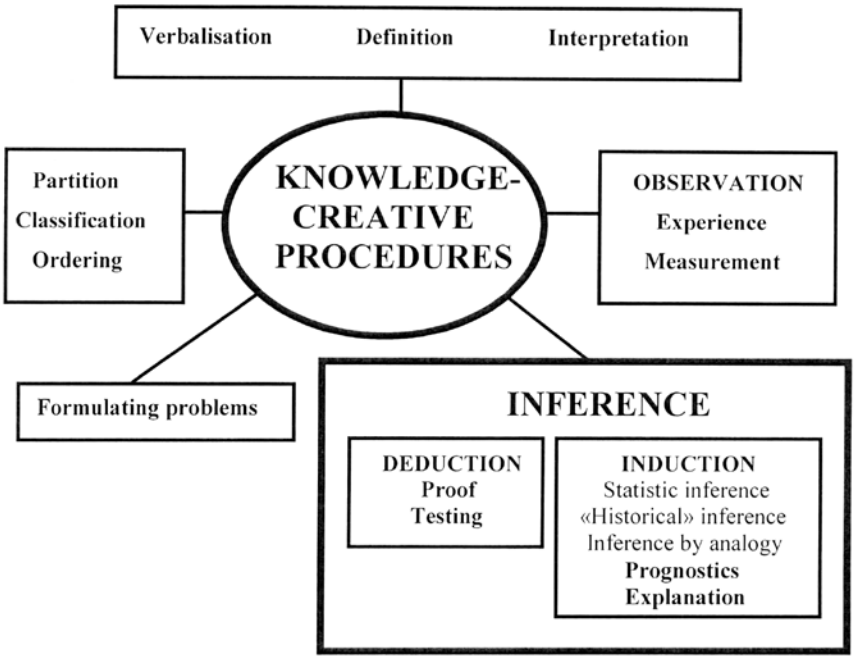
6.2. *Knowledge–creative procedures*

Within both the pragmatical and apragmatical programs the knowledge–creative procedures and their results were object of detailed examinations.

Firstly, analyses concerned observation and, more generally, evidence (Rojszczak 1994), and especially experience (Kalinowski 1991; Czarnocka 1992) and measurement (Kałuszyńska 1983). Measurement was subjected to penetrating considerations by Ajdukiewicz (in the final period of his life) (1961). In the School a broad understanding of empirical cognition dominated which included not only introspection, but also axiological intuition (Czeżowski 1949; 1960a; Przełęcki 1996). Problems of observation were formulated, in general, in terms of observational sentences; in such a context the problem of the analytical components of factual sentences corresponded to the problem of theorized facts (Jodkowski 1983). It was usually connected with the problem of the status of theoretical terms (Borkowski 1966; Przełęcki 1969; 1993; Nowaczyk 1985; 1990; Kałuszyńska 1994a). Żytkow (1979) identifies those terms with sets of operational procedures.

Secondly, studies in inferential procedures (ways of reasoning), begun already by Twardowski and Łukasiewicz, were creatively continued. Polish philosophers

analyzed both infallible (deductive) and fallible (inductive) inferences. Regarding infallible inferences, problems of mathematical proof (Słupecki & Pogorzelski 1962) and its algorithmization (Orłowska 1973; Zwinogrodzki 1976; Rasiowa, Banachowski *et al.* 1977; Marciszewski & Murawski 1995), on the one hand, and problems of verification (Czeżowski 1951b), on the other hand, were worked upon. Ajdukiewicz (1958a) begun the studies on the problem of the logical reconstruction of fallible inferences; Mortimer (1982) took it up in its full generality and Orłowska and Pawlak (1984) interpreted this kind of reasoning as inferences in systems with incomplete information. Other philosophers examined particular fragments of the logic of induction: the theory of inference by analogy (Dąmbska 1962) and the possibility of its mechanization (Zwinogrodzki 1982); the theory of «historical» inferences (i.e. inferences on the basis of testimony) and the question of the reliability of informants (Giedymin 1961); finally, the theory of probabilistic (Czeżowski 1952c) and statistical inferences, in the light of which it appeared that the majority of fallible methods of inference have no degree of infallibility (Szaniawski 1994). A separate study was devoted to the notion of certitude (Sady 1993).



Problems of deduction were seen, more and more commonly, as problems of justification; moreover deductive justification was opposed to deductive inference (Borkowski 1966). Analogously, induction was tied with the context of discovery, which was logically reconstructed in the spirit of the School

(Zamecki 1988; Pietruska–Madej 1990; Sady 1990). Prognostics (Woleński 1984) and explanation, as well as the notions of scientific law (Pelc, Przełęcki & Szaniawski 1957; Mazierski 1993) and hypothesis (Herbut 1978) respectively, were engaging a good deal of attention.

Thirdly, procedures of formulating problems were not neglected. The theory of questions took the shape of erotetic logic. Among particular matters, the notion of the essence of a problem was at the center of investigations.

Fourthly, mereology and set theory were used to describe procedures of partition, classification and ordering. In particular, theory of classification was developed by Czeżowski (1950) and Łuszczewska–Romahnowa & Batóg (1965), to whom we owe its generalization.

Fifthly, Polish philosophers gave a considerable amount of thought to the verbalization and interpretation of theories. Twardowski's followers have always remembered his postulate of clarity and, even if they did not accept officially its theoretical foundation, arguing that sometimes a clear thought cannot be expressed clearly (Gorzka 1990), they have in practice struggled to observe this postulate to the highest degree. In this area, studies culminated in the analysis of definition, inaugurated in Poland in the modern manner by Leśniewski and Ajdukiewicz. Afterwards, many people were occupied with the theory of definition: Kokoszyńska–Lutmanowa (1971; 1973) (who declared for the solution which assumes only one notion of definition, contrary to Ajdukiewicz), Borkowski (1966), Gregorowicz (1962), Stonert (1959) (in deductive sciences) and Pawłowski (1978) (in humanities).

6.3. *Rationality*

In the domain of epistemologico–methodological problems, the main subjects of inquiry were definition, typology and criteria of rationality. Pre–war Dąmbska's research on irrationalism (1937) constituted a background for later attempts to get to grips with this question. Direct or indirect links connected her research with Grzegorczyk (1993; 1997), who finds in rationality a distinctive feature of European civilization; with Przełęcki (1996), who enlarges the notion of rationality beyond the limits of scientific knowledge; with Marciszewski (1991), who concentrates his considerations mainly on the rationality of discussion; with Życiński (1993), who struggles to indicate the place of rationality within the compass of religion; and finally, with Grobler (1993), who analyses especially the notion of deferred rationality.

Apart from these considerations, rationality has been approached in decision theory (Szaniawski 1994).

Finally, Kleszcz (1998) presented a review of the results of examinations in this area, distinguishing seven types of rationality (conceptual, logical, ontological, epistemological, methodological, practical and axiological); he contrasted the rationality of convictions with the rationality of acts; described the difference between rationality, on the one hand, and irrationality or non–rationality, on the other; drew

up a list of criteria for rationality, introducing into it: verbal precision, application of logical laws, criticism and resolvability of entertained problems. Strawiński also added simplicity to them and devoted a special study (1991) to it.

6.4. *Problem of truth*

The problem of truth has not stopped being a mater of penetrating inquiries since Twardowski presented a persuasive criticism of alethic relativism and Tarski developed the semantic (model–theoretical) version of the correspondence conception of truth. Nobody in this environment — especially after Kokoszyńska's additional explications — questioned alethic absolutism. Ajdukiewicz quickly retracted his radical conventionalism. On the other hand, Dąmbska (1962; 1975a) argued that radical conventionalism did not lead to alethic relativism because conventions do not have to be arbitrary. The acceptance of moderate conventionalism (Giedymin 1982; Siemianowski 1983; 1989) could be reconciled, *a fortiori*, with the absolutist conception of truth. Let us add that in general skepticism in this matter was not shared (Andrzej Wiśniewski 1992).

Similarly, the opinion that the correspondence conception of truth is correct, dominated. It was pointed out that both the coherentist and pragmatic conceptions are inadequate. This was done by either referring to common sense (Chwedeńczuk 1984) or to philosophical interpretations of limiting theorems (Woleński 1993). On the other hand, Grzegorczyk (1997) explicitly proved the accuracy of the correspondence conception. This does not mean, however, that the explanative power of conceptions of truth competitive in relation to the semantic conception was not tested. Thus, a «non–Fregean» version of the correspondence conception was constructed where states of affairs stated by sentences are considered to be extra–linguistic counterparts of sentences. Such a version was recognized as the most adequate interpretation of the classical (Aristotelian) solution (Borkowski 1995; Nieznański 1984; Jadacki 1990c; Biłat 1994; 1995). Tomasz Jordan's attempts (1989) tended towards a similar direction — approaching the intuitions of natural languages.

On the other hand, Grobler (1993) — not without sympathy — presented a version of the pragmatic conception, namely the dynamic (approximative) version, in which the property of being true is replaced by the relation of being–more–closely–to–the–truth–than. Jacek Malinowski (1995) studied the illocutionary version with efficiency as an equivalent of truth. Another version of the pragmatic conception, namely the consensual version, was reconstructed lately by Kijania–Placek (2000).

Żabski (1995) build an original logic for the nihilistic conception.

6.5. *Praxiology*

Although the problem of distinguishing and analyzing actions (*versus* products) was formulated by Twardowski, it was Kotarbiński (1956a; 1966b) who was the real creator of the theory of action — i.e. praxiology. Afterwards, Podgórecki

(1962), Pszczołowski (1969) and Ziembiński (1972a) proposed important contributions and improved syntheses.

7. Philosophy of science

7.1. *Classification of sciences*

Twardowski made a penetrating analysis of the traditional classifications of sciences: the classification into *a priori* sciences and *a posteriori* sciences, in particular. The most universal inquiries into the notion of science and the classification of scientific disciplines — from various points of view — were undertaken by Kamiński (1961a).

7.2. *Philosophy of mathematics*

In philosophy of mathematics Batóg (1996) and Murawski (1995; 1999) were active. In particular, the question of the philosophical significance of reverse mathematics held the attention of the latter. Now, two representatives of the younger generation have joined to them; they have examined in great depth the arguments on account of mathematical realism (Bigaj 1997; Wójtowicz 1999) and intuitionism (Placek 1999).

7.3. *Philosophy of physics, chemistry and biology*

In the philosophy of physics, the question of the philosophical interpretation of relativistic physics was continuously at issue (Zawirski 1921; Czerniawski 1993). Lastly, the theory of chaos — and its implications for general philosophy — has become an object of study (Tempczyk 1995; 1998). At the beginning of the examined period, Mehlberg (1951) considered the controversy between idealism and realism in modern physics; and at the end of it, Jodkowski (1996) studied the controversy between evolutionism and creationism in modern biology.

Pietruska–Madej's attention (1975) turned to the philosophy of chemistry.

7.4. *Philosophy of psychology and sociology*

Two philosophers from the circle of the Lvov–Warsaw School, Bobryk (1988) and Rzepa (2002), occupied themselves with the philosophical problems of psychology.

7.5. *Philosophy of the humanities: linguistics, jurisprudence and history*

The most serious results in the philosophy of linguistics were achieved by the program of formalizing theoretical phonology, formulated and realized by Batóg (1967; 1995) and Pogonowski (1979; 1981). As a result, the reduction of the basic phonological categories was obtained (Batóg 1967)

Relatively many philosophers worked creatively in the philosophy of law (Gregorowicz 1962; Ziembiński 1963; 1966; Leszek Nowak 1971; 1973; Woleński 1972; 1980; 1999). For instance, the status of juristic definitions (Gregorowicz

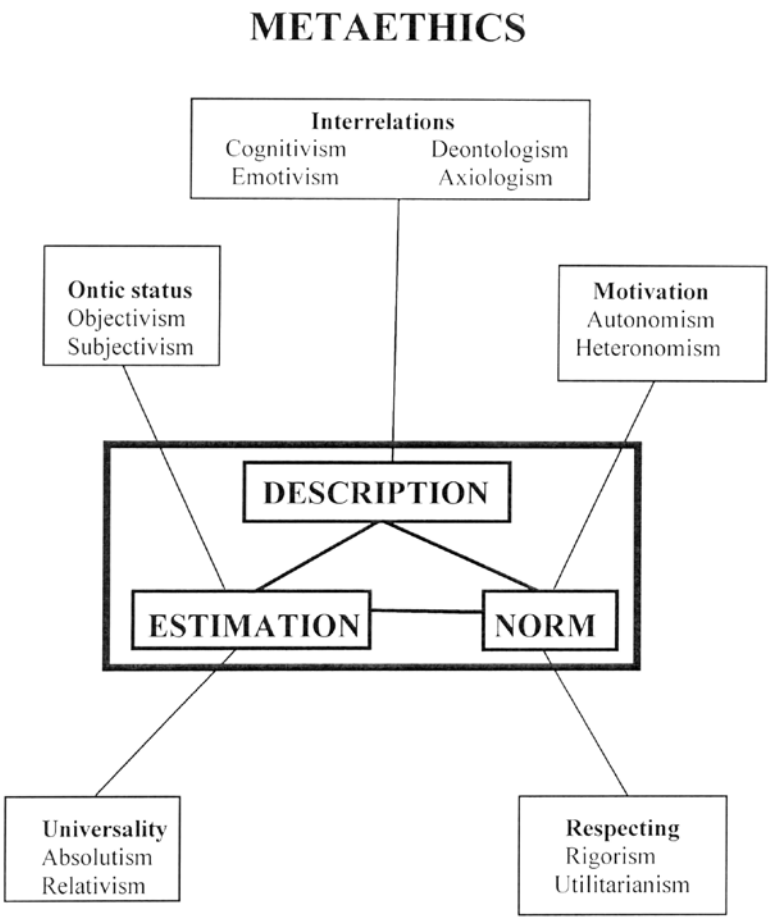
1962), modes of justifying juristic norms (Ziembiński 1972b) and the relation between juristic and ethical norms (Ziembiński 1966) were investigated.

Giedymin (1961; 1964), Nowak & Kmita (1968) and Zamiara (1989) pursued the methodology of history — and, broadly, the humanities — concentrating their efforts especially on reconstructing procedures of interpretation and also explaining the status of theoretical terms in the theory of *belles–lettres*.

7.6. *Reductionism and holism*

The problem of integrating the sciences and the chances of reductionism in this field were investigated by Strawiński (1991; 1997) and Grobler (1993). Jedynak (1998) probed in detail the empiricist version of reductionism; she showed that it cannot be fully realized because of the disharmony of its particular components. Siemianowski (1988) indicated the consequences of radical empirism.

8. Axiology



8.1. *Description, estimation and norm*

It was Twardowski's Lvov lectures in ethics which proved the main impulse for inquiries in axiology (or, strictly speaking, ethics) among Polish philosophers influenced by the Lvov–Warsaw School. In these lectures, the founder of the School declared himself a cognitivist and axiologist regarding the question of the relations between description, estimation and norm. This standpoint — mainly thanks to Znamierowski (1957b), Czeżowski (1960a; 1960c) and Ossowska (1947; 1963) — has become the dominant paradigm in this context.

Ethics — as Ossowska emphatically stated — could be a science and not just a set of moral norms, if it were a science of moral phenomena, providing their scientific description and containing meta–ethics (1970) as well as psychology and sociology of morality (1963). Within the framework of the last of these, Ossowska, herself, reconstructed two examples of an ethos present in Polish society: the chivalrous ethos (1973) and the middle–class ethos (1956).

8.2. *Ontic status and the universality of values*

In the controversy regarding the ontic status of values Twardowski — and the other representatives of the School (Tatarkiewicz 1919; 1938; Przełęcki 1981) after him — took the objectivist position: some objects are goods *per se* and not because somebody considers them as goods. Constructing a formal theory of goods became a goal; and it was Czeżowski (1960a) who gave its outline first.

Objectivism was joined, in principle, with absolutism. At the same time, the analysis of scepticism (Dąmbska 1948a) and relativism in relation to the question of the universality of values was engaging a good deal of attention. Lazari–Pawłowska (ed.) (1975), following the slogan of the School — *clara et distincta*, contrasted axiological relativism with methodological, situational and cultural relativisms; Jacek Hołówka presented a monograph on the problem (1981).

8.3. *Motivation and respecting norms*

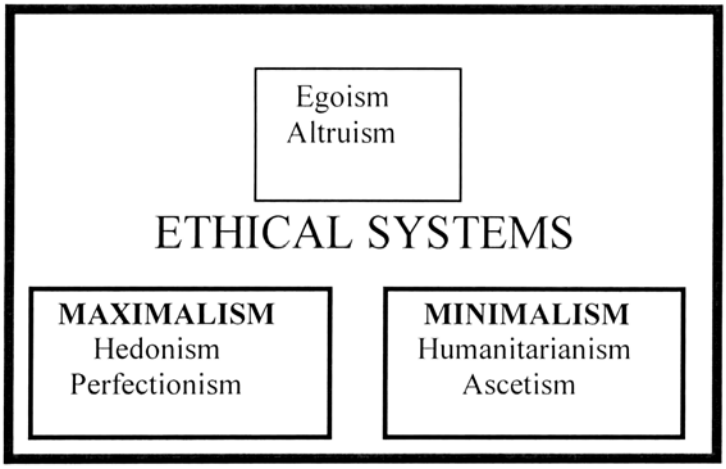
In the controversy regarding the sources of approval of moral norms, Twardowski and his followers were adherents of autonomism: moral norms do not need external justification, in general, and religious justification, in particular. For that reason, systems of independent ethics were developed (Kotarbiński 1956; 1966a); they assumed the shape of atheistic Christianity (Przełęcki 1989), i.e. *hic et nunc* Catholic ethics but without theistic theses. Usually, autonomism was connected with intuitionism (Tatarkiewicz 1938; Czeżowski 1949). According to axiologism, that is good which is commanded; and, what is good in individual situations is — in intuitionists' opinion — simply «visible». Thus, it is not surprising that the «organ» of moral cognition, conscience, was analyzed in detail (Górnicka–Kalinowska 1992).

Twardowski was rigorist as to respecting moral norms. None of his followers proclaimed (or respected) such a radical rigor and some people (Kotarbiński 1966a; Lazari–Pawłowska 1992) tended rather to a «soft» utilitarianism, presenting, in particular, its praxiological version (Pszczołowski 1982). Anyway,

philosophers referring to Twardowski's program of scientific ethics offered deep analyses of the notions of responsibility and fault (Znamierowski 1957b), liberty (Lazari–Pawłowska 1992) and justice (Ajdukiewicz 1939), including just distribution of goods (Szaniawski 1994/1998).

8.4. *Ethical systems*

Separating, following Twardowski and Ossowska, ethical standpoints from the science of moral phenomena — as science *ex definitione* — Polish philosophers working under the sign of the Lvov–Warsaw School tried to model their own «unscientific» ethical views into the shape of possible, rationally–constructed systems. Altruism, humanitarianism and perfectionism were stable fiducial points here.



It is necessary (according to altruism) to take care not only of our own welfare, but also — and maybe first of all (Przełęcki 2005) — of other's welfare. The dominant position was occupied by the ethics of favor towards others (Znamierowski 1957c), of good relations with others (Ossowska 1983) or at least of esteem in relation to others (Witwicki 1957). Fair life consists just of taking care of other's welfare (Kotarbiński 1966b). In connection with the altruistic attitude, semantic analyses of such notions as equality (Czeżowski 1958a/1969) and tolerance (Lazari–Pawłowska 1992) were written.

In the controversy between maximalism and minimalism the majority opinion was on the side of minimalism. Taking care of other's welfare should manifest itself, in particular, in trying to minimalize the pains that others experience. This was the position of humanitarianism (Lazari–Pawłowska 1992). As far as our own good is concerned, the perfectionistic–ascetic standpoint was dominant: we ought to perfect our virtues, but the number of perfected virtues — if the enterprise is to be successful — should be radically limited, to civic virtues in particular (Ossowska 1973; 1983). Hedonism was, in principle, only an object

of theoretical interest. Tatarkiewicz (1947) wrote a splendid analysis of the notion of happiness, separating the happiness of an ethical character from vital, psychological and dispositional happiness. One of the results of this analysis was a justification of the thesis that hedonist happiness cannot be a rational aim of human activity.

8.5. *Aesthetics*

In aesthetics, studies were focused on the psychology of creation and perception of art (Tatarkiewicz 1951; Wallis 1968). Pawłowski (1989) initiated an inquiry into aesthetic values, trying also in this sphere to make use of Occam's razor.

9. Formalization and axiomatization of various domains of knowledge

According to the paradigm of the Lvov–Warsaw School — at least in the version which owes its shape to Łukasiewicz and Leśniewski — the final form of philosophical disciplines should be their logical reconstruction and presentation in a shape of axiomatized formal systems. In the second half of our century, Poles constructed a few important systems of such «regional» logics, mainly of intensional character (Jacek Malinowski 1989).

9.1. *Natural deduction*

As far as a fragment of methodology is concerned, such a system was presented as early as 1934 by Jaśkowski as a system of natural deduction (suppositional logic). It was a realization of Łukasiewicz's postulate (1928) to reconstruct by logical means the real modes of reasoning used in mathematics. Afterwards, many philosophers worked on developing and perfecting this system: Iwanicki (1949), Słupecki and Borkowski (1963), Suszko (1965), Nieznański (1966) and lately Dudkiewicz (1988), who concentrated his efforts on using the method of semantic matrices.

9.2. *Deontic logic*

Deontic logic was a regional logic for ethics and jurisprudence. It was developed by Kalinowski (1965; 1972; 1996), Gumański (1980; 1981), Ziemba (1969; 1983) and Świrydowicz (Ziemba & Świrydowicz 1988), and Woleński (1972).

9.3. *Diachronic Logic*

With historical inquiries in mind, Suszko (1957a) built a system of diachronic logic.

9.4. *Relevant logic and categorial grammar*

In the domain of natural languages, Leśniewski's and Ajdukiewicz's ideas were developed; they were put into the mature form of categorial grammars (Suszko 1958–1960; Stanosz & Nowaczyk (1976); Buszkowski 1989).

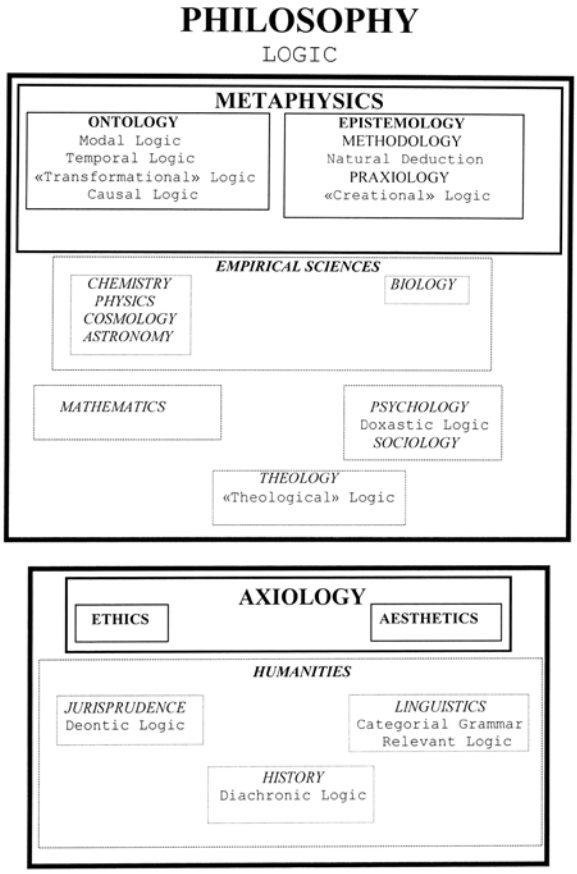
On the other hand, problems with using «normal» logic to examine natural languages — signalized by Tarski — resulted in the development of relevant logic (Tokarz 1993).

9.5. *«Creational» logic*

Praxiology «obtained» a «creational» logic, i.e. logic of action (efficiency) (Kubiński 1985a).

9.6. *Doxastic (epistemic) logic*

It was Łukasiewicz who set the framework for inquiries into the logic of convictions in Poland with his analysis of systems with functors of acceptance and rejection, written in connection with his reconstruction of Aristotle's logic. Łukasiewicz's works concerning the logic of rejection were continued by Wybraniec–Skardowska and Bryll (1969) as well as Słupecki, Bryll and Wybraniec–Skardowska (1969; 1971–1972). Marciszewski devoted a monograph to the general theory of convictions (1972).



9.7. *Modal, temporal, transformational and causal logic*

Polish philosophers were also interested in the logical reconstruction of ontologico–physical problems. Various modal systems for the notions of necessity and possibility were built (Jaśkowski 1951; Żarnecka–Biały 1973; Perzanowski 1989). A review of various attitudes towards problems of modality in logic and philosophy was elaborated (Żegleń 1990). Great efforts were made to construct a temporal, «transformational» logic which could help to avoid the problem of change which threatened the principle of non–contradiction. Using Łukasiewicz's, Zawirski's, Słupecki's and Łoś's ideas, Rogowski (1964), Kiczuk (1984: 1985) and Wajszczyk (1989; 1995) engaged in research in this domain. Wajszczyk proposed detailed systems both for dichotomous (being — non–being and *vice versa*) and continuous changes. In the case of causal logic, as in the case of modal and temporal logic, the impulse came from Łukasiewicz and Jaśkowski (1951); later philosophers from a younger generation (Kiczuk 1978; 1995) have joined them.

9.8. *«Theological» logic*

The program of scientific philosophy, formulated by Twardowski, was later extended — by Łukasiewicz, Drewnowski, Bocheński and Salamucha — to cover also theology. The extension was undertaken against the opinions of, e.g., Witwicki (1939), who claimed that theological problems (and religion in general) belonged to an irrational sphere. Witwicki's view was endorsed by Kotarbiński (1956d), Chwedeńczuk (1997; 2000) and — it seems — by the majority of the School's sympathizers. Nevertheless, the opposite view has never lacked defenders (Życiński 1985–1986; Bronk 1996).

The main efforts were put into the logical analysis of traditional justifications (proofs) of the basic theistic thesis of God's existence (Bocheński 1965; Salamucha 1934a; Nieznański 1979; 1980).

10. Final remark

We must stress that the above picture of the theoretical problems and results achieved by modern Polish philosophy that acknowledges its links with the Lvov–Warsaw School tradition is necessarily of a sketchy character. One can hardly expect more than an introductory diagnosis, if one realizes that now, in Poland, there are *circa* one thousand active philosophers and that nearly two hundred of them are titular professors!

6. Polish philosophers during the II world war

1. The insurgents

Władysław Tatarkiewicz wrote about the November Uprising in Warsaw:

> In that year Professor [of philosophy Krystyn] Lach Szyrma achieved more than during years of Latin lectures. Together with the academicians he established the National Guard and became its head. He was not the only philosopher to take part in the struggle. Many university students joined the ranks, all those who later became worthy contributors to Polish philosophy. Henryk Kamieński, student of the legal faculty and subsequently the author of *Filozofia ekonomii materialnej ludzkiego społeczeństwa* [*The philosophy of the material economy of human society*], served in the fourth uhlan regiment, Feliks Kozłowski, known for his polemic with [Bronisław] Trentowski concerning the Christian principle of philosophy, also fought. Trentowski, who had just graduated from Warsaw University, served as an uhlan in the corps of [General Maciej] Rybiński. Philosophers from other academies also enlisted. Karol Libelt left Paris, where he was studying, to take part in the Uprising, was promoted to the rank of colonel and received the Virtuti Militari Cross. Józef Kremer, a freshly nominated doctor of law at Cracow University, served with him in the same battery, and was wounded at Grochów. The merely 16–years old August Cieszkowski, too frail to serve in the ranks, was engaged in building the fortifications of Warsaw (Tatarkiewicz 1915: 150–151).

To this list let us add Joachim Lelewel (b. 1788), member of the National Government; Witold Heltman (b. 1796), who was enlisted into the tsarist army, but after being taken into captivity by the Poles during the battle of Wawer (31st of March, 1831) joined the insurgents; Tadeusz Krępowiecki (b. 1798), who as a volunteer joined the corps of General Józef Dwernicki and fought in the victorious battles of Stoczek (14th of February, 1831) and Boremle (19th of April, 1831) and ultimately became appointed aide de camp to General Jan Krukowiecki; Stanisław Worcel (b. 1779), who initially was a member of a partisan detachment organised by his father, and later served in the detachment of Colonel Karol Różycki; Jan Podolecki (b. 1800), a volunteer in the insurgent army; Józef Ordęga (b. 1802), who financed a cavalry regiment from Kalisz, in which he served as captain, and then fought in the corps of General Dwernicki and General Samuel Różycki, and was awarded the Virtuti Militari Cross; then Józefat Ostrowski (b. 1803), who participated in the Cadet Conspiracy, Maurycy Mochnacki (b. 1804), also a participant of the Conspiracy and one of organizers of the Uprising; Józef Supiński, who fought in insurgent detachments as a rank–and–file soldier; Adam Górowski (b. 1805), who was awarded the Virtuti Militani Cross and promoted

to the rank of officer for his merits during the siege of Warsaw; Antoni Bukaty (b. 1808), an artilleryman who, just like Kremer, was wounded at the battle of Grochów (when he lost an eye); Leon Rzewuski (b. 1808), an artillery officer and aide de camp to General Józef Chłopicki during the battle of Grochów (25th of February, 1831); Konstanty Danielewicz (b. 1809), wounded during the battle of Ostrołęka (16th of May, 1831), and finally Zenon Świętosławski (b. 1811), Piotr Semeneńko (b. 1814) and Wojciech Jastrzębowski (b. 1799).

The same was before and after.

Before these events, at the time of the Kościuszko Insurrection Józef Wybicki (b. 1747) worked with Rada Zastępcza Tymczasowa [Provisional Deputy Council], and after the fall of the Insurrection co–organized the Legions in Italy; Józef Szymanowski (b. 1748) was the Minister of Justice in the Insurgent Government; Hugo Kołłątaj (b. 1750) was one of the organizers and leaders of the Insurrection; Franciszek Dmochowski (b. 1762) was the Minister of Education; Józef Szaniawski (b. 1764) took part in preparations for the Insurrection; Józef Hoene–Wroński (b. 1776) was the commander of an artillery battery at the battle of Maciejowice, where he was captured by the Russians; other participants of the Insurrection included Onufry Kopczyński (b. 1735) and Michał Karpowicz (b. 1744).

During the Napoleonic wars, Józef Bychowiec (b. 1788) fulfilled the function of aide de camp to Marshal Joachim Murat, commander of the Grande Armée cavalry during the Russian campaign; Stanisław Hołoniewski (b. 1791) financed an entire regiment which he made available to the armed forces of the Duchy of Warsaw.

After these events, Michał Wiszniewski (b. 1794) proclaimed himself the short–lived dictator of the Cracow Insurrection of 1846; Edward Dembowski (b. 1822) was its actual leader; and Walerian Kalinka (b. 1826) was the head of the Government Chancery.

And still later, during the January Uprising Ludwik Mierosławski (b. 1814), an officer of the November Uprising, was appointed dictator and commander–in–chief of insurgent troops. Władysław Kozłowski (the elder) (b. 1832) was a member of the Volhynian Committee; Benedykt Dybowski (b. 1833) — a member of the National Government — was a close collaborator of Romuald Traugutt; other participants of the Uprising included Józef Chwieżkowski (1821), Kazimierz Kaszewski (b. 1825), Ludwik Szujski (b. 1835) and Wincenty Szyszłło (b. 1838).

This is an incomplete list of survivors who, to a lesser or greater degree, had become part of the history of Polish philosophy. How many of the debuting philosophers and young students of philosophy had fallen in the battle against the partitioners?

* * *

On the day of the outbreak of the Warsaw Uprising five of the participants of the Philosophical Seminar held by Władysław Tatarkiewicz were no longer alive.

Michał Wasilewski, the seminar assistant, was shot by the Russian invaders on 17th of September, 1939, in Krzywa Łąka near Czortków (Podolia). Jerzy Siwiecki fell in battle at Kutno, on 9–20th of September. Bolesław Miciński, the second seminar assistant, made his way to France *via* Vilna and Kowno; evicted in the winter from a rented flat he died of tuberculosis on 30th of May, 1943, in Laffrey near Grenoble. Jan Gralewski, a member of Związek Walki Zbrojnej [Union of Armed Struggle] and Armia Krajowa [Home Army], died as a secret diplomatic courier together with General Władysław Sikorski in the air catastrophe near Gibraltar on 4th of July, 1943. Finally, Jan Mosdorf, arrested in June, 1940, and incarcerated in Pawiak (one of the main German Sicherheitspolizei places of detention in occupied Poland on Pawia Street), on 6th of January, 1941, was transported to Auschwitz, and on 11th of October, 1943, was killed by the Germans in a group execution.


Alicja Szebekowa

The majority of the other members of the seminar who proudly wore the insurgent arm bands did not live to witness the ultimate catastrophe of the Uprising.

The first to die was Mieczysław Milbrandt, seriously wounded in the leg on 8th of August while storming the parliamentary buildings in Wiejska Street. On 11th of August SS and RONA barbarians bayoneted Jan Salamucha and Jan Łempicki after the fall of the so–called Wawelska Redoubt. On 9th of September Danuta Krzeszewska, a nurse, was killed by shell fire in Zgoda Street. On 2nd of October Alicja Szebekowa, born Tyszkiewicz, a Home Army officer, died on a barricade in Piusa Street.

Some few membes of the circle surrounding Tatarkiewicz were saved: Alicja Iwańska, Alicja Kadlerówna, Ludwik Kasiński, Jan Popiel, Danuta Wicentowiczówna–Hiżowa…

It is worth adding that the Uprising was joined not only by members of the Tatarkiewicz seminar, but also by the so–called Thaddeists, in other words participants of a clandestine seminar held by Tadeusz Kotarbiński: Henryk Hiż, Andrzej Grzegorczyk, Jerzy Pelc, and Klemens Szaniawski, as well as the participants of another clandestine seminar, conducted by Jan Łukasiewicz and Adam Krokiewicz (i.a., Bolesław Sobociński), omitted in this sketch.


Danuta Krzeszewska


Michał Wasilewski

2. Views

2.1. Alicja Szebekowa and Danuta Krzeszewska. Michał Wasilewski

The information about the philosophical interests of the oldest and youngest among those who had not survived — Szebekowa and Krzeszewska — comes only from Tatarkiewicz himself, who declared that they concentrated their attention on ethics.

On the other hand, Wasilewski left behind only works on the history of philosophy, from which one may deduce that the question which he found particularly interesting — he sought a solution of it among his predecessors — was the question of proof for the existence of God.

2.2. Jan Mosdorf

The prime field of Mosdorf's philosophical interests was historiosophy.

2.2.1 Terminological precision

Those who always and everywhere demand "a precise polishing of terms" (Mosdorf 1938, cz. I: 8) should remember two things. First, it is sheer illusion to claim that precise terminology fully protects from committing an error. Second, in certain situations it is easier to remove "the admixture of concepts" (Mosdorf 1938, cz. I: 8) and to explain misunderstandings without resorting to operations intent on the introduction of precision. This is the case in, e.g., persuasion.

2.2.2. Agony of materialism

The adherents of modern materialism considered empiricism, determinism, (ontological) infinitism, and evolutionism to be its pillars. It became obvious that the very theses which were supposed to support materialism cannot be retained. "Man is not only a living organism but also, and above all, a spiritual creature" (Mosdorf 1938, cz. II: 35). Moreover, we cannot manage without the premise about the immortality of the soul. The matter is that "the foundation of human thought and activity" is belief in the sense of existence: our existence (scil. life) and that of the world (Mosdorf 1938, cz. II: 36). Human life would

have no sense whatsoever if the soul were to "die" together with the body.


Jan Mosdorf

2.2.3. Constructive individualism

The nation is not an ordinary "mechanical" collection of individuals, nor a frail union of "hostile classes", but a "uniform organism", an "inseparable historical whole of generations of the deceased, those who are alive, and those who […] shall come [later]" (Mosdorf 1926: 7, 14). "The history of a nation […] is a continuous entity, and a partition of it into the past and the future is an illusion" (Mosdorf 1938, cz. II: 231). The welfare of this entity is supreme in relation to that of the group arid individuals comprising it. More, the nation is "the greatest of all human goods" (Mosdorf 1938, cz. II: 14).

This is not to say that the welfare of an individual ceases be taken into consideration, and that one must reject all individualism. It also does not mean that every type of collectivism is an ideal.

On the one hand, creative individualism possesses its *raison d'être.* Actually, "activity itself has greater moral value than desisting. It is better to err even than to remain passive" (Mosdorf 1938, cz. II: 189). Only passive individualism is unacceptable — one that is oriented solely on protection against subjugation to the will of another. In certain circumstances, such protection is irrational. The necessity of subjecting oneself to joint welfare is obvious, for example, at the time of a threat.

> On a beautiful day it is better to go by oneself than to swallow the dust raised by the feet of fellow travelers; but during a snow storm, when the whole world becomes invisible, it is much better to keep together than to trust instinct and guides (Mosdorf 1938, cz. II: 83).

On the other hand, there are various forms of collectivism. Communist collectivism differs diametrically from monastic "collectivism". Someone who would be inclined to claim that a "strictly communist system […] is realized by Christian monasteries" would forget that "the monastic system consists of a voluntary fulfillment of duties. On the other hand, a social system is never fully voluntary: one does not join society but is born into it" (Mosdorf 1938, cz. II: 83).

2.2.4. Arena of history

The comprehension of a certain, e.g., contemporary, state of a given society, calls for becoming acquainted with its causes.

Particular historical phenomena creating such a state are themselves a tangle of numerous events. This is the reason why they are the outcome not of a single, simple cause, but of many factors co–operating with each other and not reducible one to another. Such factors belong basically to one of four types. They can be either ideological (moral values, religious norms), material (the natural and civilizational environment), volitional (conscious "wishes" of individuals) or accidental (unforeseen circumstances). Without taking into consideration all those types of factors, expected comprehension remains unattainable.

Human history comprises an arena of the struggle waged by assorted nations, whose characteristic feature is civilization with different values. At the same time, "the value of civilization is testified not only by its peak representatives, but also by the average views of average people as well as the economic and social system based upon them" (Mosdorf 1938, cz. I: 30). Nations which belong to an older race and possess an older culture are civilizationally stronger than the "younger" nations. Unless the latter actively oppose the former, they risk the hazard that they shall be incorporated, "absorbed" by them.

2.3. Jan Salamucha

Among the main protagonists of this text, Salamucha remains unquestionably a prominent figure: the most outstanding, the most versatile, and with the greatest scientific accomplishments. It is best, therefore, for him to speak for himself (for the full presentation of his views see the chapter "On Jan Salamucha's life and work"). Here are fragments of his writings that cast a light on his stand:

2.3.1. Philosophical objectivity

For the sake of science it is necessary to precisely differentiate between the subjective psychic factors of scientific work, which could become the object of psychology, and the objective arguments and premisses which introduce a given thesis into science. This task is particularly important in philosophy in whose instance it is more difficult than elsewhere to distinguish the mature products of human thought, which by means of incessant efforts penetrate the secrets of reality, from scientific semi–products and forgeries (Salamucha 1937e: 203).

2.3.2. Intellectual taste

Just as the selection of a certain style in art or a liking for it reaches so deeply into the psychological structure of a given person and his development strata, that we speak about it in a slightly trivial manner, saying: this is a question of taste, so the arbitrary intellectual stand is a function of so many factors that it is difficult to justify it; in this case one would also like to say: this is a question of taste. It is necessary to remember certain consequences. If one professes method minimalism, then one opens up a field for extraordinary intellectual anarchy. *Everything can be justified with some or — in*

particular — bad means. If in the name of the method one limits the terrain of cognition then vast areas of reality remain outside the range of intellectual control — and thus unhampered emotions, presentations and superstitions (we have experienced their further consequences not only intellectually…) (Salamucha 1946d: 63).

2.3.4. Logical control

No logic is capable of replacing creative intelligence […]. One should not demand from logic something which it cannot give us, although one should also not ignore its controlling usefulness; the more efficient and diverse the logical apparatus the fuller and more all–sided is such control. History is full of philosophical errors committed in the course of proof, but there are also other mistakes, more frequent, embedded in axioms. No logic can reverse axiomatic errors unless they lead to some sort of contradictions. On the other hand, errors of proof are within the range of logical control […]. The situation of logic resembles somewhat that of grammar *vis à vis* language. In the majority of situations, linguistic intuition suffices. A good expert on a given language sometimes feels the contents of the rules of grammar, but is incapable of formulating them. But there are cases, when intuition fails, and it is necessary to turn for help to distinctive rules of grammar; moreover, the better someone knows grammar, the more correctly *caeteris paribus* he will speak (Salamucha 1946e: 68).

2.3.5. Faults of explication

All the so–called terminological explications are relatively easy when they refer to technical expressions, artificially introduced into the language by a scholar conscious of his objectives. […] The situation appears to be much worse in the case of live expressions, which emerged no one knows how and when, which are passed from mouth to mouth, or from a piece of paper onto a piece of paper, and on the way are subjected to the most varied transformations of meaning — as a result, they are used universally although one never knows what meanings are being granted to them […]. This is the case not only with expressions of everyday language; frequently, the same happens with scientific terms. This is precisely the reason why […] whole artificial languages are created so as to render scientific theories independent in relation to the wavering meanings of commonly applied expressions. It is quite another matter that in the case of such an approach the price paid for precision entails the danger of a new treat — the severance (as they speak) of science from life. But this is the way of the world: the conscious person knows no paths free from perils; the sole point is to know it and to effectively overcome them (Salamucha 1960: 437).

2.3.6. Existential completeness

It is possible to push one's way through life thoughtlessly, even without believing in anything; only a person who is unafraid to recognize that which can, and should

be believed sensibly, will live his life consciously. All the valiant worshippers of pure intellect must admit, if they have the courage to take an honest look at the situation that it is even possible to fight against faith only in the name of some other faith. Pure cognition and science will always be only a fragment — although an extremely important and perhaps the most loftily human particle — of human intellectual life (Salamucha 1936e: 119).

2.3.7. Theistic construction

Theism and spiritualism as a whole resemble a delicate Gothic construction. This entity is cohesive, strong, bold and nobly soaring, but also curiously subtle, almost open–work, with ostensibly weak supports and framework. When we take a closer look at its fragments it seems incredible that they are capable of playing any sort of a construction role — they appear to be so frail that they seem to be mere ornaments […]. Nonetheless, everything is necessary in this construction, and all elements support each other; as a result, the whole construction towers proudly. If one were to topple a single fragment, the construction would fracture and turn into a ruin. But it stands firmly as a whole — a certain amplitude of vacillation is even foreseen (Salamucha 1946j: 108).

2.3.8. Dynamic Catholicism

Human thought without revealed faith frequently goes astray. Faith grants it wings and, at the same time, shows the direction of flight. What is the use of wings and signposts when courage and the energy for flying are lacking…? — The wings wither and only the nearest signposts are noticed — it would appear that there is no road ahead… But a wide and long road does exist — and the signposts are clear if one only possesses the courage and energy to go; one cannot stand still and even more so retreat. It is a pity to waste energy on ineffective shuffling on the spot (Salamucha 1947b: 40).

2.3.9. Ethical directives

Revealed norms do not constitute a complete collection of directives. […] No system, at least as rich as theoretical arithmetic, can be logically put into order so as to become a complete system, i.e. it will always contain logically unresolvable theses; in other words, every such system contains such theses that the most subtle logical operation, conducted within it, will not lead to the ascertainment of their truth nor declare their falsehood. Any system of life norms for individual and social life is certainly much more copious that theoretical arithmetics and this is the reason why none can be a complete system. In view of this fact, revealed moral norms can posses only the form of a frame; it is forbidden to go beyond that frame, albeit it is necessary to fill the field within it with some sort of contents — otherwise it will remain empty (Salamucha 1947b: 37).

2.3.10. Ethical realism

When we look carefully at Polish society, whose majority is Catholic, we are struck predominantly by those moral and religious symptoms which […] could be described as "closed morality" and "static religion", so conspicuous in comparison with the loftiness of Catholic ideology. And in the light of it, the optimism expressed by many of us, claiming that the situation in Poland is satisfactory and that Catholicism is alive or at least reviving at a rapid rate, appears to be banal and irritating. One would like to utter an ominous warning, and pessimism appears to be a much more correct approach.

Meanwhile, the truth is in the middle. […] The wide masses are incapable of grasping Catholicism in all of its powerful contents […]. But this is simply the way it has to be. This is insufficient, but we would have even less if we were to take away that core of Catholicism, sticking in these symptoms.

When one serves great superhuman causes then the only sensible maxim of activity should be probably the principle: to discount relative values and not to eject those which are not full values (Salamucha 1932b: 128).

2.3.11. Transcendental objectivity

God is everywhere — not because His expanse encompasses the whole material universe, but because He is a non–expansive being and, at the same time, infinite in His essence and might.

God is eternal — not because his existence is measured with infinite time — but because He persists in a way that is not measured with time.

By using geometric–spatial analogies one could say that the configuration of God's existence is entirely different from the temporal–spatial configuration in which man, all the objects surrounding him, and his experiences exist. — Both different conceptual configurations are built by us in order to describe different realities (Salamucha 1946g: 88).

2.3.12. Pedagogic of drill

It is a great art to steer spirits, but one which should go in the direction of creating subjective values.

This is the direction which educational work should pursue if it is to be effective: its proper task is the installment of suitable values in a child's spirit.

Unless it is combined with the development of appropriate values the method of producing good habits is tantamount to building castles in the sand; a good habit does not mould character by itself, but is only a palliative concealing inner emptiness. Once new contradictory habits appear, endowed with strong subjective impact, the longest habit is immediately destroyed. […]

Characters must be shaped by grafting values that will always maintain their nature. Good habits could be also the result of simple drill, but drill is not character (Salamucha 1932a: 138).


Jerzy Siwecki

2.3.13. Regulated democracy

The screw of social organization cannot be either twisted to the very end or totally loose […]. While turning the screw one should keep in mind the empirical fact that the limitation of freedom, even if it were to increase collective productivity for a short time, hampers the creative efforts of the restrained individuals […]. For a Catholic, twisting the screw can be regulated also by the simple truth maintaining that human life is more valuable in the face of God the more it is a function of the individual's conscience: *ama et fac quod vis.* An excessive twisting of the screw generally lowers the moral level of society because it changes people into beasts of burden. […] Total freedom is an ideal which could be implemented only in a society of angels […] (Salamucha 1939a: 174).

2.3.14. Polymorphic altruism

Sometimes love forces to kill others (may the lamb–like scornful pacifists not be shocked) […]. Simply, if someone with whom I am bound by the strongest ties of love becomes threatened by someone else, towards whom I have much lesser obligations, then in certain conditions I shall even kill to protect beloved causes — precisely in the name of love. […]

I should love all people, but I love best of all those with whom I am associated the closest. […] I am conscious of cultural bonds with all the nations of the world […] but I am tied the closest to my own nation, because it is my expanded home […]. The process of shattering that native home means destroying my expanded personality […] (Salamucha 1942: 176–177).

2.4. Jerzy Siwecki

The attention of Siwecki was drawn primarily to methodology and ethics. This is what he managed to say as regards those issues:

2.4.1. Classiffication of theories

Talking about skills we usually have in mind science and the arts, although both those words — "science" and "the arts" — do not have an unambiguous meaning.

"Science" in particular can be, on the one hand, understood as either (a) a set of theses relating to a certain «section» of reality, or (b) a set of rules of methodical

conduct leading to the achievement of such theses. On the other hand, the word "science" is sometimes used in an objective, psychological, disposition or process meaning. According to the objective meaning, science is tantamount to "contents recorded in the form of theses and rules". In the psychological meaning, it is a "set of information currently consciously experienced or latent" (Siwecki 1960: 240). In the disposition meaning, it is the capability of winning such information. Finally, in the process meaning, "science" signifies work conducted with the assistance of assorted tools, intent on winning knowledge about as certain topic.

A correct classification of sills — including sciences — must fulfill the usual criteria of correctness, and thus it must be homogeneous, i.e. performed according to a single principle (e.g., the topic of research, the applied method, the degree of abstraction, the chosen ideal); it also must be a complete and economic classification, and take into consideration the above indicated ambiguity.

2.4.2. Positive irrationalism

One often hears slogans calling for the purification of science of all irrational elements. Those who formulate such slogans sometimes forget that there are two types of irrationalism: negative and positive. He who acts irrationally first recognizes some sort of a view without inquiring into its justification, i.e. he acts totally uncritically. Here, the word "irrationalism" is correctly encumbered with a pejorative "side–meaning". Nonetheless, there exists an irrationalism devoid of that "side–meaning". It is the irrationalism of those who acknowledge certain opinions (about reality) as empirically unresolvable, although they do so not uncritically, but upon the basis of "profound justification" (Siwecki 1939: 416).

This sort of "positive" irrationalism probably cannot be simply eradicated from science.

2.4.3. Postulate of egoism

Multiple misunderstandings stem from the mixing of two psychic predispositions: egoism and self–love.

Self–love is a striving towards one's own good. It is either an unconscious self–preservation drive or a conscious striving towards happiness. As such, it is by no means reproachable, and can be morally positive as long as it is an "orderly" striving, especially one aimed at a higher good (i.e. if it sacrifices sensual goods for emotional ones, and emotional ones — for spiritual ones).

On the other hand, egoism aims exclusively at one's own welfare, i.e. regardless of the welfare of someone else and even to its detriment (at the price of injury incurred to others). It assumes assorted forms — the attainment of profit, the conviction about absolute ownership, the attitude of dispassionate aestheticism, prayer–request instead of prayer–thanksgiving, total sexual freedom, etc. In contrast to self–love, egoism (of an individual, a stratum or a nation — i.e. nationalism) deserves to be condemned. Just as reproachable would be altruism


Jan Łempicki

if it were to assume the form of a striving solely towards someone else's welfare, based on the (mistaken!) conviction that the welfare of our neighbor, as such, is superior to our own.

The ideal is here friendship — the harmonization of self–love and the love for one's neighbor.

There are those who consciously pursue the ethics of egoism in the belief that the "trampled rights of all the people" may be compensated with the "happiness of several extraordinary individuals" (Siwecki 1934: 202). They try to justify this belief by saying that all people are actually egoists. The falsehood of this view becomes obvious if one distinguishes egoism from self–love.

2.5. Jan Łempicki

Upon the basis of the remnants of the philosophical–historical heritage of Łempicki — and more precisely the digressions scattered throughout it — it is possible to reconstruct only some of his views relative to the methodology of the humanities and to anthropology.

2.5.1. The humanities theory

A good theory in the humanities is anonymous, generalizing and realistic one. In the case of history, e.g., this is history without names and chronology ("it is not the person who acts in time, but it is time which exists within the person"; (Łempicki 1938: 162); this is history which deals with possibilities (since only they recur), but also history free, on the one hand, from an analysis of "pure" possibilities and, on the other hand, from material one–sidedness.

The beginning of a good theory is good systematization.

2.5.2. Natura humana

The anachronistic view universal during the twentieth century proclaims that the essence of man is created by his character, although the shape of that «core of personality» is to a certain degree, but only up to a certain moment, influenced by the external environment; it also claims that the features of the already molded character of a given individual are disclosed in his deeds. Thanks to psychoanalysis we know that the environment may produce certain activity without the mediation of the individualized character. The activity of the individual does not consist of «using» the character (talent, etc.) granted to it, which, after all, sometimes «disobeys». It is not as if someone, for example,

has a poetic predisposition and in certain circumstances expresses it by writing poems.

That is why, sometimes, the essence of man must be sought in the manner of the existentialists, directly in the activity initiated by him. This is so in the case of artistic activity. "In his capacity as the source and material of art everyone is the same. Qualitative features remain outside the process of creation. The individual does not express himself in art thanks to his shape and psyche formed by nature, but by the very experiencing of truth, the direct relation towards extra–individual issues" (Łempicki 1938: 135).


Bolesław Miciński

2.5.3. Forming the character

The character assumes particular features (dispositions) under the impact of things which successively come into the "field of visions" of the individual and enforce certain adapting reactions ("decisions") that make it possible to harmonize the new "character trait" with existing ones. "In this manner, the historical definition of a given person is, by necessity, given only at the moment of his death, the total exhaustion of «ingenuity», or the withdrawal of «grace»" (Łempicki 1938: 154). This is also the reason why quite possibly "drama will always characterize a person better than a portrait" (Łempicki 1938: 157).

People thus do not differ due to their "characters". We are all undifferentiated and non–individualized "nuclei" of activity, different only as regards our place in time and space. It is not a definite character which explains definite deeds and behavior, but it is character itself which must be explained. It seems worth seeking not an explanation of a given deed and that which it expresses, but trying to explain it or to discover its meaning (significance, sense), because different deeds can express the same. This problem may be generally formulated as follows: "Every person possesses all possible features. The differences between people must be already the outcome of a choice" (Łempicki 1938: 159).

2.6. Bolesław Miciński

Miciński himself summed up his "philosophical attitude":

> The human mind can extract a limited number of answers — let us say four or five — to the problems posed by reality, all equally false. They develop in this manner from the

beginning of the world, and become simplified or complicated depending on individual psychic structures and the general structure of the epoch (Miciński 1970: 440).

His detailed views are as follows:

2.6.1. Criterion of regularity

The only, or at any rate the main way to justify our belief in reality, which is subjected to incessant changes of the "external world", is the regularity of those changes: the fact that they are periodical, and that they take place upon the basis of relatively durable substances; we do not notice such regularities in the variable stream of our fantasies. It could be even said that only such regularities are real. In human life, regularities of this sort are determined by ethical norms.

If the existence of constant regularities — and a firm foundation — is a condition for the "normal" course of the world, then the existential end of this world can be envisaged as a "dissolution" of periodicality and substantiality.

2.6.2. Tragic situation

Our situation becomes tragic when we have decided to opt for certain conduct in the conviction that it will protect us against "evil fate"; meanwhile, however, this conduct leads precisely towards the realization of such destiny. This sort of fatalism, which assumes the possibility of making a free choice, should be distinguished from determinism, which, on the contrary, excludes free will.

The unlimited freedom of will — in other words, the constant necessity of making choices — leads to *sui generis* "enslavement": we not only can, but we always must choose something. In order to avoid becoming a "slave" to such a necessity one has to, at least partially, renounce freedom in the same manner as the man of faith renounces it for the sake of God.

Free will is *de facto* limited in another manner, namely, by the goal at which the sequences of its acts aim. Since in psychic life this target is identical with the cause, acts of the will are "determined" by such "selected" goals–causes. "The enormous majority of the people become the slave of a choice once made" (Miciński 1970: 469). Here, in order not to allow oneself to be "limited" in this way one has to, paradoxically, perform voluntary self–limitation.

2.6.3. Dualism of the psyche

The psyche is dual in two ways. The first duality is that of its rational and irrational elements, while the second encompasses conscious and "subconscious" psychic facts.

As concerns the first duality, our attitude towards death is characteristic. From the intellectual viewpoint it is impossible not to regard death as a life necessity. Moreover, "death is […] a constitutive element of life, and although distant it formulates its course". But emotionally, we "rebel" against this necessity. "A flippant attitude towards death makes, simultaneously, a superficial comprehension of life" (Miciński 1970: 159).

The first type of dualism reveals itself also in relations with others. Some people proclaim the maxim: to understand means to forgive. And to understand a certain deed is tantamount to becoming acquainted with its motives. Now, "every deed has its motives, but not every one deserves to be indulged". Forgiveness is not the domain of the intellect. "If one is to forgive, then one does so in the name of love and not in the name of understanding the motives" (Miciński 1970: 154).


Jan Gralewski

In the case of the duality of the consciousness and the "subconscious", facts comprising the latter should not be comprehended as some sort of a separate "psychic domain"; they are simply "facts on the threshold of consciousness", creating a continuum with those facts which had already crossed that threshold.

2.6.4. Instrument of communication

Language is the instrument of expression. One should keep in mind, however, the fact that, on the one hand, it is basically an imperfect instrument and, on the other hand, it is not a mere instrument. In other words, it "is impossible to say everything in an understandable way", while the tongue itself "essentially influences" the expressed contents. This is why we should not succumb to "the tyranny of understandability" or to the myth of emotions free from "linguistic admixtures". "It is impossible to conceive contents without being aware of the associated formal elements" (Miciński 1970: 218). The impact of language on expressed contents is essential, but it does not entitle to a "romantic belief in the power of the word".

A *sui generis* instrumental quality is also characteristic for logic. It too is not a perfect instrument — nor is it only an instrument. This is the reason why it must be handled carefully. Logic is "a lancet, a precision file, a pen held by a proofreader, which by no means limits the errors made by the typesetter and arbitrarily crosses out pages covered with the rather illegible handwriting of the author–philosopher" (Miciński 1970: 361). Worse — to put it in jocular terms — "familiarity with formal logic renders impossible such simple conceptual operations as ordering sausages and beer" (Miciński 1970: 521).

2.7. Jan Gralewski

Gralewski concentrated his interests mainly on aesthetics. His views, however, had a metaphysical basis, and contained distinct references to historiosophy and anthropology.

2.7.1. Spheres of reality

The material world is enclosed in space and time. Just as space is nothing without things, so time is empty without sounds.

The material world does not encompass all beings. There are still the spirits, although spirits without matter would be nothing. Dreams too are a component of reality. Moreover, they are an essential component: "people who are capable of dreaming know more about actual reality than the realists" (Iwańska & Gralewski 1940–1943: 159).

Beyond the real world there exists the world of longings. Faith is just postulating them. Not everything can be examined, and not in everything can we attain certainty. And only "if it were possible to study everything, and if there would exist certainty, there would be no occasions for prayer" (Iwańska & Gralewski 1940–1943: 155–156).

It is because the world is a disorderly sequence of accidents. Man fears that which is haphazard, and seeks order; when he does not discover it in the world he simply postulates it by building scientific theories and ideologies and, last but not least, by creating art.

2.7.2. Civilizational barrier

Art can be conceived as (1) a set of artistic objects, or (2) artistic activity whose products are those objects; in turn, the latter may be comprehended either as (a) the creation of beautiful objects, or (b) the expression of the creator's consciousness or, more exactly, his experiences within his aesthetic attitude (the attitude of "looking for the sake of looking"), i.e., shortly speaking, the expression of the individual aesthetic experiences of the artist. Their object is the opposition between the artist and the world: earthly or God's. Since civilization reorganizes, "humanizes" and thus "conceals" that world, the artist, seeking its direct, "true" image, must "break through" this "cover". Today, this civilizational cover is so tightly woven that it is difficult to see through it the world of nature, especially in town, where "there are only human issues all around" (Iwańska & Gralewski 1940–1943: 69). Instead of personally experiencing the "element" of the natural world, the artists limit their interests to the "rigid form" of the civilizational cover which separates them from the world. This withdrawal from reality causes a dissonance between the contemporary artist and his recipients. Historical democratism *vis–à–vis* art is becoming universal. The recipients seek artistic "truth" among artists of past epochs (hence the large number and popularity of historical and retrospective exhibitions). This is an understandable reaction, but it has a dangerous consequence: aesthetic relativism and the dissolution of artistic taste ("everything is beautiful").

The interpretation of art as an expression of individual aesthetic experiences is certainly much too wide: not every aesthetic experience gives rise to art. It does, however, posses a certain merit, namely, it casts suitable light on the problem of art emulating reality.

2.7.3. Types of deformation

Now, art does not imitate reality but deforms it or, to put it in more neutral terms, transforms it. To be more precise, this occurs in the domain of the applied arts and especially ornamental arts as well as the art of "organizing space". The former artistically transforms the components of our actual surrounding, while the latter — affects the whole of that environment by placing us within an artwork. On the other hand, pure art transforms not so much reality as such but its visions or image.

The prime factor of aesthetic experience is composed of sensual experiences, which constitute the foundation of secondary, "circumferential" experiences: irrational (emotions and faith) and intellectual (knowledge). Different types of deformations take place depending on which of those factors is uppermost — and to what degree — and on certain psychophysical (individual properties of senses) and physical circumstances (the applied matter and tools).

Works of purely sensualistic art, deprived of irrational and intellectual factors, are situated between two extremities. The first is naturalism: here, in furthermost cases we deal with "pure empirical quality", i.e. a totally chaotic multiplicity of impressions. The second is abstractionism (decorationism, also its coloristic variant), in which pride of place goes to the "pure *a priori* quality"– geometrical temporal–spatial schemes.

In turn, irrationalism and intellectualism constitute two extreme ends of the arts, expressing aesthetic experiences dominated by irrational (especially emotional) or intellectual factors. In the latter case we do not have in mind either the suffusion of a work with some sort of "tendency" (cf. the "idea" in literature or "literature" in the plastic arts), nor "reflexive", "over–thought", non–spontaneous execution. The heart of the matter is that works of intellectualistic art express the thoughts of their author: concepts (types), the "literary" or "plastic" names of real objects, which express the classification of reality. Suitable artistic forms do not represent objects but designate them; they are "symbolic" forms. Art is not "embedded" in the carriers of those forms, but in the reality designated by them. Even "poetry is not enrooted in words but in the world".

Here, central position is occupied by the so–called primitive art (the art of primitive peoples, folk art, children's art, and the art of "Sunday" painters). The primitivism of this art consists not so much of its unskilfulness, "genetic" primacy or "purity" of intention (*versus* degenerated art). The essence of primitivism is to be found in the elementary nature ("rawness") of the psychic mechanism of transforming the "life experiences" of the primitive artist into a work of art. The reaction of the primitivist towards reality is total, uniform, and non–differentiated. His aesthetic experience contains all factors (sensual, irrational and intellectual) to an equal degree and as if *en bloc.* This is the reason why the works of primitivists, on the one hand, reveal the national character in art and, on the other hand, provide constant inspiration for the "mature" artists.

The development of art (NB. not its progress) is presented as a gradual disappearance of the irrational and intellectual elements, which by becoming independent are suitably crystallized in the world outlook and in science. It is characteristic for the artists–primitivists that their works express the total human personality and not only the artistic, scientific or ideological "demimonde".

2.7.4. Artistic expression

Despite the fact that their works emerge upon the basis of individual aesthetic experiences, the artists, voluntarily or not, express also the contemporary state of the "spirit" of their nation or, more narrowly, their environment. Moreover, "art is bad in those instances when it is at odds with its epoch and does not express the intuition governing that epoch" (Gralewski 1939b: 98). By way of example, the art of twentieth–century France express the "anxiety" of the French and Francophile cultural circles which instead of "settling accounts with the world" are absorbed with "settling accounts with themselves". The English do not experience such unrest — hence English art represents "sobriety". In turn, the art of national–socialist Germany and fascist Italy exemplifies, in accordance with the doctrine imposed upon those countries, such values as heroism, respect for the family, and love for the native land.

The national spirit reveals itself both in pure and applied arts. "He who would like to become familiar with the Polish spirit and the rhythm of Polish life through the intermediary of Polish decorative art should turn his attention to the rhythm and color of the Polish ornament" (Gralewski 1939a: 184). This rhythm of Polish life is a self–assured, ceremonial, "moderate" step not to be encountered among other Slavs (actually, there is no "Slav quality" envisaged as a certain form of the spirit). "The general character of Polish old and new fabrics, their, if one my use the term, melody and serenity possess the same sort of similarity which, while comparing the faces of assorted people, we describe as a family resemblance" (Gralewski 1938b: 453). "Although broken, tradition is one" (Gralewski 1938b: 453).

2.7.5. Specificity of the individual

The human individual comprises a combination of practical elements (ordinary life activity and reflection) and a–practical ones ("artistic qualities"). Mental health is guaranteed by an aequilibrium of both spheres and their suitable "order". Neglect of one of them produces neurasthenia. Once the artistic quality disappears, and art is relegated to the margin of life (non–creative contact with art in during "moments of leisure"), the result is "inner scribbling" — cinemania, sports mania, erotomania, drug addiction, sleep addiction, etc. Meanwhile, our life should possess a certain style: "only that which is stylish is alive" (Iwańska & Gralewski 1940–1943: 82).

The treatment of life as art is [not] a tendency towards an aestheticising pose. It is a tendency towards making an effort, the willingness to tackle difficulties (Iwańska & Gralewski 1940–1943: 140).

We are all, however, equal members of a certain society, "the same wandering troupe of comedians" (Iwańska & Gralewski 1940–1943: 117). From this point of view every life is worth the same: that of the "stylish" person and the life scribbler, the intellectual and the simpleton. Generally speaking, there are "no bad or good people — there is only man" (Iwańska & Gralewski 1940–1943: 117).

It is easiest to get to know oneself, to "draw forth the whole of one's specific quality" (Iwańska & Gralewski 1940–1943: 41) while traveling, when one abandons familiar places and people. But then "one must return home and to Poland" in order to see, thanks to this "pendulum oscillating between the home and the world", "whether one had not lost oneself" (Iwańska & Gralewski 1940–1943: 42).

The death of another person is a special experience of the individual. In its face we reflect on the way in which we shall die. Life "attains its fullness at that precise moment when it discloses its insignificance" (Iwańska & Gralewski 1940–1943: 132). The thought about death should incline us towards such a life in which every moment would be a completed task.

The thought about death is one of the thoughts about the future. Some people assume an "aggressive" attitude towards the future, but this is an unsuitable stance. The future is something which "still contains nothing" (Iwańska & Gralewski 1940–1943: 66); it is a "vacuum", in whose case the suitable stand is that of disinterested contemplation.

2.7.6. Conflict of generations

The occupation intensified the inter–generational conflict, stemming from different attitudes towards Poland. The position represented by the older generation is emotional: for members of that generation Poland is a question of faith — hence they regard the occupation ("servitude") as a natural state of things, and feel in it at home. The attitude of the young generation is one of sobriety: Poland is an obvious component of reality and does not stir emotions; therefore, the occupation is an anomaly which must be eliminated "in cold blood". The homeland is for them "something simple and ordinary, like the bread we eat in order to live" (Iwańska & Gralewski 1940–1943: 44); it is the condition of daily activity and not the object of festive declamations ("a Homeland").

A common–sense view suggests that the nation, similar to the individual, "falls not when it suffers defeat, but only when it is incapable of benefiting from that defeat" (Iwańska & Gralewski 1940–1943: 22). Even overwhelming defeat is not as dangerous as long–term failure, which inclines to seek refuge in fiction, to treat the homeland in "unrealistic terms", and to turn towards messianistic ideas. "To be a good Pole means to be truly oneself. If one claims otherwise, then

one acknowledges the fact that Poland is not something alive and real, but an abstract fiction which deserves no better than cloying declamations" (Iwańska & Gralewski 1940–1943: 138). The real Poland is within us; we are the "living component of national reality" (Iwańska & Gralewski 1940–1943: 138–139). This is not to say that Poland starts with us. "There is no environment without tradition" (Iwańska & Gralewski 1940–1943: 208).

Despite periods without statehood, Poland still cultivates a living tradition of specific Christian chivalry. This Polish variant differs basically from the chivalry of the German raubemitter, the French courtier concerned primarily with the "smoothness" of form, or the English "commercialized" gentleman. It is based on an affirmation of "impractical" values: goodness, truth, honor, and love.

2.8. Mieczysław Milbrandt

2.8.1. Origin of philosophy

Some regard philosophy to be a necessity "stemming from life", while others consider it to be "a game played outside reality" (Milbrandt 1945a: 101). The stimuli for performing this «life necessity» or embarking upon «a game transcending reality» are sometimes sought in sheer curiosity. Meanwhile, in order to satisfy curiosity or interest it suffices to exhaustively describe its object. The true source of philosophical reflection is not sheer curiosity, but astonishment; and its object is not composed of (merely) interesting things, but ones which are inconceivable, such as death.


Mieczysław Millbrandt

2.8.2. Defects of aesthetics

There are two reasons for the absence of a satisfactory aesthetic theory. The first is a lack of consent between researchers concerning the very foundations of aesthetics: a solution to the question which of the problems are aesthetic and in what sort of mutual relations do those problems remain. The second reason, present in philosophy as a whole, is methodological irresponsibility: asserting "with apodeictic certainty" views which a "logician would banish beyond the boundaries of science" (Milbrandt 1936: 204).

2.8.3. Integral eudaimonism

Certain people, such as the stoics, regard happiness to be a supreme good and, at the same time, call for moderation, sacrifice

and even asceticism. We are supposed to be moderate in happiness because we apparently pay for excessive happiness with "the black hours" (Milbrandt 1945b: 136) of despair. We are supposed to be ready for resignation — and even asceticism — because this is presumably the best path towards happiness.

Meanwhile, the objective is not to avoid limiting possible happiness, but not to confine actual happiness and to experience it without "a servile preparedness for failures" (Milbrandt 1945b: 135) and without an awareness that happiness has «swept over» us.

3. Summary

All the presented thinkers shared a number of features.

They belonged to the same generation. The oldest — Szebekowa — was 45 years old at the time of the outbreak of the Uprising, and the youngest — Krzeszewska — was 25 years of age.

All regarded themselves as Varsovians. Only Szebekowa, who was born in Courland, Miciński — born in the region of Bracław, and Milbrandt — born in Łódź, did not come from Warsaw. Wasilewski, who was born in Warsaw but spent his childhood in the region of Mohylów, was an exception. Szebekowa, Miciński and Wasilewski were driven from their birthplaces by the Russian revolution.

All were the students of Tatarkiewicz, both literally and spiritually. It is not surprising that they shared interests and expressed identical views concerning many issues, which, as a rule, they shared with their teacher.

First and foremost, despite wartime experiences they paradoxically expressed certain optimism. Salamucha noted:

> Sometimes life forces us to face too many dark moments — and we protect ourselves against their pessimistic suggestions by resorting to awareness that they are only fragments of a great unknown entity, and that within that whole they could possibly appear quite differently (Salamucha 1947a).

All had great appreciation for humor. Miciński wrote: "Humor protects against hysteria, and brings the issues of this world down to their proper dimensions" (Miciński 1970: 146). "Our life is a wonderful adventure", declared Gralewski (Iwańska & Gralewski 1940–1943: 103). This is not to say that they did not experience sadness. Nonetheless, as Milbrandt wrote, sadness is not simply the opposite of optimism, nor is it pessimism and even the absence of optimism. Sadness is "disillusioned optimism" (Milbrandt 1945a: 10).

Secondly, they were all realists. "To take facts into account does not mean to agree with them", claimed Mosdorf (1938, cz. I: 166). The slogan of total freedom is tempting, but unrealistic. Salamucha recalled that: "Total freedom is an ideal which could be implemented only in a society of angels" (Salamucha 1939a: 182). We should be prepared for "tackling difficulties", stated Gralewski (Iwańska & Gralewski 1940–1943: 140) speaking of real and not illusory difficulties.

Thirdly, the presented thinkers endorsed activism despite the fact that some of them disclosed a proclivity towards an aestheticizing attitude. "One does not live to eat, but one eats in order to live, one lives in order to create", wrote Mosdorf (1938, cz. II: 40–41), while Salamucha confessed: "Our hearts are impassioned, we do not lack energy, and when faced with odds we never withdraw in the manner of cowards" (Salamucha 1947b). The essence of man should be sought in his deeds, proclaimed Łempicki. "I am an enthusiast of the philosophy of creativity", Miciński (1970: 469) described himself. "Our task is to live and not to die", asserted Gralewski (Iwańska & Gralewski 1940–1943: 163). Let us remember while realizing this task that "each year [of life] reduces […] the range of [our] potential", added Milbrandt (1945a: 8).

Fourthly, all were in favor of creativism, and believed that one should create values and not merely defend them. Aggression is better than resignation. They were the enemies of *non–violence* attitude and, in particular, of (as Mosdorf put it) "pacifistic frenzy" (Mosdorf 1926: 14). "The absence of goodness can be overcome only by the creation of goodness", wrote Mosdorf (1938, cz. II: 189), while Salamucha warned: "Are we not paying too much attention to the eradication of evil and not thinking too little about the cultivation of goodness?" (Salamucha 1932a: 15). "It is not enough to avoid acting in an evil manner: one must disseminate goodness", stressed Siwecki (1934: 11).

Fifthly, the stands represented by all the discussed thinkers harmonized creativism with anti–mimetism and anti–catarctism. All negated the fact that art imitates reality, although some were of the opinion that art deforms reality, while others rejected both views. Miciński declared: "Art never deforms reality; art always forms, creates and shapes" (Miciński 1970: 232). He added: "A surge of real, not superficial emotions does not lull them […]; purification and an eruption of emotions lead to their even greater unleashing" (Miciński 1970: 512).

Sixth, they were, with the possible exception of Łempicki, integral conservatives, even those who dealt with aesthetics and analyzed most recent art. Miciński wrote: "I am worried about those who continue to babble about «new views» and «new perspectives» — Sophocles and Bach are still little known, and people already desire novelties" (Miciński 1970: 524).

Seventh, they all shared patriotism (which they sharply distinguished from nationalism) despite the fact that Milbrandt and probably Mosdorf came from families of German descent. Salamucha predicted: "I do not hate the destroyer of my native home, but I shall protect it to my last breath, not only defensively but also offensively" (Salamucha 1947c). "Devotion to the national cause does not consist of a readiness to sacrifice one's life in case of war, but to sacrifice one's social position", wrote Mosdorf (1938, cz. II, 167). "It is impossible to love one's nation excessively", emphasized Siwecki. The most stirring description was formulated by Miciński:

One should not assume […] that if the Polish nation decided to fight [in 1939] then it did so because this is the way it had been brought up by those who had been in power. To think in this way is to offend the Polish nation by supposing that it could have acted in any other way […]. A nation with ten centuries of tradition is not brought up like a schoolboy and adjusted in the course of ten years. The Polish nation had decided to wage the 1939 war against Germany already prior to the times of Boleslaus the Brave […] (Miciński 1970, p. 174). The same fire which distinguishes man from the animal world flared up on the slopes of the Warsaw Citadel after the fall of the January Uprising. It was kindled by the ascetic hands of the Polish dictator Romuald Traugutt — an authentic politician who in a frantic armed campaign conducted contrary to the sober directives of politicians–collaborators, salvaged Polish independence. When on the eve of the capitulation of Warsaw we burned our banners within the red brick walls of the Citadel, they blazed in the fire of the gallows whose wooden skeleton towered over the spreading Vistula, with the scattered crosses of nameless saints. The fragile shadow of the Polish dictator who had based the principles of true, durable politics on the fire of faith, hope and love, bent over this flame (Miciński 1970: 183).

The words of Miciński were excellent testimony to the correctness of Gralewski' s declaration:

The homeland offers us magnificent and moving experiences — grandiose thoughts, large–scale experiences, and a feeling of greatness (Iwańska & Gralewski 1940–1943: 44).

Part II
Influences and correlations

7. Alexius Meinong and the Polish philosophy

1. Meinongian presence in the Polish philosophical life

It is a common philosophical opinion that Meinong is a thinker who claimed explicitly that objects can be characterized by different modes of being. But any given object has only one mode of being. One can say in jest that Meinong existed in Poland in various modes, since he was related to Poland to many different ways.

First, Meinong, Ritter von Handschusheim, was born on 17th of July, 1853, in Lvov, the town which for six centuries was one of the greatest centers of Polish culture. It is another matter that, as he wrote in his autobiography: "daß meine Wiege auf polnischem Boden gestanden hat […] brachten die Beruftspflichten meines Vaters mit sich; unsere Familie ist jederzeit deutsch gewesen" (Meinong 1921: 4). Unfortunately, the Lvov period of Meinong's life is now completely unknown in Poland.

Second, Meinong, the Austrian philosopher born in Poland, was on friendly terms with Kazimierz Jerzy Adolf Ogończyk of Skrzypna Twardowski (what a similarity of name–forms!), the Polish philosopher born in Austria. Twardowski wrote in his autobiography (1926: 1):

> My cradle is Vienna. I was born here on 20th of October, 1866, in the Polish family of an Austrian government official, Pius by name, and his wife, Malwina, born Kuhn. One can shortly characterize the atmosphere of my family home as […] ardently patriotic.

There still remain some fragments of correspondence between Meinong and Twardowski. Twardowski's letters were published; Meinong's letters (from the years 1893–1907), kept in Twardowski's archives at Warsaw University, await publication. It has been rumored that Meinong was influential on advancing the date of Twardowski's professorship to 1898 (Jadczak 1984, however, questions this).

Third, one of the participants at Meinong's seminar at Graz University during the academic year 1909–1910 was Jan Łukasiewicz, with a scholarship awarded by the Cracow Academy of Sciences and Letters (Słupecki 1971: 236; Dąmbska 1979; Woleński 1985/1989: 18), it is likely that he attended Meinong's lectures during the winter semester of the academic year 1908–1909 (Łukasiewicz 1910: 121). Over time, the attitude of Łukasiewicz to Meinong altered. In the begining it was enthusiastic. Łukasiewicz (1906: 59) says:

> This work [scil. Meinong's *Zur Relationstheorie*] contains many correct thoughts, although it is written from a psychologistic standpoint.

From the same work we know that, according to Łukasiewicz, the logic written by Meinong and Höfler (1890) is "one of the best handbooks of logic […]. The fragment concerning causality is clearly constructed in formal respects." But on his home from Graz, Łukasiewicz changed his attitude and noted more defects than virtues in their logic, stressing for instance that the book contains the following sentence: "Der Satz des Widerspruches pflegt häufig so ausgesprochen zu werden: *A* ist nich non–*A*", whereas it is false to identify the principle of contradiction with the negation of the positive formula "*A* is *A*", adopted for the principle of identity (Łukasiewicz 1910a: 44).

Łukasiewicz (1907: 64) notes that in his work (1906), the difference between judging–as–an–act and judgment–as–object–of–judging was indicated "independently of Meinong" (the reference is to Meinong 1904).

Fourth, Meinong's references to the works of Polish scholars are rare indeed. Meinong (1889: 381; 1917: 338) refer to Twardowski (1894) and (1902: 228) to Łukasiewicz (1910b); the appendix to one of Meinong's works (1915: 732, 733, 745) contains some references to Smoluchowski (1918).

Fifth, a number of works written by Polish philosophers contain numerous mentions of Meinong's papers and books. Twardowski refers widely to Meinong (Twardowski 1894; 1897; 1898a; 1898–1900; 1905–1906; 1924). Struve (1896: 672), appreciates Meinong's efforts (in 1885) to write a philosophical propaedeutics for secondary schools. The above are the first mentions of Meinong in Polish philosophical literature.

After these first mentions, the name of Meinong is a constant presence in the philosophical literature of the twentieth century, especially in the works of philosophers from the Lvov–Warsaw School. To mention a few cases, see Łukasiewicz (1906 and 1907), Igel (1919), Borowski (1930), Ajdukiewicz (1934b; 1960–1965), Dąmbska (1979), Czeżowski (1948a and 1949), and Pelc (1971). Besides members of the Lvov–Warsaw school, Meinong is considered by Biegański (1912), Chwistek (1917; 1921; 1935), and Ingarden (1925; 1931; 1938; 1947–1948; 1948a; 1960; 1970). After the II world war there are numerous references to Meinong in the works of Polish historians of philosophy. See for instance: Tatarkiewicz (1950); Bocheński (1956a); Stępień (1964); Srzednicki (1965); Trębicki (1973); Skarżyński (1976); Zamecki (1977); Kwiatkowski (1978); Dąmbska (1979); Paczkowska–Łagowska (1980); Jadczak (1984 and 1989); Woleński (1987; 1985/1989; 1989); Zirk–Sadowski (1989); Borzym (1991); and Żegleń (1991).

These authors express either a high opinion of Meinong's theories, writing that he is "one of the most outstanding of Brentano's pupils" (Ajdukiewicz 1923: 103), "an outstanding philosophical individuality" (Paczkowska–Łagowska 1980: 6), or else are rather neutral. The only exceptions are represented by Leon Chwistek and Roman Ingarden.

Chwistek regarded Meinong as "an ideologist" (Chwistek 1912: 327). And sometimes considered Meinong ironically, saying that "from the days of Bolzano there is a special school of logicians (Meinong, in Poland Łukasiewicz),

Alexius von Meinong

who think that there is no need to reject […] [contradictory] objects, not being able to find a 'proof' of the principle of contradiction. This standpoint can be named 'hyperrealism'" (Chwistek 1917: 6), or contemptuously, writing in a later paper that "Meinong, the Austrian philosopher whose views were fashionable in Poland before the war of 1914, was firmly convinced that non–Euclidean geometry deals with intersecting parallels and in all seriousness was attracted by this absurdity" (Chwistek 1935/1949: 178). The reference is to (Meinong 1906–1907). In a previous paper, Chwistek noted:

> Many philosophers, being impatient with contradictions, inseparable — up to our times — from all the great constructive adventures even in the area of pure logic, relinquished once and for all the value of a scientific construction […], appealing to a naïve analysis of the senses of words as the only way to finding the 'true' solution of a given problem, in contrast to constructions, having — from the nature of things — optional character (Husserl, Meinong etc.). […] When we hear [the opinions that non–Euclidean geometries are only a play on words] on the lips of Husserl's or Meinong's pupils, we cannot avoid the conviction that they have something like a secret knowledge, inaccessible to mere mortals, being at the same time completely ignorant of things well known to every scrupulous student of geometry (Chwistek 1921: 35, 40).

Ingarden very often wrote on Meinong with manifest antipathy: "I am not sure whether Meinong's «objective» does not refer to the object in the *second* of the meanings of this term — distinguished by myself", that is to a state of affairs having independent existence (Ingarden 1925: 328). Ingarden's attitude is more evident in the following passage: "In Meinong one can find such places, which seem to show that he distinguishes purely intentional states of affairs from states of affairs objectively occurring". But in general "Meinong's theory […] is not homogeneous, and for that reason it is obscure" (Ingarden 1931: 194).

Sixth, Polish philosophical literature contains detailed reports of Meinong's views on semiotics (Niklas 1973; Żegleń 1989 and 1994), ontology (Żegleń 1988) and axiology (Buczyńska–Garewicz 1973; Żegleń 1988). Unfortunately, not many Meinong's works have been translated into Polish; only a short fragment of (Meinong 1906) was published in Polish by Ajdukiewicz (1923), and — after 70 years — a translation of (Meinong 1904).

Seventh, some of Meinong's logico–ontological ideas found creative development in Poland. In this regard, we may consider (Wolniewicz 1985) and, especially, several works by Jacek Paśniczek (1983; 1984b; 1988a). Both authors emphasize that only a kind of general inspiration is at stake here. Wolniewicz mentions that his system of ontology only "in less essential [points] touches […] Meinong's theory of objects" (Wolniewicz 1985: 13). Paśniczek writes that "we do not pretend to adequately reconstruct Meinong's views; we base ourselves rather on their popular reception […]. [We are concerned] rather with a certain traditional and generally accepted interpretation of these views" (1984b: 9; 1988a: 71).

2. Polish explications of Meinongian ideas

As far as one can tell, Meinong was — and is — present in many ways in Poland: he was born there, and he had friends and students from that country; he referred to Poles and was referred to by them; his scholarly production found among them reviewers as well as developers.

I would like, however, to concentrate here upon a different «mode of existence» of Meinong in Poland, namely upon something that can be described as his negative existence, but which is — in spite of its description — the strongest mode of being for philosophical ideas. Thus many of Meinong's ideas met criticisms in Poland; criticisms which have not only historical value. These criticisms bear witness that Meinong's work found not only penetrating, but also intelligent readers in Polish philosophers. Below, I shall indicate some of the crucial ideas developed by Meinong, together with their critical Polish clarifications.

The following are Meinong's main theses, *expressis verbis* attacked by Polish philosophers.

Ontological theses

1. There are various kinds of objects: concrete and abstract objects, fictitious objects and *incompatibilia* (contradictory objects).

1.1. In particular, one can prove that some objects are *incompatibilia.*

[= Meinong's beard ↲ Chwistek and Leśniewski]

1.2. Concrete objects differ from other objects because the former are complete (*vollstandige Gegenstande*), whereas the latter — including abstract objects — are incomplete (*unvollstandige Gegenstande*).

[= Meinong's baldpate ↲ Łukasiewicz and Twardowski]

2. There are various modes of being: existence (*Existenz*), subsistence (*Bestand*) and «extra–sistence» (*Aussersein*).

[= Meinong's horns ↲ Przełęcki]

2.1. All concrete objects — constituting the so–called external world — exist.

2.1.2.The idealists' argument against the existence of the external world is invalid.

[= Meinong's eye ↲ Ajdukiewicz and Borowski]

Semiotic theses

3. Names and sentences belong to the basic kinds of (categorematic) expressions.

3.1. The difference between names and sentences does not inhere in their semantic functions.

3.1.1.Every name, as well as every sentence, designates something (and informs of something).

3.1.1.1. In particular, there are no empty names.

[= Meinong's mouth ↲ Dąmbska and Perzanowski]

3.2. The difference between names and sentences inheres in the kind of their designata.

3.2.1.Names (and only names) designate objects, whereas sentences designate objectives.

[= Meinong's brows ↲ Ossowski]

4. There is something between names and sentences, namely assumptions (*Annahmen*).

4.1. Assumptions — like names and sentences — perform the function of designating.

4.1.1.In particular, assumptions designate — like sentences, and in opposition to names — objectives.

4.2. The difference between assumptions and sentences inheres in their pragmatic function.

4.2.1.Names (and only names) express (*druck aus*) presentations (*Vorstellungen*), sentences (and only sentences) express convictions (*Überzeugungen*), and assumptions (and only assumptions) express quasi–convictions.

[= Meinong's moustache ↲ Twardowski, Witwicki and Marciszewski]

Psychological theses

5. Presentations and thoughts — i.e. convictions and quasi–convictions — fall within the class of intellectual psychic acts; besides we have emotional acts (*Gefühle*) and volitive ones (i.e. desires: thirsts and decisions).

6. Emotional acts contain presentational emotions (*Vorstellungsgefühle*) and convictional emotions (*Urteilgefühle*), i.e. logical and axiological ones.

6.1. Logical emotions — in contrast to axiological emotions — are independent from the quality of convictions, being motives (or foundations) of these emotions.

[= Meinong's heart ↲ Twardowski]

We shall now pass to details.

3. Against Meinong's beard

As it is generally known, Willard van O. Quine labelled "Plato's beard" the doctrine claiming that there are non–existent objects (1948: 10). Meinong's beard is longer than the metaphysical Plato's beard, because it contains also *incompatibilia.*

The thesis that it is necessary to admit *incompatibilia* (1.1) was criticised by Chwistek (1912) and Leśniewski (1913a).

Chwistek presents Meinong's view on this subject — from (Meinong 1906–1907) — in the following way:

> The exclusion of non–existent objects from logic is impossible. As a matter of fact, if I want to exclude from logic, e.g., the round square, it seems right to accept the judgment "A round square is not an object". But in this judgment I say something about a round square; thus I do not exclude it from logic.

Chwistek rejects Meinong's view, because it has two non–acceptable consequences.

1. A system of logic cannot be free of contradiction, since it has to include also contradictory objects (Chwistek 1912: 16).

2. We cannot find criteria for distinguishing contradictory objects from all the other objects. As a matter of fact, criteria of that sort cannot be given by a system of logic, because any system provides facilities for demonstrating that a round square is a contradictory object, as well as that it is not a contradictory object. (This property is possessed by every round square which both is and is not a contradictory object.) All intuitive criteria fail analogously (Chwistek 1912: 17).

It must be said that is difficult to reconstruct Chwistek's second argument in detail. Besides, he himself adds:

> The difficulties connected with the above theory have the following feature in common with paradoxes: both of them are hard to demolish by means of a critical analysis, but we can eliminate them by a systematic construction of concepts (Chwistek 1912: 17).

This is precisely the method used by Bertrand Russell to eliminate the paradox discussed above, and Chwistek finally opts for this Russellian solution.

Leśniewski chooses a quite different way. I will quote his argument *in extenso:*

> If it were true that there are no 'contradictory objects', in other words, no objects are contradictory, then it would be true that a contradictory object is not an object. It can be, however, true that 'a contradictory object' is not an object only in the case when a certain object is 'contradictory'. If no object were 'contradictory', then no proposition about the 'contradictory object' could be true, including the proposition 'a contradictory object is not an object'. Thus, if it were true [that] 'a contradictory object' is not an object, then it must be also true that a certain object is contradictory. This being so, the assumption made at the beginning that no object is 'contradictory' entails the conclusion that a certain object is 'contradictory'. If, on the other hand, the assumption that no object is 'contradictory' is false, then it is true that a certain object is 'contradictory'. Thus, both the assumption that a certain object is 'contradictory', and the assumption that no object is 'contradictory' entails the conclusion that a certain object is contradictory. In other case, the acceptance of 'contradictory' objects becomes logically inevitable [Meinong 1906–1907]. The solution of this 'paradox' becomes quite simple. […] If it is true that no object is 'contradictory', then the proposition 'a contradictory object is not an object' cannot be true, contrary to Meinong's opinion. This proposition cannot be true because its subject 'contradictory object' denotes nothing if no object is a contradictory object (the expression 'contradictory object' could after all denote only an object which was contradictory). Since the proposition 'a contradictory object is not an object' is false, it is not necessary to accept the proposition 'a certain object is contradictory' as true, it would have to be considered true if the proposition 'a contradictory object is not an object' were true. Thus, contrary to Meinong, the assumption that no object is a

contradictory object does not entail the conclusion that a certain object is contradictory. There is not, then, any logical necessity such as Meinong envisages leading to the acceptance of 'contradictory objects' (Leśniewski 1913b: 62–63).

Leśniewski's argumentation is not the most limpid, but we can give it the following form.

The point of departure (i.e. the assumption) of Meinong's reasoning is the sentence:

(1) No object is an *incompatibile.*

Sentence (1) is either false or true. If sentence (1) is false, then:

(2) A certain onject is an *incompatibile*,

i.e. there are *incompatibilia.* If sentence (1) is true, then:

(3) The sentence 'An *incompatibile* is not an object' is true.

Now:

(4) If a given sentence is true, then its subject designates something.

Thus from (3) and (4) we have:

(5) The expression "*incompatibile*" designates something.

And then:

(6) A certain object is an *incompatibile*,

or there are *incompatibilia.* Both assumptions lead to acceptance of the view that there are *incompatibilia.* Leśniewski does not assume that (1) is false, because elsewhere he proved that (1) is true (Leśniewski 1913a). The other assumption does not lead to the thesis that some objects are *incompatibilia.* Provided that (1) is true, then:

(7) The expression "*incompatibile*" could designate only an object which was a *incompatibile.*

Thus from (1) and (7) we have (in spite of (3)):

(8) If the subject of any sentence designates nothing, then this sentence is false.

Thus we cannot make steps (4)–(6), and we do not have to accept that there are *incompatibilia.*

4. Against Meinong's baldpate

According to the thesis (1.2.) abstract objects are incomplete objects. For Meinong, objects are complete when they are determined in the smallest detail. (Łukasiewicz 1910a: 113) presents Meinong's position with the following words: "every thinkable property can be either ascribed or denied to such an object. [Adam] Mickiewicz's column in Lvov is determined in all its smallest details — it is a complete object" (NB. During A. Meinong's stay in the town, it did not exist). The situation is quite different with incomplete objects:

Should the proposition "A column [in general] is made of bronze" be considered as true or as false? Some columns are made of bronze, others are *not;* a column in general

is not determined in this respect. For this reason the above property cannot be either ascribed or denied to it.

Therefore, Łukasiewicz adds, for Meinong "the proposition "A column in general is bronze" is neither true nor false". Łukasiewicz proposes a different solution. The point is not that some sentences concerning abstract objects are neither true nor false. He does not say why, but we are able to fill in the missing details. Utterances of the type "A column in general is bronze" are neither true nor false because they are not sentences. We may avoid this conclusion if we accept that some sentences about abstract objects, and their negations, are false.

Then: "we realize that the distinctive mark of incomplete objects is their non–falling under the principle of the excluded middle" (Łukasiewicz 1910a: 113). Note (and I take responsibility for this remark) that Meinong's thesis about the complete determination of concrete objects does not satisfy our intuitions. In fact, it seems that the principle of the excluded middle can be violated also by concrete objects. Would it not be quite natural to concede that Mickiewicz's column in Lvov is, e.g., incomplete in the respect of rationality or of virtue? That is why this doctrine can be named "Meinong's baldpate": the proposition "Meinong had a carroty baldpate" follows on analogously. This question has a certain psychological bias. Meinong claims that acts of grasping (constructing?) abstract objects — or acts of abstracting — "consisted of taking into relief by attention some properties of the imaginated object, at the cost of the remaining properties, placed into the background" (Twardowski 1898a: 135). However, since during our acts of presentation — and in particular of imagination — our attention is never uniformly directed, then none of our imaginations are concrete. Meinong accepted this consequence. Twardowski objected that Meinong had made a wrong analysis of the acts of abstraction. The point is that "the process of abstraction contains something more [than a non–uniform attention given to the several properties of the imagined object] and […] the phenomenon described by Meinong […] as abstraction considers only its necessary conditions and not also its sufficient conditions" (Twardowski 1898a: 136). For Twardowski, the "something more" concerns the underlying imagined judgments (Jadacki 1989).

5. Against Meinong's horns

The problem of the several modes of being — see thesis (2) — was indirectly addressed by Marian Przełęcki's in some of his works (Przełęcki 1979; 1980) as part of a polemic between Przełęcki and the author of this text. At that time I defended a fictionalistic ontology, whereas Przełęcki took an anti–fictionalistic position. In his works Przełęcki reduced fictions to abstracts, identifying the latter with classes (in the sense of set theory). His reduction concerned also modes of being. Przełęcki's position is well represented by the title of one of his papers: "There is nothing that does not exist" (Przełęcki 1980).

The thesis of assuming various modes of being can be compared with the thesis of assuming various modes of … showing horns. To do this, Meinong could either go hunting (with us), or make himself felt (for us). Let us label the doctrine claiming that there are several modes of being as "Meinong's horns".

Przełęcki's argument against this doctrine is well expressed by the following sentences:

> There is only one sense of "existence", or "being" […]. In that sense, all real, i.e. non–fictitious, objects are said to exist; at the same time, it is said that no–fictitious entity exists […]. The concept of "existence", or "being", seems to be a basic one — not definable by means of other, more elementary notions. To grasp it, we have ultimately to appeal to the way it is understood within natural language […]. To exist means the same as to be. Whatever is, it exists, and conversely. Saying that something does not exist is saying nothing more than that there is no such thing. So, either something is, or it is not — *tertium non datur* […]. If I have to speak literally and seriously, I must conclude that there is no such thing as […] [a fictitious entity]; that no such entity exists. I cannot find any literal sense of "being", or "existence", that would permit me to reach a different conclusion. I really do not understand what is meant by 'being' as applied to the so–called fictitious entities (Przełęcki 1980: 142–143).

But there is more to this. Przełęcki reinforces his argument:

> Contrary to Jadacki's opinion, I would thus claim that metaphysical inquiry can be developed without resorting to the theory of the several modes of being. What it might require is a theory of various ontological categories. Objects which belong to different categories differ in the properties they have (but not in their mode of being) and these differences seem sufficient to account for what the alleged differences in their modes of being were supposed to be needed for.

Ironically enough, instead of trying to build up «my» fictionalistic ontology, I turned to developing a «thin» ontology (Augustynek & Jadacki 1993). In Poland, the first task was instead assumed — rather successfully — by Paśniczek.

6. Against Meinong's eye

Sometimes Meinong — instead of elaborating his own position — analyses the opposite positions elaborated on some problem. Needless to say, to demolish an argumentation in favor of a certain thesis is not the same as to argue for a thesis contradictory to the former one. In any case, it may prove to be an important psychological reason in support of the latter. This fact exhibits the value of reasoning, which leads to thesis (2.1.2). Meinong presents the idealists' argumentation with the following words:

> Am weitesten geht ohne Zweifel, wer meint, daß auf die Erkenntnis einer Außenwelt deshalb nicht Bedacht zu nehmen sei, weil es eine solche Außenwelt nicht nur nicht

gibt, sondern nicht einmal geben kann, da ihre Konzeption einen Widerspruch in sich schließt. Jedermann, das ist der für eine solche Behauptung maßgebende Grund, den man von "Idealisten", "Positivisten", "Empiriokritizisten" u.s.f. in den verschiedensten Weisen variiert findet, denkt sich die Außenwelt als etwas, das existiert, mag er oder sonst jemand daran denken oder nicht. Aber am Ding, das unabhängig von meinem Denken existiert, m.a.W., ein Existierendes, an das ich nicht denke, ist eine Unmöglichkeit; denn dächte ich nicht daran, wie wollte ich seine Existenz erkennen? Jedes Nichtgedachte oder vom Denken Unabhängige, für das einer eintritt, mußte am Ende doch zugleich am Gedachtes, also jedenfalls ein in sich Widersprechendes sein.

Then he calls our attention to a mistake in this argumentation (Meinong 1906: 458), continuing in the following way:

Fragen wir nun aber ganz direkt nach der Beweiskraft unseres Argumentes. Ich durfte es eben als sehr einleuchtend bezeichnen, daß, woran ich denke, kein zugleich Ungedachtes sein kann. Denke ich also einmal an das Weltganze, so erhält auch dieses sozusagen durch mich die Eigenschaft, von mir gedacht zu sein. Folgt aber daraus irgendwie, daß, wenn ich an dieses Ganze oder an am einzelness Objekt nicht denke oder auch eben jetzt nicht dachte, jenes Ganze oder dieses Objekt nicht existieren könnte? Ebensowenig, als einer behaupten dürfte, nur das existiere, wovon er spreche, oder was er aufschreibe, aufzeichne oder dgl. Denn auch in jedem dieser Fälle ließe sich *mutatis mutandis* der obige Beweisgang anzuwenden: ich kann ja auch nichts Unaufgezeichnetes aufzeichnen, nichts Unbesprochenes besprechen u.s.f. […] Wie dem am Ende aber auch sei, dem in Rede stehenden Argumente ist einfach entgegenzuhalten: Daß ich an nichts denken kann, das dann in jedem Sinne für ungedacht gelten dürfte, ist richtig. Aber es besagt weder, daß die Existenz dessen, woran ich denke, irgendwie von diesem Denken abhängig wäre, noch, daß nichts existieren könnte, ohne daß bisher irgend jemand daran gedacht hätte, oder dem sich auch meine Gedanken anders als in diesem so allgemeinen Urteile zuwenden müßten (Meinong 1906: 460–461).

Providing that I understand Meinong's ideas correctly, he ascribes to the idealists the following assumptions:

(1) If somebody thinks of *P*, then *P* is thought by somebody.

(2) If *P* is thought by somebody, then *P* exists.

On the basis of these assumptions it is also obvious that:

(3) If somebody thinks of *P*, then *P* exists.

Assumption (1) as well as assumption (2) — and their consequences, of course — are explicitly accepted by Meinong (according to a certain interpretation of the word "exists"). Moreover, he thinks that the idealists regard the thesis

(4) If nobody thinks of *P*, then *P* does not exists,

as implied by (1) and (2). Thus the idealists would make a serious error, because they reason according to the scheme:

$[(p \rightarrow q) \wedge (q \rightarrow r)] \rightarrow (\sim p \rightarrow \sim r)$.

Ajdukiewicz noted very elegantly:

> The above way of formulating the idealists' argument and *its criticism* [my emphasis, JJ] cannot be considered as perfect (Ajdukiewicz 1923: 99).

He then presented his own interpretation of the idealistic argumentation:

> External world is defined as something which exists independently of any thought. This fact, that the external world is defined, causes the world to be dependent on the thought expressed in the definition. But the consequence of the content of this definition is that the external world is independent of any thought; thus it is independent also of the above expressed thought. So we have a contradiction […]. The above argument consists in using the words 'independent of thought' in two senses […]. The independence ascribed to the external world by the definition consists in the non–occurrence of the relation of a necessary condition between the world and the thought. The dependence motivated by the definition consists in the occurrence of a rather *djfferent* relation between its members, namely an [intentional] relation occurring between a thought and its object […]. So the contradiction is apparent, and the appearance of this contradiction comes from an equivocal use of words.

According to Ajdukiewicz, the idealists reason in the following way.

Let us suppose that:

(5) The external world is independent of thought.

We can then say that:

(6) If in any sentence one say something about *P*, then *P* is dependent on the thought expressed in this sentence.

In virtue of (5) and (6), we obtain:

(7) The world is dependent on the thought expressed in sentence (5).

Thus, assumption (5) leads to (7), which is the contradiction of (6); so we are forced to reject this assumption, i.e. to agree that the external world is dependent on (some) thought.

The above argument must be rejected because it falls into an error of equivocation. "Dependence" in assumption (5) — as well as in the supposed conclusion (7) — has a meaning different from the meaning of "dependence" in assumption (6).

It should be pointed out that the above reconstruction of the analysis of the idealists' argument developed by Ajdukiewicz has been simplified in some respects. An interpretation closer to the original is the following. Let us assume that

(8) The external world is independent of any thought.

Thus:

(9) The external world is dependent of no thought.

Let us agree that:

(10) If somebody claims that *P* exists, then he thinks of *P*,
and that:

(11) If somebody thinks of *P*, then *P* is thought of by somebody,
as well as that:

(12) If *P* is thought of by somebody, then *P* is dependent on a certain thought.

From (10), (11), and (12) we obtain:

(13) If somebody claims that *P* exists, then *P* is dependent on a certain thought.

Inversely:

(14) If *P* is dependent on no thought, then nobody can claim that *P* exists.

From (9) and (14) we obtain:

(15) Nobody can claim that the external world exists.

And (15) entails that:

(16) The external world does not exist.

The crucial point of this argument is assumption (12), which gives to the expression 'dependence [on a certain thought]' a meaning different from the meaning it has in assumption (8).

It is worth noting that while rejecting idealism, Meinong did not avoid one of the most typical of the idealistic mistakes, namely the mistake of classifying relations using as their *fundamentum divisionis* the procedure of comparison (Meinong 1882).

As a result of the above criterion, Meinong distinguished two classes of relations: *Vertraglichkeitsrelationen* and *Vergleichungsrelationen.* Marian Borowski noted:

> A psychical act of comparing cannot be an essential foundation of relations; it [can] only make it easier to *perceive* them. The relation, e.g., of real equality in the physical domain — or of exclusion of two notions in the ideal domain — does not result from our psychical act of comparing, but it exists also without our being conscious of this relation. The equality of two objects is not something less real or more dependent on us than their causal connection. The combining of both the objects under consideration — what is called "comparison" — is necessary only for perceiving the first as well as the second relation. We cannot bring ourselves to believe that any of our psychical acts constitute a condition of the relation of equality, of time succession, or of nearness (Borowski 1922: 340).

I completely agree with Borowski.

7. Against Meinong's mouth

As to empty names — that is, as to thesis (3.1.1.1) — Izydora Dąmbska, according to her pupil Jerzy Perzanowski, explicitly "accepted a solution in the spirit of […] Meinong" (Perzanowski 1984: 318). Dąmbska — in other words — accepted the thesis. She analyzed — and rejected — a certain argument against it:

> Someone might say that […] logicians are not interested in the extensions of empty names; they merely claim that names of non–existent objects do not designate anything.

> And you honest people have to worry about deciding — under the guidance of philosophers — which names are empty. But you must not run the risk of claiming that there are no empty names, for then you will have to accept the negation of that statement: for if there are no empty names, then at least the name 'empty name' is empty since it does not designate any object (Dąmbska 1948b: 163).

The argument against thesis (3.1.1.1) would derive from the definition of "empty name":

(1) An empty name is a name which designates nothing.

Now let us assume that:

(2) There are no empty names.

If so, then:

(3) The name "empty name" designates nothing.

In the light of (1) and (3):

(4) The name "empty name" is an empty name.

Thus:

(5) There is at least one empty name.

Conclusion (5) is of course contradictory to assumption (2). Dąmbska writes furthermore:

> This antinomic issue can easily be dealt with: it is sufficient to make the reservation that we are concerned only with names taken in their formal supposition [*in suppositione formali*], and that we are only interested in such a use of names.

To avoid the paradox, Meinong should keep silent — at least as regards to… empty names.

I agree with Perzanowski's comment that the price is too high. According to Perzanowski, we are not forced to pay such a price, providing we distinguish two types of semantic functions of names: designating (existent objects) and assuming (possible objects), and — in consequence — two types of 'emptiness': d–emptiness and s–emptiness. Now only "the concept of s–empty name seems to be contradictory and with no natural examples" (Perzanowski 1984: 319). In the past, I thought that the only empty name was the expression 'non–being' ('nothing'). Przełęcki noted that this name causes problems very similar to those described by Plato in his *Sophist* (Przełęcki 1980: 145). According to Przełęcki, the simplest way to avoid these problems is to use the above expressions only in their relative sense: we do not say that something is a non–being, but that something is a non–being–from–a–such–and–such–viewpoint.

8. Against Meinong's brows

Theses (3.1.1) and (3.2.1) have been criticized by Stanisław Ossowski (1926) in his (Ossowski 1926).

Concerning thesis (3.2.1), Ossowski notes that "by means of noun–phrases [i.e. names] — and not by means of sentences — we designate what Meinong calls 'objectives'. Because Meinong himself, speaking about the *designata* of sentences, refers to these designata not by sentences, but by noun–phrases. After all, the expression "that there were no disorders" (*daß keine Ruhest Ordnung vorgefallen*) is a noun–phrase and not a logical sentence" (Ossowski 1926: 43–44).

According to Ossowski, thesis (3.1.1) results from the following reasoning. Since

(1) If a certain expression designates *F,* then this expression also informs about (the existence of) *F*,

then

(2) If a certain expression informs about (the existence of) *F,* then this expression designates *P.*

Assumption (1) is an unsubstantiated generalization of the thesis that *names* (vel noun–phrases) designating a certain object, inform us about this object. On the other hand, (2) is an unsubstantiated conclusion from (1). Meinong commits the simple logical error of reasoning according to the scheme:

$(p \rightarrow q) \rightarrow (q \rightarrow p)$.

This resembles the situation of someone who would infer the identity of the functions of Meinong's beard and brows only on the ground of the observation that his beard and his brows beetle.

Let us add that the source of the analogy between the semantic functions of names and sentences derives from the fact that we can ascribe the same categorial structure to the sentences

(a) The name *N* designates *P.*

and

(b) The sentence *S* informs that *p* (scil. that *P* exists),

given a certain interpretation of (b). In fact, we can assume that 'the name *N* designates *F,* and 'the sentence *S* informs that–*p*' have both the structure: *n s/nn n,* where *n* means 'name', and *s/nn* means 'a functor creating a sentence from two names'. But (b) can also be described as 'the sentence S informs–that p', that is as *n sins s,* where *s/ns* means 'a functor creating a sentence from a name and a sentence'. On the ground of the second approach the above analogy vanishes.

After all, what would the term 'to designate' means in the case of sentences? Perhaps something like: 'The sentence *S* designates [the fact] that *p*, when it is possible truly to predicate the sentence *S* about [the fact] that *p*' (Jadacki 1980). Rejecting this interpretation as unintelligible, Przełęcki declares:

> Strictly speaking, I understand the phrase "We can truly predicate '*y*' about *x*", only when I treat this phrase as a substitution of the phrase ""*x* is *y*" is true", or simply "*x* is *y*", i.e. when I treat this phrase in the way which cannot be used, when '*y*' is a sentence and not a name (Przełęcki 1980: 147).

It is very interesting to note that both Łukasiewicz and Meinong claimed that names as well as sentences have the function of designating. The former claim "that something exists or does not exist, is such–and–such or is different or — generally speaking — that a certain object has a certain property or does not have it" (Łukasiewicz 1907a: 34–35). However, at the same time, Łukasiewicz charged Meinong with the error that he "transfer[red] on no evidence the relation of dependence, existing among *propositions* [my emphasis, JJ], into the domain of psychical phenomena" (Łukasiewicz 1910a: 29). Łukasiewicz's argument is so clear and persuasive that we can quote it without comment:

> The first member of an intentional relation is [here] an act of conviction, the second member is a real or an imaginary state of affairs […]. If we express in words or with other signs this second member of an intentional relation, a *proposition* will come into being, and this proposition is either true or false, because it *reproduces* either a real or imaginary state of affairs. On the other hand, a conviction […] *reproduces* as a phenomenon no fact, and for that reason it is — strictly speaking — neither true nor false (Łukasiewicz 1910a: 30).

Besides, Łukasiewicz acknowledged his difficulties with the nature of the objective designated by a sentence:

> I am not able to characterize what is this relation of possessing or non–possessing a certain property by a given object; I can only indicate such cases (Łukasiewicz 1907: 35).

An explanation of Meinong's concept of objective was proposed by Bogusław Wolniewicz. According to his explication, the objective of a given sentence is identical with the greatest situation presented by these sentences (Wolniewicz 1985: 13–14, 16). He defines "situation" as any fragment of reality which verifies a sentence. For instance, the sentence

(a) Alexander, prince of the Polish Mazovia, during the years 1423–1444 was the bishop of Tridentum

is verified not only by the fact

(1) that Alexander, prince of the Polish Mazovia, during the years 1423–1444 was the bishop of Tridentum,

but also by the fact, containing the fact (1)

(2) that in 1440 he was appointed cardinal by the antipope Felix the Fifth, and by the fact, containing the fact (2),

(3) that he died in Vienna, etc.

The smallest situation verifying a given sentence is considered by Wolniewicz the correlate of the sentence. In the case of sentence (a), the situation (1) is its correlate. The sentence

(b) Alexander, prince of the Polish Mazovia, during the years 1423–1444 was the bishop of Tridentum, and in 1440 he was appointed cardinal by the antipope Felix the Fifth

presents situation (1) as well as situation (2). Situation (2) is also the objective of the sentence (b) because this sentence does not present, e.g., situation (3). It is easy to note that the objective of a given sentence is its correlate as well.

9. Against Meinong's moustache

Thesis (4) and its consequences say, in brief, that assumptions — and the quasi–convictions expressed by them — are *sui generis* entities: they are neither reducible to names (presentations) nor to sentences (convictions). The situation is similar to the one analyzed for Meinong's moustache, which is something between his brows and his beard (but near the latter)

Meinong did not accept Twardowski's solution, according to which the class of psychical phenomena is exhausted by presentations, judgments, feelings and decisions (Twardowski considered, say, 'thirsts' as a combination of the first three phenomena). According to Twardowski, quasi–convictions are not specific acts, but kinds of presentations, namely presentations of convictions (judgments), or — what amounts to the same — presented convictions (judgments). Meinong's argument against Twardowski's view can be summed up as follows. If quasi–convictions are presentations of corresponding convictions, then negative quasi–convictions would be presentations of some negative convictions. But no negative presentation (of any non–*P*) is possible. When a negation occurs, we have to do with something more than with a presentation. Only a simple object can be the object of a presentation; a complex objective can be the object only of a conviction or of something that is similar to it.

Twardowski answered by pointing out that "the presentation of a negative judgment runs symbolically" (Twardowski 1906b: 264), which means that we present to ourselves not a judgment, but a sentence expressing this judgment.

On the other hand, Twardowski understood 'quasi–conviction' rather narrowly; e.g., he excluded — in opposition to Meinong — presumptions (tendencies to some convictions) and lies.

Władysław Witwicki, one of Twardowski's pupils, only partially followed his teacher. On the one hand, he explicitly distanced himself from Meinong, writing:

> Il pense […] que nous ne pouvons par nous représenter des lacunes, des négation resp. des object incomplets. Ces dernières theses ne parraissent pas nécessaire (Witwicki 1939/1959: 13).

The Polish version of this paper contains something more:

Contrary to Meinong, I consider it possible to present to myself some negative states of affairs, which I then either must describe by means of some negations, or feel inside them some gap or lack during the time of their presentation. I can perfectly present myself a giraffe without a tail or a man without a head […]. During these presentations, I am not forced to take into account whether these objects and situations, together with their gaps, exist or do not exist (Witwicki 1939/1959: 31).

Witwicki thought also that — contrary to Meinong — quasi–convictions can be graduated: not only as to their vividness, but also as to their strength (Meinong introduced the second gradation only in the area of convictions). Witwicki measured the vividness of quasi–convictions "calculating" their "distance" from the focus of attention, the strength of emotions connected to their objects, the attitude towards the contradictory conviction, and the degree of readiness to act in a consistent way with the corresponding convictions.

On the other hand, Witwicki understood "quasi–convictions" as generally as Meinong; that is he treated — in opposition to Twardowski — assumptions as quasi–convictions.

The following principle is for Witwicki a criterion able to distinguish quasi–convictions from convictions:

(W) "Il est difficile à l'homme, en toute presence d'esprit, d'admettre deux convictions contradictoires à la fois et avec conscience" (Witwicki 1939/1959: 42).

Witold Marciszewski charged Witwicki with imprudently including — contrary to his great teacher — assumptions in the class of quasi–convictions, as well as criticising the ambiguity of his criterion for being a conviction (Marciszewski 1972).

As a matter of fact, principle (W) can be understood in three different ways:

(W1) $\sim a$ believes that $(p \wedge \sim p)$,

(W2) $\sim$ (a believes that $p \wedge \sim a$ believes that p),

(W3) a believes that $\sim (p \wedge \sim p)$.

The difference between quasi–convictions and presumptions can be easily seen as soon as we remember that one can hold a quasi–conviction in respect to a certain 'p' that $(p \wedge \sim p)$, whereas it is normally impossible to presuppose the same. For a presupposes that p, when the probability of the fact that p for a is equal to k, with $1 > k > 0$.

Witwicki tried to find an agreement between two empirical theses: that convictions fall under the principle of contradiction, and that sometimes evident contradictions occur among the convictions of one person. Marciszewski recognized this attempt as unsuccessful, because of the oversimplification of the situations analyzed. Marciszewski himself proposed to distinguish at least three kinds of acceptance among non–assertive acts: perceptual ones (motivated by the perception of something), probabilistic ones (motivated by the feeling

of probability) and instrumental ones (motivated by the usefulness of issuing proposition).

10. Against Meinong's heart

In thesis (6.1) Meinong opposes logical emotions to axiological ones, because only logical emotions are dependent on the quality of the convictions that motivate these emotions.

Meinong's classification of emotions is as follows:

(1) On account of their bases, emotions divide into convictional and presentational.

(2) An emotion is convictional when its base is the experience of a conviction.

(3) On account of the relation to the quality of their base, convictional emotions divide into logical and axiological.

(4) An emotion is logical when its quality does not depend on the quality of a conviction which is its base.

(5) A logical emotion is pleasant when its base is identical with reaching any solution of a given problem; it is unpleasant when no solution of a given problem is reached.

Twardowski considered invalid the above classification and proposed corrections (Twardowski 1906a). Twardowski's reasoning is the following:

(6) Experiencing any conviction, as well as reaching a solution of a given problem, consists in uttering some affirmative or negative judgment.

Hence — on the base of (2) — it follows that

(7) The base of a logical emotion is the utterance of some judgment,

and

(8) The base of an unpleasant logical emotion is uttering no judgment.

If so, then

(9) Unpleasant logical emotions are not logical emotions.

To avoid this unpleasant consequence, Twardowski proposes that the so–called logical emotions are certain kinds of axiological emotions. The class of axiological emotions is identical with the class of convictional emotions. In fact, their base is — for (2) — experiencing any conviction. If this conviction is positive and concerns the existence (or utterance) of some judgment, then a logical emotion motivated by this conviction is pleasant. On the other hand, if this conviction is negative and concerns the non–existence (or utterance) of a judgment (in a given matter), then a logical emotion motivated by this conviction is unpleasant.

So far, Twardowski wished to integrate the dissociated 'intellectual' heart of Meinong.

It is worth pointing out that Salomon Igel, Twardowski's pupil, went further and questioned the general validity of recognizing emotions of pleasantness and of unpleasantness for kinds of experiences having presentations of convictions as their objects (Igel 1919).

11. Conclusion

A complete description of the relation between Meinong and Polish philosophy should also contain a comparison of the problems developed by Meinong, and his solutions, with the ideas elaborated by Polish philosophers. I am not ready to carry out such a comparative analysis. Moreover, I think that a collective effort is indispensable. Fortunately, steps are being taken in this direction. Simons (1992) presents a partial comparison between Meinong and Łukasiewicz; Smith (1980) and (Paśniczek 1984) compare some views of Meinong and Ingarden.

8. Heinrich Scholz and the Lvov–Warsaw School

1. Life and work

I would like to register here only these facts of Heinrich Scholz's life, which are interesting from the point of view of Scholz's connections with Poland.

The first such fact is that Scholz studied in Berlin under the supervision of Alois Riehl. The philosophical views of Riehl formed in the atmosphere of herbartianism. The same went for the philosophical views of Franz Brentano, the teacher of Kazimierz Twardowski, who was the founder of the Lvov–Warsaw School. Riehl and Brentano were surrounded by Johann Herbart's pupils during their studies in Germany as well as in Austria. This fact is probably a source of posterior aversion of Scholz — and Jan Łukasiewicz, one of Twardowski's pupils — to Immanuel Kant as well as to Kantianism.

The second of those facts is that Scholz — inspired by the Warsaw Logical School — created in 1943 Institut für mathematische Logik und Grundlagenforschung. Creating this institute, Scholz crowned his attempts towards planting analytical philosophy in Germany. Scholz conceived this design — as he stressed himself — following Warsaw example ["*nach dem Warschauer Vorbild*"] (Scholz 1940: 384). His idea was similar to the idea brought forward by Twardowski at Lvov University in the end of 19th century. And it was identical with an idea that Łukasiewicz had before him when he took the Chair of Philosophy at Warsaw University in 1915.

The third such fact is that Scholz's ties with Twardowski and his school were not limited to ideological ties. Scholz came into personal contacts with representatives of the Lvov–Warsaw School. These contacts resulted in his two visits to Poland in the thirties. During the visit in 1932, Scholz delivered three lectures: in Warsaw and in Lvov. On the 18th of October he talked about "Die moderne Prädikatenlogik als die erste exakte Darstellung der aristotelische Ontologie" at the 370th meeting of the Warsaw Philosophical Society. On the 25th of October he talked about "Über analytische und synthetische Sätze" at 320th meeting of the Polish Philosophical Society in Lvov; an annalist noted that one of participants of the discussion which followed this lecture was Kazimierz Ajdukiewicz. On the 25th of October Scholz repeated his Warsaw lecture at the 321st meeting of the Polish Philosophical Society in Lvov; Ajdukiewicz and Roman Ingarden took part in the discussion. During the visit in 1938, Scholz delivered on the 19th of December the lecture "Sprechen und Denken. Ein Bericht über neue Gemeinsame Ziele der Polnischen und der Deutschen Grundlagenforschung" at the meeting of the Warsaw Scientific Society, and on the 20th of December he took part in the ceremony at the German embassy in Warsaw, where Hans von Moltke, the Reich ambassador in Poland, handed the scroll of honorary doctor of Münster University to Łukasiewicz.

Scholz's philosophical activity can be divided into two periods: prelogical (up to 1921) and logical (since 1928). The first period is dominated by theologico–philosophical problems; the second one is filled by logico–philosophical investigations. The transformation of interests is usually explained by his accidental falling upon Bertrand Russell and Alfred North Whitehead's *Principia mathematica* and studying this work in 1921. It is worth saying that reading this book challenged also logical interests of Łukasiewicz and Leśniewski.

The forth fact which we should stress in connection with the above explanation is that there were also other reasons of Scholz's philosophical conversion. These issues were the subject of a conversation between Scholz and Twardowski in Lvov, on the 25th of October, 1932. According to Twardowski, "great troubles" and consequently "loss of faith" have something to do with Scholz's conversion. He chose logic — instead of philosophy of religion — as the subject of his investigations as a discipline being "most abstract and far from shooting problems" (Twardowski 1997, cz. II: 248).

2. Scholz's views against a background of the Lvov–Warsaw School

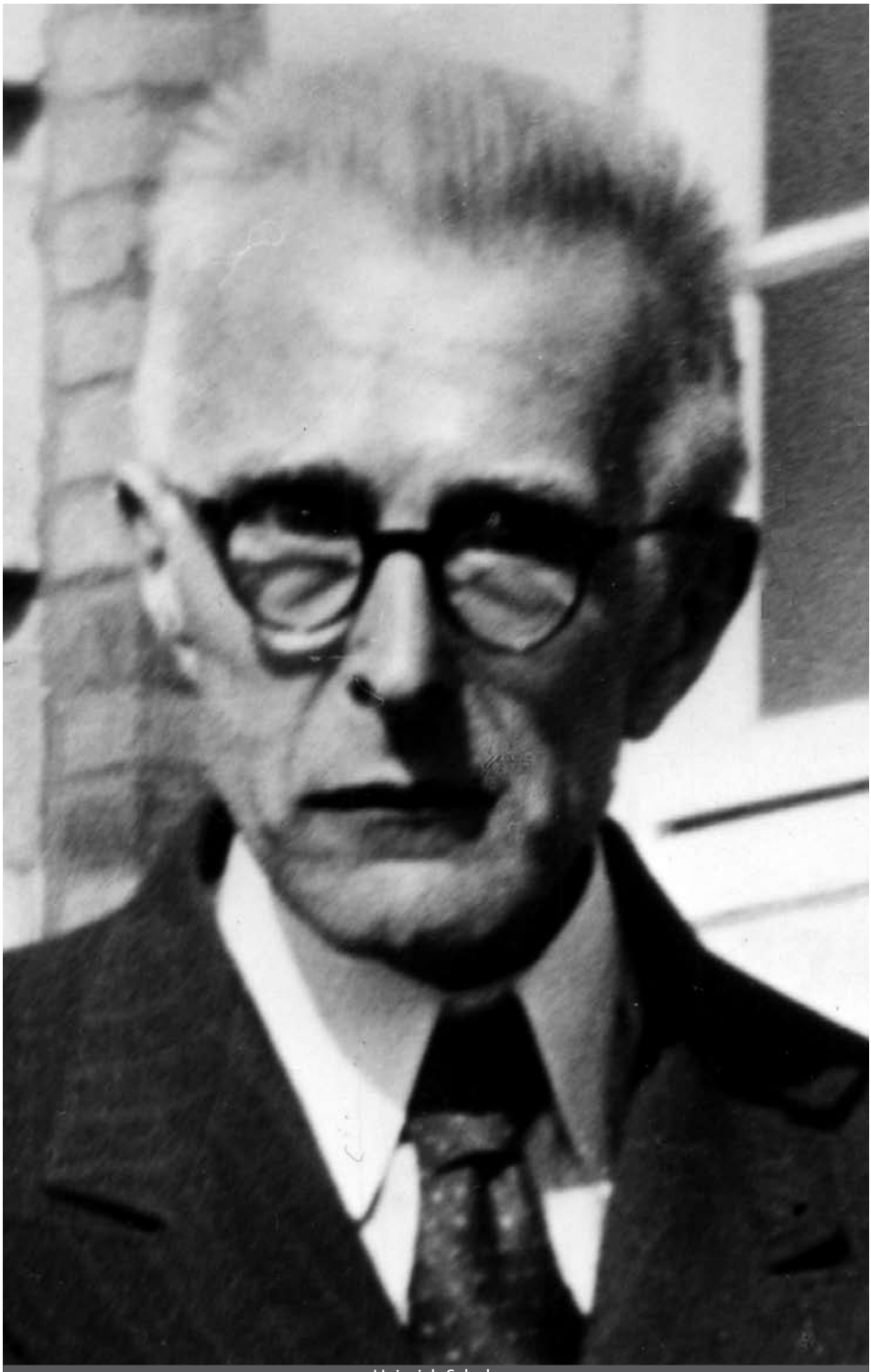
The philosophical views of Scholz are constituted by four ideas: the idea of antispeculative deductionism, the idea of antidogmatic conservatism, the idea of anticonstructivist realism, and the idea of antihypothetist illuminationism.

According to the antispeculative deductionism, the philosophy — if it is meant to be a scientific philosophy (and not a speculation) — ought to use the analytical method. Tadeusz Czeżowski called this method "the method of analytical description".

> It is a feature of the philosophical trend called "analytical philosophy", represented, i.a., in Poland by Kazimierz Twardowski. […] In philosophical research […], where we set ourselves a task of solving the most difficult problems created by reality, the method of analytical description is the most infallible — if not the only — method giving a perspective that our results will be as objective as possible and that they will have a fast value (Czeżowski 1953b: 197, 207).

The language of a scientific philosophy ought to be, according to Scholz, clear (intersubjectively intelligible) and exact (accurate). The similar position was occupied by Twardowski. He wrote a well known text being a kind of manifesto of the so–called clearlists (Polish "jasnościowcy"; Tadeusz Kotarbiński's term); remember that all Twardowski's pupils took themselves for «clearlists». We read in this manifesto:

> An author who does not know how to express his thoughts clearly does not know how to think clearly either, and therefore his thoughts do not deserve out efforts to guess them (Twardowski 1919–1920: 2).



Heinrich Scholz

After Scholz, philosophical theories ought to have a form of interpreted axiomatic–deductive systems. Ontology, in particular, can be identified with interpreted mathematical logic. For "the philosophy can be described as a *mathematical philosophy* in a certain deep sense [of the term]. […] It can be also apprehended as mathematics transposed with essential restrictions to the sphere of philosophical matters, and in this well defined sense — as *mathesis universalis*" (Scholz 1940: 373). The project of Scholz in this area does not vary from a project formulated by Łukasiewicz. He wrote:

> The scientific philosophy should start its construction from the beginning, from foundations. To start from foundations means here to make in the first place a survey of philosophical problems and to choose among them only these problems which can be formulated intelligibly, rejecting all the other ones. The mathematical logic can be already useful in this preliminary work, for it fixed the meaning of many expressions belonging to philosophy. Then we ought to start attempts of solving the philosophical problems which can be intelligibly formulated. The most useful method of realizing such a task seems to be again a method of the mathematical logic: the deductive, axiomatic method. We need to base on sentences being as intuitively clear and undoubted as possible; such sentences should be taken as axioms. As primary or undefined notions we need to choose such expressions that their sense can be universally explained by cases. We should try to limit maximally the number of axioms and primary notions, enumerating all of them carefully. All remaining notions need to be unconditionally defined on the ground of primary notions; all remaining theorems need to be unconditionally proved on the ground of axioms and by means of directives of proving accepted in logic (Łukasiewicz 1928: 42).

The antidogmatic conservatism requires from analytical philosophers not to slight their own tradition (Scholz 1936) — reaching as far back as Plato and Aristotle (Scholz 1940), and then Descartes (Scholz 1931b; 1932) and Leibniz (Scholz 1940). A special position in this tradition is occupied by Frege (Scholz 1941b). For Frege — as Scholz writes — "was the first to present logic in such a way that it can compete with a mathematical theory, being superior to all mathematical theories in respect of exactness and accuracy. To receive this magnificent aim, [Frege] created the first genuinely Leibnizian [i.e. artificial] language" (Scholz 1939: 3). This Scholz's formula harmonises with Łukasiewicz's opinions of mathematical logic. We read in Łukasiewicz:

> The logic created by mathematicians fixed a new measure of scientific exactness, much more high than all previous measures of exactness; in consequence, the logic opened our eyes on nothingness of philosophical speculation (Łukasiewicz 1928: 42).

However, the remaining philosophical tradition must not be treated only as a cemetery of badly posed problems. It is true that — as Łukasiewicz wrote

— "when we approach the great philosophical systems […] with the criteria of precision set up by mathematical logic, these systems fall to pieces as if they were houses of cards. […] The logical theories which often underlie them are practically all erroneous" (Łukasiewicz 1922: 111–112). However, the idea is to use the method of creative interpretation, recommended by Twardowski in the reconstruction of the history of philosophy. In Tadeusz Kotarbiński's approach, this method is described in such a way:

> An adherent of creative interpretation tries […] to understand a given problem better than an investigated thinker. […] He set himself an ambitious task to understand a given thinker more clearly and more deeply than this thinker could understand his own views (Kotarbiński 1973: 5).

In particular, we ought to maintain a critical attitude towards Kant. Here we have Łukasiewicz's opinions concerning Kant:

> Everywhere we have addle notions, unintelligible sentences, unfounded theorems, contradictories and logical fallacies (Łukasiewicz 1924: 368).

One of the most heavy fallacies of Kant is — according to Scholz — that he illegitimately recognized logical laws as analytic judgments not referring to reality (Scholz 1936; 1941a). Under the anticonstructivist realism, truths belonging to the «theory of foundations», including the theology (Scholz 1935a) or "metaphysical truths", "bind of course […] also in real world. […] [However,] a scope of their validity is […] incomparably more large [in comparison, e.g., with laws of physics]. The scope of their validity contains the totality of possible worlds" (Scholz 1940: 362). Possible worlds create a logical frame for every description of the real world. Even the will of God is subjected to logical laws; this fact does not limit God but rather deifies logic. Łukasiewicz expressed a similar thought in the following words:

> Whenever I work even on the least significant logistic problem, […] I always have the impression that I am facing a powerful, most coherent and most resistant structure. I sense that structure as if it were a concrete, tangible object, made of the hardest metal, a hundred times stronger than steel and concrete. I cannot change anything in it; I do not create anything of my own will (Łukasiewicz 1937: 249).

Imposing the requirement of constructability upon logical objects is a manifestation of arbitrary anthropomorphism.

According to the *antihypothetist illuminationism*, philosophical theorems ought not to be clearly and strictly formuated and included into an axiomatic–deductive system, but also all of them, including axioms, ought to by justified.

[They] ought to be incessantly confronted with intuitive data and experience as well as with results of other sciences, especially natural ones. In case of incoherence, the system should be corrected by formulating new axioms and selecting new primary notions. One should care incessantly for contact with reality lest one should create mythological entities like Plato's ideas or Kant's things in themselves, but understand the essence and the structure of the real world in which we live and act (Łukasiewicz 1928: 42).

The manner of justifying a logical — as well as philosophical — theorem ought to be distinguished from the manner of discovering them. "Objects of mathematics […] [and logic] exist in themselves like Plato's ideas" (Scholz & Hasenjaeger 1961: 1). The same holds for the objects of philosophy understood as *mathesis universalis*. In Scholz's opinion, we receive the knowledge of necessary truths — concerning these objects — thanks to God's illumination. Łukasiewicz declared similarly that "by strenuous work […] [he] arrive[s] at unshakable and eternal truths [of logic]. Where is and what is that ideal structure? A [philosopher–]believer would say that it is in God and is His thought" (Łukasiewicz 1937: 249).

3. Scholz on the Lvov–Warsaw School

Scholz spoke of representatives of the Lvov–Warsaw School with the greatest approbation.

In the first place, it concerns Jan Łukasiewicz.

The paper "Philosophische Bemerkungen zu mehrwertigen Systemen des Aussagenkalküls" written by Łukasiewicz (1930) — "a leading Polish logistician" — was recognized by Scholz as "an important and very interesting work", although he regarded Leibniz as a precursor of the idea of three–validity; in his work "Specimina Iuris III" (1669), Leibniz formulated in fact "the first matrix of three–valued logic" (Scholz 1931a: 20). It was Łukasiewicz — "a reverend and dear friend from Warsaw" ("verehrt liebe Warschauer Freunde") — who called Scholz's attention to some embarrassing (and *prima facie* unseen) consequences of the thesis that axioms of logic are sentences true in every (possible) world (Scholz 1935a: 334–335). Close to the outbreak of the II world war, Scholz announced that "the next issue of our *Inquiries* will be filled mainly by Prof. Łukasiewicz's masterful solutions given in Warsaw to two competitive problems formulated in Münster" (Scholz 1939: 4).

Scholz made no bones about saying that many inspirations his logico–historical works owed to Łukasiewicz's investigations.

Asserting that the construction of propositional logic was Stoics' merit, Scholz stressed that "Łukasiewicz was the first who formulated this assertion". He added:

I must admit that his paper convinced me further that what I have said — against «good» tradition — in the continuation of my work in favour of saving Stoic's honour was right (Scholz 1931a: 31).

For his side, Łukasiewicz mentioned proudly that his paper "Zur Geschichte der Aussagenlogik" (Łukasiewicz 1934a/1935–1936), delivered during the Philosophical Congress in Prague, 1934, was considered by Scholz "the most beautiful twenty pages from the history of logic" (Łukasiewicz 1949: 3.06.1949). This paper, published finally in *Erkenntnis* and characterized as a model dissertation ("die bahngrechende Abhandlung"), constituted a basic source of information on Chrysippos' logic (Scholz 1941a: 23).

The only critical remark aimed by Scholz at Łukasiewicz concerned the so–called paradox of logical determinism, formulated by Aristotle. He saw a mistake in this paradox. Hence he was anxious about the fact that for Łukasiewicz this paradox is "the base of a new kind of logic (cf. J. Łukasiewicz, "Philosophische Bemerkungen zu mehrwertigen Systemen des Aussangenkalküls" [(1930)])". However Scholz added in a footnote:

> As I understand, Łukasiewicz does not think that Aristotle's argument is valid; he considers it only as a sufficient ground for discussion. In my opinion, it is enough to be a starting point of his extremely interesting logic. According to my knowledge, this logic is the first example of *non–Aristotelian* logic in the strict sense of the word, i.e. a logic containing sentences which would be *false* in Aristotelian logic (Scholz 1931a: 76).

Alfred Tarski was the second representative of the Lvov–Warsaw School who was mentioned by Scholz appreciatively.

Scholz wrote in 1939 (the date is telltale):

> Among representatives of the Warsaw School I must mention […] Prof. Tarski with his fundamental works on methodology of deductive sciences, and especially his work formulating a noncontradictory notion of truth for these sciences (Scholz 1939: 5).

Of course, the fundamental work ("die grundlegende Arbeit") (Scholz 1940: 384) he mentioned was *Pojęcie prawdy w językach nauk dedukcyjnych* [*The concept of truth in the languages of deductive languages*]. In Scholz's opinion, the definition of *truth* given in this work is coherent with the classical conception of this notion (Scholz 1937b: 1914–1915). Scholz refers to this work for an exact presentation of the liar antinomy (Scholz 1937a: 264). Tarski himself remarked (in a footnote added in 1956): "after the original of this paper had appeared in print, H. Scholz in his article "Die Wissenschaftslehre Bolzanos. Eine Jahrhundert–Betrachtung" […] pointed out a far–reaching analogy between this definition of consequence [according to which the sentence *X* follows logically from the sentence of the class *K* if and only if every model of the class *K* is also a model of the sentence *X*] and the one suggested by B. Bolzano about hundred years earlier" (Tarski 1936: 417). For Scholz, the fact that there is no reference to Bolzano even in Tarski's work is a testimony of general ignorance as to Bolzano's works (Scholz 1937a: 221–222). In 1941 (the date is of no little

importance), Scholz admited that his method of precisifying the notion of general validity ("der Allgemeingültigkeit") had been modelled upon Tarski's work, which Scholz recognized as a strictly philosophical work in the proper sense of the word (Scholz 1941a: 72). Scholz added that the notion of logical truth was precised in this work; he had in mind the notion of logical truth as a truth valid in each possible world (Scholz 1944: 434–435).

Apart from these references, in his lectures on logic, Scholz appealed to the irreducibility of axioms of implication proved by Tarski (Scholz 1935b: 17) as well as to Wajsberg's theorems (Scholz 1935b: 23–24). He also made use of the notion of logical consequence defined in Tarski's work "Über den Begriff der logischen Folgerung" (1936) (Scholz 1937a: 267). Discussing Pascal's contribution to the analysis of the notion of definability of predicates, Scholz indicated the fact that the essential work ("grundlegende Arbeit") in this domain is Tarski's paper "Einige methodologische Untersuchungen über die Definierbarkait der Begriffe" (1935a), in which he formuated two definitions of definability and proved that one of them resulted from another. Two other Tarski's papers, i.e. "Fundamentale Begriffe der Methodologie der deduktiven Wissenschaften I" (1930) and "Grundzüge des Systemenkalküls" (1935b), were also recognized by Scholz as essential, this time for the explanation of Pascal's methodology from the point of view of modern theory of knowledge (Scholz 1945: 122).

Scholz knew and set a high value on Kazimierz Ajdukiewicz's works, i.a., his "Założenia logiki tradycyjnej" ["Assumptions of traditional logic"] (1926); Scholz found in this paper — as he wrote — "the strictest interpretation of Aristotelian moods" (Scholz 1931a: 72). On the other hand, he spoke very well of an analysis of Occam's logic made with the help of modern logical tools in works of Jan Salamucha, murdered in Warsaw during the II world war by Germans ("während des Krieges in Warschau von den Deutschen ermordeten"), and of Józef M. Bocheński (Scholz 1948). Scholz characterized these works as "an innovative inquire" in its area. Scholz noticed also that Carnapian notion of syntactic language ("Syntaxsprache") has its analogue in Tarski's notion of metalanguage which is called "semantic language" ("Semantiksprache") by Maria Kokoszyńska in her excellent study ("in einer feinen Studie") "Über den absoluten Wahrheitsbegriff und einige andere semantische Begriffe" (1936) (Scholz 1937a: 266). Another Kokoszyńska's "beautiful approach" ("die schöne Betrachtung"), "Bemerkungen über die Einheitswissenschaft" (1937–1938) is a place where Scholz refers to for details concerning the thesis that the notion of truth for a given language cannot be formulated in the same language (Scholz 1940: 385).

In Scholz's works there are many positive opinions on the whole group of Polish logicians in the inter–war period.

Scholz wrote in 1931:

> In the late ten years, thanks to Jan Łukasiewcz, Poland became the main country, and Warsaw constituted the main center of logistic investigations. […] [I mean, i.a.,] works published in

Fundamenta Mathematicae […] by Stanisław Leśniewski, W[acław] Sierpiński, Alfred Tarski and others. I must at least mention Leon Chwistek [and his] "The theory of constructive types. Principles of logic and mathematics" […] (1925–1926) (Scholz 1931a: 73).

Scholz consider representatives of the Warsaw School as discoverers of Frege. Łukasiewicz noticed that Frege had been the first who created propositional calculus and introduced the notion of independence of axioms. Leśniewski proved that the axiom of extensionality dissalowed the results looked–forward–to by Frege (Scholz 1939: 4).

"Warsaw friends" were also people — according to Scholz — who realized Leibniz's (Scholz 1940: 384) and Frege's ideas. In the Warsaw School, initiated by Łukasiewicz and Leśniewski — a new style of practising philosophy was developed. We owe a "new [rational] comparative linguistics" to "Polish friends" (Scholz 1939: 4–5). They created: (a) new Lebnizian (i.e. artificial) languages, (b) standard theories of these languages, and (c) ground for comparative studies concerning them.

Scholz summed up:

Talking about the Warsaw School, we talk about the fortress ("Hochburg") in the domain ("Kontinent") of comparative inquiries about Leibnizian languages (Scholz 1939: 5).

4. The Lvov–Warsaw School on Scholz

Two testimonies of how Kazimierz Twardowski, the founder of the Lvov–Warsaw School, estimated Scholz endured to our times. Scholz, invited by Twardowski, delivered two lectures in Lvov, in autumn of 1932, as it has been mentioned above. In his *Dzienniki* [*Diaries*], Twardowski wrote about the first of these lectures in the following words:

The lecture was perfectly constructed, clear, limpid, very well delivered (Twardowski 1997, cz. II: 248).

He estimated the second lecture equally well:

The same can be said about this lecture […], but with the addition that it was still more beautiful. […] The knowledge of Aristotle and the manner of interpreting certain notions of his metaphysics were really extremely interesting. As it could be noticed, the lecture strongly impressed the whole audience (Twardowski 1997, cz. I: 248).

The author of the paper "On clear obscure styles of philosophical writings" (Twardowski 1919–1920) could hardly formulate a better praise.

Twardowski's pupil, and the main pillar of the Warsaw School, Jan Łukasiewicz, described Scholz as "a devotee of scientific philosophy grounded in modern

logistics" (Łukasiewicz 1938: 372). However, he made references first of all to Scholz's logico–historical works.

On the one hand, Łukasiewicz expressed his satisfaction as to the fact that Scholz accepted in *Geschichte der Logik* (1931a) the view on Stoics' dialectics as a propositional logic, defended by Łukasiewicz since 1923 (Łukasiewicz 1934a: 200; 1934b: 61). Jan Franciszek Drewnowski added later that this logic (what was fully revealed not earlier than by Łukasiewicz and Scholz) "was known and developed by medieval Schoolmen" (Drewnowski 1958: 176). Scholz claimed also that Scholastic logic reached much more higher standard than logic of next ages; this Scholz's achievement was specially stressed by Jan Salamucha (1937d). Łukasiewicz noted also Scholz's hypothesis from *Geschichte der Logik* that "Galen is probably nor responsible for the fourth figure" (Łukasiewicz 1951/1988: 39).

On the other hand, Łukasiewicz based on Scholz (1931b) his analysis of Descartes' formula "*Cogito, ergo sum*". Namely following Scholz, Łukasiewicz admitted that this formula expressed an inference, and not a conviction. But only a conviction can be estimated as to its being true of false. Thus Descartes' formula does not fall under such estimation. Moreover, the inference expressed by the formula "*Cogito, ergo sum*" is an enthymematic inference. After completion, it has the following form: "If I think, then I exist; I think, so I exist" (Łukasiewicz 1938: 372). After many years, Eugeniusz Wojciechowski paid attention to the fact that Scholz really considered such a possibility of interpreting Descartes' formula, but "he rejected this interpretation as inadequate, for Descartes himself protested against it" (Wojciechowski 1987: 194).

Łukasiewicz admitted also that Scholz was his inspirator in the investigation of the axiomatization of intuitionist propositional calculus constructed in 1930 by Arned Heyting. This investigation resulted in proving that "the three–valued calculus proves to be stronger and reacher than the two–valued", i.e. the latter can be interpreted in the former (Łukasiewicz 1941: 294).

Scholz's works belonging to the domain of the history of mathematics called attention of Leon Chwistek who not being a member of the Lvov–Warsaw School was very near to it in many respects. He accepted Scholz's view from "an interesting discussion" in "Warum haben die Griechen die Irrationalzahlen nich aufgebaut?" (Scholz 1928) that "the essential reason of why the Greeks did not develop a concept of irrational numbers was that they had no concept of rational numbers" (Chwistek 1935/1949: 56). Scholz impugned also the prejudice that the Greeks were finitists; this prejudice was earlier objected in Poland by Jan Sleszyński (Chwistek 1935/1949: 69).

Representatives of the Lvov–Warsaw School were interested mainly in Scholz's works concerning the history of logic.

We may suppose that Tadeusz Kotarbiński shared three of Scholz's philosophico–historical opinions from *Geschichte der Logik*: (a) that Stoics were not aware of the logical anteriority of their logic in relation to Aristotelian logic (Kotarbiński 1957: 69); (b) that the authors of *Logic* from Port Royal were

probably the first logicians who treated methodology as a theory of methods of mental operations (Kotarbiński 1956b: 517); and (c) that "la *Logique* de Port–Royal, peut encore être lue avec profit de nos jours, bien qu'elle ait été écrite il y a fort longtemps de cela en 1622" (Kotarbiński 1957: 108).

Tadeusz Czeżowski had also a very favorable opinion of *Geschichte der Logik* (1931a); he called it a monograph of the history of logic which was concise but "standing on the level of state of knowledge of the present day" (Czeżowski 1968a: 257).

But Czeżowski was interested mainly in Scholz as a metaphysician — a representative of one of the three types of modern metaphysical theories. For Czeżowski distinguished axiomatic, inductive and intuitionist metaphysics. He wrote:

> The first one is a modern form of former speculative metaphysics; the assertions of axiomatic metaphysics are interpretations of the assertions of the extended theory of propositional functions (the theory of predicates and theory of relations) which are obtained by substituting the term "thing" or "empirical individual" for nominal variables, and the terms "feature", "quality" or, in many–place functors, "relation" for functor variables of propositional functions. The hypothetico–deductive theory obtained in this way is an extended Aristotelian first philosophy. An example of this kind of theory is provided by H. Scholz's logico–ontological investigations [scil. *Mathesis universalis* (1961)] (Czeżowski 1963: 180).

In particular, Scholz's *Metaphysik als strenge Wissenschaft* (1941a) is a "standard example" of axiomatic metaphysics (Czeżowski 1951c: 42).

The same opinion was held by Kazimierz Ajdukiewicz who claimed that Scholz was right in naming some parts of mathematical logic "metaphysics" ("in its primary sense") (Ajdukiewicz 1946: 28). Stanisław Kamiński stressed also this fact many times (Kamiński 1961a: 312; 1965: 138; 1975: 64) paralleling (rather wrong) Scholz in this context with Benedykt Bornstein as the author of *Teoria absolutu* [*The theory of the absolute*] (1948).

Ajdukiewicz appealed to Scholz also in the case of justifying the thesis that operators (including quantifiers) were not complex but simple expressions. According Ajudkiewicz, "there are ways of writing operators which make this clear. Professor Scholz, for instance, writes "x" instead of "(Πx)"" (Ajdukiewicz 1935: 131).

In general, Ajdukiewicz ascertained to his satisfaction that Scholz was "a sympathizer of logicising empiricism" (Ajdukiewicz 1946: 28). Józef M. Bocheński considered Scholz as a classical representative of analytical philosophy; he stressed at the same time that Scholz was an extreme Platonist, because according to him even the negation "must be somewhere" (Bocheński 1990: 36–37). According to Jan Salamucha, the fact that such outstanding logicians as Łukasiewicz and Scholz with another representatives of the so–called Group from Münster

(*Gruppe von Münster*) spoke for the thesis that mathematical logic (logistics) is functionally independent from positivism (Salamucha 1937f: 217–218).

Geschichte der Logik (1931a) was (in general) positively estimated also by Antoni Korcik. In his opinion, "the author used the respective literature thoroughly and accurately" (Korcik 1966: 173).

But Korcik — appealing to his own investigations — questioned Scholz's identification of the so–called Galen's figure with the traditional fourth figure and showed that Galen's figure is a separate figure consisting of three Aristotelian figures (Korcik 1966: 173).

Korcik announced also some small historical corrections to Scholz's work. He noticed namely that: (a) The second edition of Julius Pacius' *Aristotelis Organum* (1617) was published not in Frankfort but in Hanover; (b) the first attempt of the axiomatization of classical logic was taken up not by Girolamo Saccheri (1697) but by Johann Christoph Sturm (1669); (c) Sturm is also a precursor of Franz Brentano as to taking into account syllogisms of four terms; (d) Rudolf Lotze (as well as, e.g., Gottfried Wilhelm Leibniz and Gottlob Frege) considered the copula "is" in sentences of the type "*S* is *P*" as referring to identity, but only for the sake of «signifying» and not of meaning; (e) the principle of excluded middle was criticized by Robert Grassmann (1872) much earlier than by Letzen Brouwer (1908); (f) the idea of non–Aritstotelian three–valued logic appeared before Jan Łukasiewicz (1918) in Nikolai Aleksandrovič Vasilev (1912), and the idea of anti–Aristotelian logic — in Elias Schnegass (1688) (Korcik 1966: 173).

Scholz's works belonging to the domain of philosophy of religion became an object of interest among Polish philosophers only lately.

Thus Bogusław Wolniewicz noted that Scholz in *Religionsphilosophie* (1921): (a) called in question the existence of the «experience» of *sacrum* (Wolniewicz 1992: 167–168); (b) ignored — as many philosophers of religion — the importance of the problem of death; if he mentioned in his book *a horror* of death and a hope of immortality, he did it only in the context of discussion on sources of religiosity, indicating namely that there were religious people who were not afraid of death (Wolniewicz 1992: 168–169, 190).

Andrzej Lubomirski thought of Scholz much better in this respect. He wrote:

> Scholz's ideas […] had great impact not only thanks to their clarity and simplicity, but also — and probably first of all — by *courage of faith* in dignity of human being as an entity who is capable of participating in the sphere of *sacrum*, and by *courage of humility* expressing itself in the conviction that only thanks to Creator's grace we were able to overrun the limit between finititude and infinity (Lubomirski 1991: 72).

5. Personality

Among Polish philosophers Jan Łukasiewicz was the person who kept the nearest relations with Scholz. For that reason, in Łukasiewicz's writings, we find many notes concerning Scholz as a person.

In letters to Twardowski, Łukasiewicz characterized Scholz — after his visit to Warsaw in 1932 — in the following words:

> Prof. Scholz is immensely pleasant and likeable, sincere and with winning manners, but since a long time he suffered of ulcers of stomach; hence he must be careful of his living and after dinner he must rest in bed. He is interested very much in the history of art (Łukasiewicz 1901–1937: 20.10.1932). Everybody was favorably impressed by him (Łukasiewicz 1901–1937: 7.11.1932).

In 1936, Łukasiewicz visited Münster on Scholz's initiative; after this visit he wrote to Twardowski that he was received "unusually cordially" and brought home "the best associations connected with this twelve days' journey" (Łukasiewicz 1901–1937: 4.03.1936).

Two years later, in one of his publications, Łukasiewicz describes Scholz as a person "connected with the Warsaw Logistic School by bonds of collaboration and friendship" (Łukasiewicz 1938: 372).

Many mentions concerning Scholz are in Łukasiewicz's unpublished *Pamiętnik* [*Diaries*]. We find there, e.g., a description of an evening of February, 1936, "in which nearly thirty professors took part", and during which "Scholz proposed witty toasts to his colleagues" (Łukasiewicz 1949: 23.06.1949). There is a description of an event just before Christmas of 1938 in the oldest Warsaw church of Our Lady, where Scholz felt religious affection of such a depth that "though evangelical, he kneeled down and prayed" fervently (Łukasiewicz 1949: 12.06.1949). However, first of all, there is a description of efforts made by Scholz during Hitler's occupation of Poland in the years 1939–1944, to improve the conditions of his friend's life. Thus, we come to know that Scholz procured a clerical post in the Municipal Archives in Warsaw for Łukasiewicz; this position did not secure even minimum of means of subsistence, but at least it protected against a forced working deportation to Germany (Łukasiewicz 1949: 20.07.1949). Thanks to Scholz, Łukasiewicz received in 1944 passes to the Reich; it enabled him to run (with his wife) to Münster from the German–Russian front, nearing to the capital of Poland (Łukasiewicz 1949: 29.07.1949). In Münster, Scholz procured passports for Łukasiewiczs, what was the necessary condition of getting food ration cards. Scholz secured them also a residence: initially in his home (Łukasiewicz 1949: 1.08.1949), then in a hospital, then in Meklenbeck near Münster (Łukasiewicz 1949: 4.08.1949), in the end in a hospital again (Łukasiewicz 1949: 7.08.1949).

It is small wonder that after the war — in his correspondence to Bocheński — Łukasiewicz complained of the luck of answers to his letters to Scholz (Łukasiewicz 1945–1950: 2.02.1947), who finally addressed him "after more than full year's silence" (Łukasiewicz 1945–1950: 7.10.1947). However, first of all, Łukasiewicz rectified calumnies on Scholz which started going rounds. He wrote:

Your news on Scholz, Father, are strange. In my opinion, he is an exceptional good and honest German. During the war, he saved us as he could; he got out late Salamucha form Dachau; he pled even for Jews. I could not believe that "he was the first to hoist a Hitlerian flag in the end of the war", for he never been a Hitlerian; still in the autumn of [19]44, he deprecate Hitlerians; and in November of [19]44 he left Münster, and in the end of the war, he was to be in Göttingen (Łukasiewicz 1945–1950: 27.04.1947).

Other representatives of the Lvov–Warsaw School spoke also very highly of Scholz.

Tadeusz Kotarbiński — after Scholz's death — stressed:

He was a well–tried friend of the community of Polish logicians. He proved this not only presenting their achievements in the best light but also bringing help to Polish colleagues in bad times (Kotarbiński 1965: 6).

Kazimierz Ajdukiewicz called him also "a friend of Polish logicians" (Ajdukiewicz 1946: 28). According to Jan Franciszek Drewnowski's testimony, "Scholz had taken to speaking Polish in order to study our logical works" (Drewnowski 1958: 165). Bocheński described a characteristic event:

Leaving illegally Poland in December [of 1939], I feared to take […] an offprint [of my paper on Theophrastus' logic] with myself, because it was said that Germans (or Muscovites?) shooted a Polish philosopher only for that reason that coustom–house officers took a mathematico–logical text found on him as a cryptogram. Therefore I sent my offprints to Scholz; he not only kept them in his seminar, but also announced in its bulletin that this work was with him. One can imagine my terror when one day, opening *The Times* in London, I read an information that Münster had been raided by *a sea of flames* (Bocheński 1993b: 138).

Scholz went a long way to save Jan Salamucha. On the 6th of November, 1939, together with another 182 professors of Jagiellonian University in Cracow, Salamucha was arrested by Hitlerians and commited firstly in the camp in Schsenhausen, and then in the camp in Dachau. It was thanks to Scholz's interventions that he was liberated from Dachau.

6. Appendix

6.1. Kazimierz Twardowski's oration in honor of Heinrich Scholz

Highly Honoured Pofessor! It is a special joy for us that we can bid welcome to you, Professor, in the circle of members of the Polish Philosophical Society. We are especially grateful to you, Professor, that you decided by our request to come back from Warsaw to your home *via* Lvov, and that you are kind enough to share some results of

your works with us personally. Going from Warsaw to Lvov, Professor, you travelled the way that logistical interests and inquires in Poland covered before in the opposite direction. However, it does not mean that these interests and these inquires left Lvov; by no means! What I have in mind is that they started in Lvov. For the first Polish work on logistics (i.e. algebraic or mathematical logic, as they said in this time) appeared here, in Lvov, 1888. I mean the work "Algebra in logic", published in proceedings of IVth State Secondary School by the then director of this school, Stanisław Piątkiewicz. Eleven years later, during the academic year 1889/90, at the Lvov University, I delivered lectures on "Reformatory tendencies in the field of formal logic", acquainting our youth with attempts which — including George Boole's system — prepared modern logistics. At that time Jan Łukasiewicz was one of my students; then he stood to mathematical logic, and it became one of main domains of his investigations. He became a Privatdozent of the Lvov University and was able to devolve his interests upon his own as well as some of my pupils, first of all, Leśniewski and Ajdukiewicz. Important changes in many fields caused by the world war took Łukasiewicz toward a professorship at Warsaw University, where chair was taken also by Leśniewski and Ajdukiewicz (up to his vocation for Lvov). Thus Warsaw became a center of logistical inquiries and the seat of logisticians' community, which increased and increases constantly thanks to the teaching activity of the above mentioned professors. The work of Warsaw logisticians as well as their Lvov colleagues — represented by Ajdukiewicz and Chwistek (who moved lately to Lvov form Cracow) — is successful; this is reflected by the fact that publications of Polish logistics attracted notice of foreign scholars. As a result of this fact, a wish to establish personal relations arose. And you, Highly Honoured Professor, arrived in Poland to gratify this wish. Welcome cordially and take the floor; it is my greatest pleasure to invite you to deliver your lecture (Twardowski 1935).

6.2. Heinrich Scholz's correspondence with the Ministry of Foreign Affairs of the Reich in the matter of Jan Salamucha

6.2.1.The first letter of Heinrich Scholz

Münster l. W., d. 16 April 1940. An das Auswärtige Amt, Kulturabteilung. Berlin, Kronenstr. 10. — Es scheint mir, daβ ich verpflichtet bin, die Aufmerksamkeit des Auswärtigen Amtes auf die Person Herrn Prof. Dr. Jan Salamucha OP [sic!], zu lenken. Herr S. hat der Theologischen Fakultät der ehemaligen Krakauer Universität angehört. Seine Krakauer Adresse ist gewesen: Bernardyńska 3. — Herr S. ist der erste gegenwärtige Kenner der noch fast unerforschten spätmittelalterlichen Logik. Durch eine Reihe von ausgezeichneten Arbeiten hat er sich um die Autschlieβung dieser Logik mit den exakten Hilfsmitteln der neuen mathematisierten Logik grundlegende Verdienste erworben. — Diese mathematisierte Logik ist eine grundeigentliche Schöpfung des deutschen Geisten. Sie geht auf den groβen deutschen Meister Gottlob Frege (1848–1925) zurück. Einen Denker, um den die Welt uns beneidet und für welchen endlich auch einmal wir Deutschen werden wissen müssen, was wir ihm schuldig geworden sind. Hieraus

ergibt sich, daß Arbeiten, die mit den Mitteln dieser Logik in einem bahnbrechenden Sinne durchgeführt sind, zugleich in einem prägnanten Sinne der Ehre des deutschen Geistes dienen. Es ergibt sich ferner, daß in als einziger anerkannter Vertreter dieser mathematisierten Logik an einer großdeutschen Hochschule seit einer Reihe von Jahren mit Herrn S. in einen lebhaften brieflichen Gedankenaustausch gestanden habe. In zwei Begegnungen habe ich ihn auch persönlich kennen gelernt. Er hat einen sehr starken positiven Eindruck auf mich gemacht. Herr S. ist, wie angedeutet, Ordengeistlicher. — Nach dem 6. Nov. 1939 ist Herr S. mit den übrigen Mit fliedern des Krakauer Lehrkörpers in des Konzenstrationslager Sachsenhausen bei Oranienburg abtransportiert worden. Mitte Februar sind die Betroffenen, so weit sie das 40. Lebensjahr überschritten hatten und noch am Leben waren, nach Krakau zurückgeführt worden. Herr S. hat das 40. Lebensjahr noch nicht erreicht. Er ist zurückgehalten worden mit allen, die in demselben Falle sind. Für einige von ihnen ist mir bekannt geworden, daß sie inzwischen nach Dachau abtransportiert worden sind. Es is möglich, daß dies auch auf Herrn S. zutrifft. Für Herrn S. ist zu meiner Kenntnis gelant, daß jedenfalls der psychische Zustand, in welchem er sich schon Anfang Februar befunden hat, besorgniserregend gewesen ist. — Es ist ferner zu meiner Kenntnis gelangt, daß italienische Gelehrtenkreise, die sich um diese neue mathematisierte Logik bemühen, schom seit Monaten um Herrn S. sehr ernstlich besorgt sind. Ich habe jetzt erfahren, daß Herr S., wenn er freigelassen würde, seine Studien in Italien fortsetzen könnte und daß die dort auf das Wärmste begrüßt werden würde, da man an seiner Mitarbeit stark interessiert ist. — Ich möchte mich also auf das Nachdrücklichste dafür einsetzen, daß geprüft wird, ob Herr S. nich freigegeben werden kann. Dies müßte sobald als möglich geschehen. Sonst ist zu befürchten, dab seine Gesundheit so zerrettet ist, daß die Freilassung zu spät kommt. Dies würde nicht nur für die deutsche Wissenschaft, für die ich in diesem Falle verantwortlich bin, einen unersetztlichen Schaden bedeuten, sondern es würde auch eine Rückwirkung auf wissenschftliche Kreise Italien haben, für welche ich Grund habe zu vermuten, dab sie im politischen Interesse unter alle Umständen vermieden werden sollte. — Der Fall scheint mir so ernst zu sein, dab ich dringend darum bitte, daß mir auf diese Mitteilung sobald als möglich ein Bescheid zuteil wird. — Heil Hitler! — O. Prof. d. Philosophie der Mathematik und Naturwissenschaften a. Universität Münster l. Westf.

6.2.2. The answer of the Ministry (the 27th of April)

Es wird hier keine Möglichkeit gesehen, auf die Freilassung des Professors Salamucha hinzuwirken. Insbesondere käme eine Ausreise des Genannten nach Italien nich in Frage.

6.2.3. The second letter of Heinrich Scholz

Münster l. W., 16. Mai 1940. An die Kulturabteilung des Auswärtigen Amtes. Berlin W 8, Kronenstr. 10. — Am 16.5.1940 ist die beikommende Mitteilung eingeschrieben zu die Kulturabtailund des Auswärtigen Amtes abgegangen. Aus Gründe, die mir auch

jetzt noch durchschlagend zu sein scheinen, habe ich am Schlu*β* dieser Mitteilung dringend um einen Bescheid gebeten. Dieser Bescheid ist bis heute nich eingetroffen. Ich möchte daher mein Bitte un einen solchen erneuern dürfen. — Es ist inzwischen zu meiner Kenntnis gelangt, dab Herr Salamucha zu den Krakauer Professoren gehört, die nich nach Dachau abtransportiert worden sind, sondern sich noch in Sachsenhausen befinden. — Heil Hitler! — O. Prof. etc. (Bolewski & Pierzchała: 1989: 630–632).

Part III
Figures and doctrines

9. On Kazimierz Twardowski's descripitive semiotics and its metaphysical basis

1. Introduction

A strange legend has lingered on for some scores of years in Poland: the legend of Kazimierz Twardowski. This legend has been propagated mainly by his outstanding pupils such as Tadeusz Kotarbiński, and Kazimierz Ajdukiewicz, as well as by Roman Ingarden. According to this legend Twardowski preferred the thankless task of working in Poland in favor of secure career in Austria or in Germany. Secondly, upon his return to the country, he gave up his scholarly activity (its high point being the dissertation *On the content and object of presentations*), and he occupied himself almost exclusively with educational job.

But *maior reverentia ex longinquo*. It is high time to reject this confusing legend. The best way will be to show all the aspects of Twardowski's real scholarly achievements. This text tries to do it with regard to his descriptive semiotics and its metaphysical basis.

2. Entities

There are two competing metaphysical hypotheses about the diversity of the world. According to the first, there are various kinds of existence. According to the second, there is only one kind of existence; they are entities alone, which should be considered as various — not their existence. The controversy has not come to a head up so far. It seems that the simpler solution ought to be accepted, i.e. the second one. Even if there were various kinds and modes of existence, there would be always a common concept of existence in the most general sense. Within the compass of this solution we shall speak only about existential, metaphysical, and ontic categories of entities.

In respect of the existential category (in contrast to the way of existence, which is only one) we can distinguish: possible and impossible entities, factual (i.e. existing) and intentional (i.e. unexisting) entities, and, finally, real and irreal ones. Existence is no property and for that reason it is rather hard to describe the differences among particular existential categories of entities. What we can say, in any case, is that all the impossible entities (e.g., an oblique square, an unweighty body, speaking a hundred languages simultaneously) are intentional, but some of the intentional entities (e.g., the circle as a geometrical figure) are possible. On the other hand, real (e.g., a shrill tone, a tree, redness) and irreal entities (e.g., absence, change, space) can be factual as well as intentional.

The above existential and metaphysical categories intersect. From the metaphysical point of view we can distinguish individual and general entities, simple and complex entities, and ultimately physical and psychical ones.

An individual entity (e.g., the universe, the day prior to the battle of Marathon, the number thousand) is an entity, which, apart from components common to many entities, has at least one specific component. A general entity (e.g., number in general, triangle in general, judgment in general) is a set of components common for many entities — a set presented (i.e. imagined or conceived) as a certain homogeneous whole.

A simple entity (e.g., coexistence, equality, a spiritual being) is an entity completely unanalyzable. A complex entity (e.g., a sequence of numbers) is an entity, in which we can isolate more elementary components. It is admissible to recognize all the particular relations to other entities as components of a given entity. Therefore we can speak only of relatively simple entities; allowing such an assumption, we must say, that there are no absolutely simple entities at all. We should distinguish simple and complex entities from entities presented (respectively) as simple, or as complex. (The object of perceptive presentation of the light — when moving from a dark space into the sunlight — is, at first, presented as simple, although, as a matter of fact, it is complex, because we can distinguish, e.g., its color, and its intensity.)

A physical entity (e.g., someone's brain) is a spatially extensive entity — sensually perceptible. A psychical entity (e.g., any state of consciousness) is devoid of spatial extension — and it is accessible only in individual introspection.

Every entity — irrespective of its existential and metaphysical category — is a homogeneous whole, created by various properties. Such a whole remains to its properties in the relation of possessing. Whatever can be distinguished if a given entity is a component of this entity: a concrete component, if it is distinguished factually, or an abstract component, if it is distinguished only intentionally. All the properties and relations among them — including, of course relations of possessing — are abstract components of entities. Properties of different types (i.e. properties of a whole, including its homogeneity, properties of properties etc.) are material components; relations, on the other hand, are formal ones.

There are three main ontic categories of entities: things and persons (e.g., a piece of paper, Lvov, Stanislaus Augustus), states, and especially: properties (e.g., a color), changes (e.g., motion, activity, suicide) and acts (e.g., writing), and finally, relations (e.g., fraternity). NB. The existence of a relation is independent of the existence of its members: a relation can occur even if one or both of its members are not present (e.g., presenting or naming — by anybody — a golden mountain, being — by a golden mountain — a part of the state that here is this mountain, the number four being greater than the number three). Phenomena (e.g., thunder, lighting, fire) can be regarded as either a kind of things or a kind of states.

Kazimierz Twardowski

3. Acts and products

Some states — namely acts — are connected with some phenomena and things, forming specific pairs with them: acts and products. Products are — in particular — entities that come into being thanks to definite acts.

There are among them relatively impermanent products, which can be separated from correspondent acts only mentally (by abstraction), and relatively permanent products.

Products of physical acts — i.e. physical products — are either impermanent (e.g., a cry as the product of involuntary crying, a jump as the product of a involuntary jumping, a turn as the product of turning), or permanent (e.g., an impression as the product of involuntary impressing, a plait as the product of a involuntary plaiting, a print as the product of printing). The latter ones — in opposite to the former — exist longer than the acts which have created them. All the products of psychical acts — i.e. psychical products — are impermanent (e.g., a thought as the product of thinking, a sense as the product of sensing, a decision as the product of deciding).

Some acts are directed at some entities. Entities — things in particular — to which physical acts are directed, are the material of these acts (e.g., sand, in which there is an imprint of a footprint). The product of a physical act directed at a certain material is not this material itself but a new (created by the act) structure of this material: the product of a directed physical act inheres in the material of this act.

The entity, to which a certain spiritual act is directed, constitutes the object of this act (e.g., a landscape imagined by somebody). Acts, which are directed at some objects, make up intentional acts.

Products would be distinguished from quasi–products, i.e. from entities, which are similar to products of a certain act, but *de facto* came into being not thanks to this act, but in another way (e.g., a design of the nervures of a leaf, a natural plexus of strings, a vein of a precious stone).

There are, among other things, two appearances since one distinguishes between acts and their products. Firstly, as it has been mentioned, some products — namely relatively permanent products — exist longer than the acts creating them. Secondly, some properties of products do not belong to acts creating these products (for instance, determining concept is not determining conceiving; it happens that a dream is not made true, but not an act or dreaming; a question — but not questioning — can be unintelligible).

4. Components of consciousness

Spiritual acts and their products are empirical components or consciousness, i.e. psychical facts, and they can be only mentally separated. They are cognizable only by self–consciousness. Only states of own consciousness are immediately cognizable by a given human being.

The basic kind or spiritual acts is presenting. It is the necessary condition of all other, secondary, kinds or spiritual acts, in particular: judging, reeling and

deciding. On the other hand, judging is the necessary condition or reeling and deciding.

Presenting and judging, as well as reasoning, are kinds or thinking. They are, alternately, thinking of something (e.g., of Sphinx), thinking that something is such–and–such (e.g., that somebody is in a position or trust), and thinking about something (e.g., about the solution or a riddle).

All — and only — secondary spiritual acts are bipolar. Allowing, rejoicing, and desiring are positive acts. Denying, worrying and refraining are respectively negative ones.

Basic, as well as secondary, spiritual acts are intentional acts: they all require certain objects.

Dispositions are spiritual conditions or spiritual acts. They are only hypothetic components of consciousness.

5. Act, content, and object of presentation

The product of an act of presenting is a content of presentation. This content is what is presented *in* a given act. The object of a given act is presented *by* the content or this act.

Every presentation has exactly one object. And every entity — including impossible, intentional, and irreal entities — can become the object of presentation.

Components of a content of presentation are not components of the presented object. They are (co)presentations of the last components — a component being the complex of them — and relations among these (co)presentations. A content of presentation is not in relation of possessing to the object of presentation.

Components of a presented object (co)presented by a certain content are attributes of this object. Not all the components are such attributes, but all of them — if they are known — can become the last ones. No object is presented (or imagined) as a whole, but the homogeneity of it is always its attribute.

Some presentations (e.g., a presentation of a country without mountains, of an eye of the human being, or of the father of Socrates) are not a part of the content of the presentation with which they cooperate.

The difference between an act of presentation, its content and its object, is real, not just logical. One of decisive arguments is that sometimes these entities belong to different domains of being. Firstly, a given content of presentation is an existing entity whenever the act of this presentation exists; whereas the object can be an existing, as well as non–existent and even impossible entity. Thus the existence of a content of presentation does not condition the existence of its object. Secondly, the act of presenting is always a real entity, the content — is irreal, whereas the object can be a real entity, as well as an irreal one. Thirdly, two presentations with different contents (e.g., the presentation of the city located at the site of Roman Juvavum and the presentation of the birthplace of Mozart) can have the same object. Fourthly, some properties of an object of

presentation cannot be properties of the corresponding content (for example, the object of a presentation of the golden mountain is extensive, golden etc.; the content of this presentation is neither extensive, nor golden.)

6. Images and concepts

One can distinguish between presentations, which are images, i.e. intuitive presentations, and which are concepts, i.e. unintuitive ones.

The intuitiveness of images consists in their concreteness and vagueness. A given presentation is concrete if attributes of its object are (co)presented by the content in an undifferentiated way, and consequently are not differentiated in this content. (Auditory impressions, received during a perception of violin sounds, blend, and even if someone is able to distinguish violin sounds from, e.g., piano sounds, he does not distinguish components of the former sounds.) A given presentation is vague, if only components of the presented object are explicitly (co)presented by its content. (In an image of a toothache the feeling of the ache is in general explicit; on the other hand, the impressions of drilling or extracting are vague. In an image of a painter looking at a slope of any mountain color properties of a landscape will be explicit, while in an image of a timber dealer — the height and girth of trees growing on this slope. When we imagine a face of any person, the features of this face — the profile, the form of the lips etc. — appear sometimes more explicit than, for instance, the color of the eyes.) Only entities, which are, were or could be perceived or self–perceived, can be intuitively presented objects.

There are perceptive, reproductive and productive images. Perceptive images are fundamental; all other images are derivative.

Perceptive images (e.g., an image of an orange just seen, an image of a melody just heard, an image of anger just experienced) are images taking place during perceiving. Sense impressions or psychical elements are components of the content of a perceptive image. Sense impressions arise as immediate effects of stimuli acting upon sense organs. The existence of psychical elements is sometimes called in question. The justification of the fact that apart from images of physical objects there are also images of psychical objects is the fact that there are concepts of the latter objects. Because every concept — as it remains to be seen — is based on corresponding images. The formula: *nihil est in intellectu quod non prius fuerit in sensu* keeps its force as regards external as well as internal images.

The content of perceptive images is a synthesis of some components: sense impressions of psychical elements. It is rather hard to describe the nature of this synthesis. The content of a perceptive image is at most only a part of the content of a perception. Every perception consists of such a content, corresponding impressions, and also the judgment on the existence of the object of the constitutive image. Thus, perceptions are a kind of judgments.

Reproductive images (e.g., an image of the judgment that Cracus, legendary founder of Cracow, is a historical personality, given long ago and no longer

accepted; and image of an affection in the moment of death of a friend, not being alive long ago; an image of a melody heard some time ago) are memorial reproductions of perceptive images.

The following components form involuntary (e.g., an image of a dragon in a dream) or voluntary (e.g., an image of joy to be experienced at some future moment when dreams come true) productive images: the underlying image, and particularly the reproductive image of the entity similar to the object to be productively imagined; an image of judgment that neither assigns to the productively imagined object such properties that *de facto* are not properties of this object at all, or denies it the properties that it in fact possesses; an image of the initially imagined object but with the first properties or without the second properties mentioned above.

Components of the content of a concept are: an underlying image and images of some judgments concerning the object of this underlying image, and intentionally changing it.

Among concepts there are synthetic and analytic ones. Objects of synthetic concepts (e.g., concepts of a stormwind which broke a tree, of a monarch, of God) are things or persons. The underlying image of a synthetic concept is a (reproductive or productive) image of an object similar to the object which is to be conceived. The component constituting the content is the image of a judgment either predicating on the object of an underlying image, *de facto* properties which are not possessing by this object, or denying properties possessing by it. A synthetic concept is therefore a manqué productive image: it has not the third factor of the latter. Objects of analytic conceptions (e.g., concepts of the shape of full moon, of the height of the town hall tower in Lvov, of resemblance of two faces) are entities, which are neither things, nor persons; they are properties and relations. The underlying image of an analytic concept is an image of the object which also possesses the property to be conceived (thought), or a sequence of such entities among which the relation to be conceived (thought) occurs. The imagined judgment which is actually false — which forms an analytic concept, predicates on corresponding objects the absence in them of properties or relations, other than distinguished by the concept. Thus, synthetic concepts are also *sui generis* manqué productive images.

Both kinds of concepts occur in two forms: virtual (described above) and abbreviated, scil. hemisymbolic or symbolic. In the hemisymbolic form an act of conceiving includes an image of the name signifying the object of the concept and the corresponding underlying image. In the symbolic form conceiving amounts to the first of indicated factors.

Concepts, as well as images, can be either singular or general.

Singular images (e.g., an image of a certain face with individual features) are such that by their contents individual properties are explicitly (co)presented. By contents of general images (e.g., an image of the violin sound in general) properties common to entities subsumed by the imagined object are (co)presented.

Singular concepts (e.g., the concept of God, the concept of the universe, the concept of the number one thousand) contain an additional imagined judgment, predicating that the attributes conceived or ascribed in remaining judgments include individual attributes. On the other hand, the content of a general concept (e.g., the concept of number in general, of the triangle in general, of the judgment in general) contains additionally an imagined judgment, predicating the commonness of mentioned attributes. Concepts containing neither the former nor the latter additional imagined judgments are incomplete concepts.

Every general presentation — like any presentation — has exactly one object. It is a certain general entity, i.e. a set of all and only the properties common to all the individual entities falling under a given general concept. Indirectly a general presentation refers to objects of all presentations — singular ones in particular — subordinated to this general presentation. The object of a general presentation constitutes a part of each individual objects, subsumed by this object. The object of a general presentation — and of a general concept in particular — should be distinguished from the range of this presentation, i.e. the set of all the entities that can be presented by means of it.

7. Adequacy of concepts

Concepts are estimated first of all in respect of their adequacy. There are different degrees of adequacy. A given concept is more adequate in proportion to the number of the components of the object of it that are attributes, i.e. are (co)presented by the content of this concept. (The concept of a bird as a fledgy animal laying eggs, having two legs and two wings, is more adequate than the concept of a bird as a fledgy animal.)

The adequacy of a concept ought to be distinguished from its clearness and strictness. A clear concept (e.g., the concept of a monkey as a four–handed animal) is the concept with the content including characteristic attributes of the object of the concept, i.e. attributes that make it possible to distinguish this object from others. A strict concept (e.g., the concept of the pentagon, the concept of the ruthenium, the concept of the Milky Way) is a concept, for which where is a classical definition, strictly indicating its content: signifying the underlying object by means of *genus proximum* (e.g., for a concept of a painter: a man), and the imagined judgment by means of *differentia specifica* (in our example: who paints pictures). Only synthetic concepts can be defined. It is impossible to give any definition of analytic concepts — as well as of images — unless their objects are treated as wholes with some properties of higher types. Thus, all the strict concepts are synthetic ones.

8. Act, contexture, and object of judgment

Judging is not joining or disjoining presentations. Of course, not every composition of presentations is a judgment; some of such compositions create new presentations (e.g., the concept of insolvency and the concept of a firm produce

the concept of insolvency of a firm), others produce orders or questions. On the other hand, not every judgment is a composition of presentation (e.g., some subjectless judgments).

Judging, as a matter of fact, is an act *sui generis*.

The product of an act of judging (i.e. making judgment) is a judgment. What is judged (or adjudged) in a judgment is its contexture. The contexture of a judgment is the analogue of the content of a presentation. The contexture of all judgments is the same: it is the existence (or the occurrence) of something. The existence is taken here «intemporally»: as the past, present or future realness. In this connection, the temporal determination expressing itself in the tense of a verb belongs to the object of judgment. (For instance, in the judgment that Pericles existed, the object is «past» Pericles. In the judgment that this man will be my father–in–law, the object is my future father–in–law. In the judgment that the weather will be fine tomorrow, the object is tomorrow's weather.) And, for example, if a given judgment stating the realness of the future event is true, then the occurrence of this event is logically necessary, i.e. the truth of the sentence "This event will happen" bears (logically) the truth of the sentence "The future event exists".

Judgments vary with regard to quality of acts and with regard to their objects. The act of judging itself is, strictly speaking, undefinable, because it is unanalyzable. Acts of judging, as to their quality, are of two kinds: they consist in either allowing or denying the contexture of a judgment, i.e. of the existence of an (ab)judged object. Thus, judgments as to the quality of acts can be affirmative or negative. The scheme of any judgment is consequently the formula "± (there is) *A*".

Depending upon the way a conviction (i.e. a «potentialized» judgment) arises the following kinds of judgments can be distinguished: perceptions, i.e. judgments given when corresponding impressions are experienced or psychic elements grasped; reminiscences, i.e. convictions founded upon memory; pieces of information, i.e. convictions borrowed from credible persons; and, finally, axioms. Inference is a special kind of conviction, i.e. a conviction acquired by means of reasoning, or making judgments on argument–consequence relations between judgments.

Judging, or an actualized conviction, cannot be gradated in the respect of its intensity. If somebody speaks of the instability or stability of convictions, then he really attributes these properties not to judging itself but to the personality of the speaker (depending on the degree of his readiness to give definite judgments and of his courage in uttering them).

Allowing or denying the existence of any entity does not constitute an ascription or refusal any property to this entity because existence is not a property. Existence cannot be presented in any concept; it can only be (ab)judged (i.e. allowed or denied).

The object of a judgment is an entity to which this judgment refers: the existence of what is (ab)judged. Every (simple) judgment has exactly one object;

«nothing» is not susceptible to judgment. The object of a judgment can be an entity of any kind, e.g., another judgment (for instance in the judgment: I do not believe that he is able to do this work). Allowing an affirmative judgment referring to any entity is allowing *implicite* this entity itself.

In terms of their object we have, first of all, singular and general judgments. Singular judgments (e.g., the judgment that human beings cannot fly without mechanical assistance) are judgments concerning particular facts. General judgments (i.e. laws) are judgments concerning necessary dependences among phenomena. They can be logical or physical laws. Logical laws (e.g., the judgment that ghosts exist or do not exist) concern necessary coexistences or necessary sequence; they are *a priori* judgments, i.e. their justification does not appeal to experimental data. Physical laws (e.g., the judgment that if somebody is a man, he must die) — and probably singular judgments too — are *a posteriori* judgments, i.e. they are experimentally justified.

The background (i.e. the necessary condition, but neither the sufficient condition nor a component) to forming a judgment on any object consists in the presentation of this object. Having, in particular, a concept of any object, we can make judgments on this object thanks to the fact that this concept consists of imagined judgments on the object of an underlying image. In the case of relational judgments (i.e. judgments concerning relations) we should have three concepts (i.e. concepts of the relation and of its two arguments) to (ab)judge the object; in the case of arelational judgments only one concept is enough.

Judgments can be simple (e.g., the judgments that there are revenants) or complex. The judgment is complex, when giving it we must give at least one other judgment. (For instance, allowing that I am well, I must allow that there is a state of health, and that a certain state occurs in my body. Allowing that the square is a quadrilateral, and that the sum of angles in a quadrilateral is equal to 360°, I must allow that the sum of angles in the square is equal to 360°.)

Judgments which are made should be strictly distinguished from judgments which are only presented. In fact, the presented judgments are not judgments at all; they are presentations of judgments.

9. Truthfulness of judgments

The analogue of the problem of adequacy in the area of presentations is the problem of truthfulness in the area of judgments. To make for the first time a true judgment of a certain object (or, strictly speaking, a sequence of such judgments) means to cognize this object (or acquire knowledge of it). And inversely, to have this knowledge is to have a disposition to making such a judgment.

The truthfulness of a given judgment is the correspondence between the quality of this judgment and its object on account of its contexture. Thus, an affirmative judgment is true if its object exists (i.e. if this judgment concerns an existing entity); a negative judgment is true if its object does not exist. An affirmative judgment is, respectively, false, if its object does not exist; a negative one, if its object exists.

The above definitions indicate only the nature of truth but not the criterion of truthfulness. They presuppose, besides, a certain metaphysical assumption: the existence, at least in some cases, of objects apart from given judgments about them. Some people try, for that reason, to construct a criterial and assumption–free definition. There are three other conceptions apart from the one presented above: coherentionism, transcendentalism, and pragmatism.

Coherentionism cannot be accepted because, i.a., it leads to allowing that no judgment would be true if only judgments consistent with all judgments given at any time were true. It does not exactly determine, moreover, the set of true judgments (since not all the consequences of a given judgment are palpable). And finally, it contains *circulus in definiendo* (because the notion of consistency presupposes the notion of truth).

Transcendentalism should be denied because it either allows truthfulness to be decided on the basis of a treacherous sense of certitude (that we have to do with the duty of allowing a given judgment), or it is encumbered with *circulus in definiendo* (because a judgment would be true, if we allowed in it what we truly should allow; thus the duty of allowing a judgment is a duty on account of obtaining a true judgment).

Pragmatism — on closer examination — appears to be a doctrine concerning judgments which are assumed to be true, and in this interpretation it loses much of its paradoxicality (since there is really a certain connection between making judgments and their usefulness), and, in consequence, it does not contradict the conception accepted here.

Truthfulness and falsity are, strictly speaking, properties of judgments, i.e. products of judging. One can predicate them to other entities only mataphorically. We can speak of judging as a certain act that it is indirectly true or false, i.e. just or unjust, when the product of this act is, respectively, true or false. A presentation can be indirectly called "true" or "false" when it is a presentation (of a certain object), conditioning, respectively, a certain true or false judgment (on this presented object). When we define the other entities as "true" or "false" (e.g., true friendship, a false diamond, a false man), we express in an abbreviated form the thought that certain judgments are, respectively true or false (e.g., the judgment that it is the friendship, is true; the judgment that it is a diamond, is false; the judgment that this man is veracious is false).

Ali the true judgments (i.e. truths) are true always and everywhere; thus they are absolute truths. Pseudoarguments of relativists are apparently justified, only when judgments are confused with sayings (or sentences).

Truthfulness and falsity ought to be distinguished from evidence and inevidence as well as from probability and improbability (and also from certitude).

If a presentation, being the condition of an (affirmative) judgment, is such that the existence of the object of this presentation cannot be disallowed (or denied), then this judgment is evident. If a presentation of a respective object (i.e. understanding the presentation conditioning a corresponding judgment)

is not sufficient to allow the existence of this object, then a judgment on this object is inevident (e.g., the judgment that this man has betrayed the confidence placed in him). The status of evident judgments (among analytic judgments) is possessed by logical axioms (e.g., the judgment that parallel lines intersect in infinity); such a status (among synthetic judgments) is ascribed to existential theses about facts accessible to our internal experience (e.g., the judgment that I exist). Thus, all the objects of an internal experience are existing entities. Evident judgments can appear to be true or false. For that reason, the allowing of these judgments ought to be preceded by their confirmation, and denying, by their falsification.

In opposition to truthfulness and falsity, which are properties of judgments being made, probability and improbability (as well as certitude) are properties of presentations of judgments (i.e. of presented judgments). Probable judgments are presented judgments, which can be true but it is not known whether they are true. (For instance, the judgment that the Earth probably revolves round the Sun means that it is not understood whether the judgment that the Earth revolves round the Sun is true or false but we tend to make this judgment because it seems to be closer to truth than its negation.) If it were known that a presented judgment, which can be true, *is* really true, then this judgment would become certain. Judgments (being only presented) which are internally contradictory (i.e. absurdities) are improbable; such judgments cannot be true.

Probability and improbability are sometimes metaphorically ascribed to entities other than presented judgments, in particular, to objects, to which these presented judgment would refer, if they were made.

10. Recapitulation

The metaphysical basis of Kazimierz Twardowski's descriptive semiotics consists of the following conceptions: the pluralistic conception of being, the bipolar conception of act, the intentional conception of consciousness, the triadic conception of presentations, the presentative conception of images, the allogenic conception of concepts, the constructivistic conception of universals, the gradient conception of adequacy of concepts, the idiogenic conception judgments, and the classical conception of truthfulness of judgments. The general outline of Twardowski's philosophical views presented above is based on his works published in German and in Polish between 1892 and 1925. This schematic reconstruction is hoped to facilitate not only the understanding his semiotics but also the study of the great migrations of ideas within Central–European circle of civilization in our century.

11. Semantic paraphrase

It is possible that we can facilitate the study of the migration of ideas, bringing to effect a certain semantic paraphrase of some fragments of Twardowski's views which have been reconstructed above in a traditional manner.

Let '*A*' be the proper name of a certain entity, having properties of being a_1, a_2, …, a_n. Thus, according to Twardowski, we have:

$A =_{df}$ such a single *x*, that *x* is a_1, *x* is a_2, …, and *x* is a_n.

Let '*i*' be the name representing a certain perceptive or reproductive image of *A*, in which the property of being a_k is distinguished. Thus we have:

$i =_{df}$ such a single *x*, that *x* is a_k.

Let us notice that the copula '$=_{df}$' stands for the formula "is presented as", the fragment of *definiens* "such a single *x* that" — for the formula "which" inserted after the variable in the function "*x* is a_k" (e.g., "*x*, which is a_k", "something, what is a_k"). Gold, for instance, can be presented as something yellow, metallic, shining etc.; ache — as something painful and irritating etc.

Let 'i_p' be the name representing a certain productive presentation of an object, distinguished from *A* only by the fact that it has the property of being b_k instead of a_k. Then we have:

'i_p' $=_{df}$ such a single *x*, that: *x* is similar to *A*, and *x* is b_k, whereas *A* is a_k, and not b_k.

We can read it in the following way: i_p is presented as something that is like *A*, but being b_k, and not a_k. Thus, a grey black (horse) would be presented as a black horse, but gray, and not black; five–sided lawn — as something that is an elliptic lawn, but five–sided, and not elliptic; satyr — as a man with hooves instead of legs. The formulae before the colons would correspond to the underlying image, and those after the colons — to presented judgments.

Let '*c*' be the name presenting a certain synthetic concept of the object imagined by the presentation represented by the name 'i_p'. Thus, according to Twardowski, we have:

$c =_{df}$ such a single *x*, that: *x* is similar to *A* and *x* is b_k.

We can read *definiens* of this formula: something that is as *A*, but being b_k — or shortly: *A* being b_k. For instance, a point would be conceived as something that is like a dot, but inextensive.

Two last formulae can be regarded as quasi–ostensive definitions of the terms 'i_p' and '*c*'. The proper name '*A*' would be here an ostensive element. We should remember, however, that these formulae refer to presentations as individual psychical acts (i.e. to presentations of gold, gray black horse, five–sided lawn, satyr, point, and later on, the circumference of a circle — experienced in a definite moment by a definite person). Thus we would either accept that the respective terms ("gold", "grey black horse" etc.) name single universals or get rid of the realistic consequences by means of replacing the operator "such a single *x*, that" by the operator "such any *x*, that", or shortly: "such *x*, that". But to return to what we were saying: let us notice, firstly, that with the aid of such definitions certain expressions are really introduced into language. Secondly, the next step consists in replacing the proper name in *definiens* by the appelative name, defined in advance quasi–ostensively. The relics of such definitions in dictionaries are formulae with *definiens* including phrases "somewhat like", "like", etc. Compare for instance:

antelope $=_{df}$ a cud–chewing deer — like animal;

cornet $=_{df}$ a wind instrument somewhat like a trumpet;

marmalade $=_{df}$ preserve like jam, made of oranges etc.

Of course, neither antelopes are deers, nor cornets are trumpets, and marmalades are not jams.

Let 'c_a' be the name representing a certain abstract concept of the property of being a_k characterizing the object A. Thus, we have:

$c_a =_{df}$ such a single x, that $x = a_k$ and A is x, and for every y: if A is y, then $y = x$

We can freely read *definiens* of this formula like this: something that is equal with a_k and characterizes A as the only attribute (i.e. property being presented) of it. For instance, the circumference of a circle can be conceived as something that characterizes the circle apart from its surface. The following formulae are short versions of this kind of definitions in dictionaries:

oval $=_{df}$ egg–shaped;

red $=_{df}$ the color of blood;

sweet $=_{df}$ having a taste like honey.

It is possible to give the hemisymbolic formula for 'c' as well as for 'c_a':

$c =_{df}$ such a single x, that: x is similar to A and x is x (*sic*!);

$c_a =_{df}$ such a single x, that: $x = c_a$ (*sic*!) and A is x.

The corresponding symbolic formulae would be like these:

$c =_{df}$ such a single x, that: x is c (*sic*!);

$c_a =_{df}$ such a single x, that $x = c_a$ (*sic*!).

If these interpretations are adequate, same indicated formulae have explicit *circulus in definiendo.*

Thus, the general formula for the names representing incomplete presentations would have the following form:

$a =_{df}$ such x, that $F(x)$.

According to Twardowski, this formula bears:

$E!x$: $a(x)$

The fact that every presentation has exactly one object does not mean that this object is an existing entity.

For an individual and general complete presentation we have respectively:

the $a =_{df}$ such x, that: $F(x)$, and for every y: $F(y)$ if and only if $y = a$;

an a (i.e. a in general) $=_{df}$ such x, that: $F(x)$, and for every y: $a(y)$ if and only if $F(y)$

The first formula is about something having F as individual property of a, and in the second one, as common property of a–s. For instance, the property of being the day prior to the battle of Marathon, characterizes exactly one day of September in 490 B.C. On the other hand, triangle in general is characterized only by triangularity, trilaterality etc., as the properties common to all (individual) triangles.

So much for presentations. Now, let us proceed to judgments.

Every (made) judgment is, according to Twardowski, represented by the formula:

There is (resp. is not) such x, that $F(x)$.

It concerns also traditional categorical judgments. Because we have:

Every P is $O =_{df}$ There is not such x, that: $P(x)$ and it is not the case, that $O(x)$.

No P is $O =_{df}$ There is not such x, that: $P(a)$ and $O(x)$.

Some P are $O =_{df}$ There is such x, that: $P(x)$ and $O(x)$.

Some P are not $O =_{df}$ There is such x, that $P(x)$ and it is not the case, that $O(x)$.

Thus, consequently, all these judgments can be interpreted as existential.

As we see, the general formula of any sentence is build with the aid of the functor "there is" or "there is not", which has any name as its argument. This functor does not behave like a predicate. Consequently, the following formula is intolerable:

*There is not such x, that $F(x)$, and there is x.

It is possible to regard the idea that objects of presentations can be non–existent, as the manifestation of denying the pseudo–implication:

*If such x, that $E(x)$…, then there is such x, that: $F(x)$.

The functor "there is" (or "there is not") is the universal functor creating sentences with the aid of names. The functor "that", on the other hand, is the universal functor creating names with the aid of sentences:

(The fact) that there is (resp. there is not) such x, that $F(x)$.

Such a nominalization can be, at least sometimes, made in natural language with the aid of the phrase: "existence (resp. non–existence) of something being or "F–ing of something".

The following connection occurs between making a certain judgment and allowing that the object of this judgment exists:

O makes the judgment that there is (resp. is not) such x, that: $F(x)$ — if and only if — Q allows (resp. denies), that there is such x, that $F(x)$.

We find a certain difficulty in interpreting Twardowski's view that truthfulness (and falsity) characterizes originally judgments (being made) and not sentences, whereas probability (and certitude) characterizes presented judgments. One can write neither:

"there is such x, that: $F(x)$" is true — if and only if — there is such x, that $F(x)$,

because one would ascribe truthfulness to the sentence, nor:

(the fact) that there is such x, that $F(x)$, is true — if and only if — there is such x, that $F(x)$,

because here one would ascribe truthfulness to the presented judgment. On the other hand, we should have, perhaps, two formulae for probability:

(The fact) that there is such x, that $F(x)$, is probable — if and only if — it is possible that (but unknown whether, there is such x, that $F(x)$,

or:

"(Such x, that) $F(x)$" is probable — if and only if — it is possible that (but unknown whether) there is such x, that $F(x)$.

My own feeling is that such a «de–psychologizing» interpretation projects interesting light on Twardowski's descriptive semiotics and its relevance.

12. Contribution to semiotics

Twardowski's contribution to semiotics has been fourfold: as of a critic of others conception, of a constructor of his own analyses, distinctions, and theses, of a precursor of new ideas and methods, and of an inspirer of posterior polemics.

Twardowski has cogently criticized psychologism and intuitionism in the theory of semiotics, and of science in general. This criticism concerns: the allogenic conception of judgment, the relativistic — as well as coherential, transcendental, and pragmatic — conception of truth, and parallelism and symbolomania in the theory of language. It was thanks to Twardowski that Jan Łukasiewicz became an antipsychologist. As a consequence of his criticism of relativism, the classical theory of truth ran current in Poland, and became the background to Alfred Tarski's semiotics. Moreover, in spite of his anti–symbolomania, as early as 1898 Twardowski delivered lectures on the latest results in mathematical logic. It is worth noticing that those were only the numerous polemics with Bernard Bolzano in Twardowski's writing that attracted people's attention to the author of *Wissenschaftslehre.*

Of equal value is Twardowski's analysis of acts (isolating products), presentations (isolating contents) and judgments (isolating contextures). The way Twardowski distinguished contents from objects of presentations was assimilated and supported by Alexius Meinong. The criticism of idealism founded on this distinction was continued, among others, by Kazimierz Ajdukiewicz.

Twardowski's distinctions in the area of the semiotic functions of badges (being the expression of something *versus* expressing), of the representative functions of lingual sings (among others, contrasting objective and subjective functions), and of the ascriptive functions of adjective (filling up by abolitive and confirmative functions), are very useful.

Twardowski's thesis that there are no objectless presentations, as well as empty names, is deeply justified. One can say the same about the theses that every presentation — thus general ones too — has exactly one object; that objects of intentional acts can be entities having any existential status, e.g., existing entities; that probability is a property of presentations of judgments, and not of judgments being given. This latter view was accepted afterwards, among others, by Jan Łukasiewicz.

Twardowski's idea of the act–product relation — as the relation of effectiveness other than causal connection — later bore fruit thanks to Tadeusz Kotarbiński's praxiology. The idea of analyzing objects as correlatives of psychical acts, i.e. existentially neutral entities — also presented in Alexius Meinong's ontology

and Edmund Husserl's phenomenology — was revived later on in Saul Kripke's semantics of possible worlds. The idea of images as possible underlying concepts admitted of extending normal defining outside of the classical formula (*per genus*). The ideas of concepts as presentations containing in their content (among others) presented judgments — can be regarded as a promise for the reduction of concepts to propositional functions in Russellian philosophy. The idea of judgments as specific psychical acts harmonizes with Bertrand Russell's conception of logic as founded finally in the theory of sentences. The idea of presented judgments as presentations of given judgments became transformed into the Ingardenian conception of quasi–propositions. The idea of works of arts as products of artist's acts different from the material of these acts — was to be developed in detail by Roman Ingarden in his intentional aesthetics.

It is in Twardowski that we should look for archetypes of Tadeusz Czeżowski's method of analytical description, Tadeusz Kotarbiński's method of creative interpretation (i.e. the logical — instead of purely philological — reconstruction of classical philosophical texts), Kazimierz Ajdukiewicz's method of semantic paraphrases. We can find the application of the first method in Twardowski's work *O istocie pojęć* [*On the essence of notions*] (1924); the application of the last one can be found in opposing "being the object of true affirmative judgment" to "existence", as well as in the analysis of the word "nothing".

The polemics originating in Twardowski's views were carried on especially in the Lvov–Warsaw School. The most important controversies concerned: empty presentations (resp. names), objects of general conceptions, the reducibility of all judgments to existential judgments, the nature of sense, criteria of truth, and the boundaries of applicability of formal methods.

Twardowski must be recognized as the classic founder of Polish semiotics. The significance of Twardowski lies in what he said, and not only in how he said it.

This is the source of the legitimacy of the enterprise taken up below.

13. Badges and testimonies of spiritual life

If the act A_1, producing the phenomenon R_1, is a psychical act, and the act A_2, producing the phenomenon R_2, is a physical entity, and moreover the act A_1 bears upon the act A_2 (i.e. A_1 is a partial cause of A_2) thanks to which the act A_2 becomes a physico–psychical act, then the act A_2 is an external diagnostic of the act A_1. (For instance, groaning is a diagnostic of suffering a pain; drawing is a diagnostic of imagining a certain design; and composing — sometimes — a diagnostic of a composer's feeling pleasure or annoyance.) In the situation described above the product R_2 is an external expression of the product R_1: R_1 expresses itself in R_2. (For instance, a pain is whatever expresses itself in a groan; an image — in a design; an affection — sometimes in a musical composition.)

If the act A_4, producing the phenomenon R_4, is an imitation of the act A_2, i.e. of the act A_4 was made with the intention of imitating the product R_2 of the act

A_2 (e.g., a theatrical act as a product of presented feelings), and moreover the product R_4 is similar to the product of R_2 or is the very same as R_2, then R_4 is a substitute (or an artifact) of R_2: R_4 substitutes R_2.

If, moreover, the act A_3, producing the phenomenon R_3, is a psychical act, and the act A_2 or its product R_2 can bear upon the act A_3, whereas the product R_3 (or its substitute) is similar to the product R_1 or is the very same as R_1, then the act A_2 is an index of the act (A_1 and) A_3, whereas the product R_2 is a sign of the product (R_1 and) R_3: R_2 expresses R_1 and R_3 (R_1 and R_3 exist — although not actually, but only potentially — in R_2).

In general, any phenomenon is a sign of another phenomenon, if in virtue of stating the occurrence of the former phenomenon — seeing it, hearing it — one is entitled to infer the occurrence of the latter phenomenon, or provoked to realize it. In the former case this sign is a factual sign (e.g., a smoke seen from afar — a sign of a fire; a pale complexion — a sign of anemia; a strong rumble on the ground — a sign of the fact that troops are marching); in the latter case — it is a purposeful sign (e.g., a signal for an engine driver).

According to the kind of a connection between the sings and entities referred to, the set of signs can be divided into symptoms (e.g., a speech with regard to thoughts) and symbols (e.g., a note with regard to a sound). In the case of symptoms what we have to do with is a causal connection (here: with an involuntary association consistent with the law of association). In the case of symbols a conventional connection comes into play (with an association on the grounds of a convention or a similarity).

If the product R_2 (or its substitute R_4) is a permanent product, whereas the products R_1 and R_3 are impermanent products, then R_2 (or R_4) is a fixative of R_1 and R_3: R_2 (and R_4) fixes R_1 and R_3, and in consequence they are turned into relicts (i.e. petrifactions).

Expressions and signs as well as diagnostics and indices — impermanent and unfixed — are badges of spiritual life. Expressions and fixed signs are its testimonies (or documents).

Badges and testimonies are the only way of getting to know the spiritual life of another person. The reconstruction of a psyche on their ground rests on an analogy (with one's spiritual life). Perceiving other's psychical facts is impossible.

14. Signs of language

Spiritual products can be expressed with the aid of various signs, e.g., acoustic articulation, miming, gesticulation and signalization. The most excellent signs of spiritual products are signs of language. The advantage of lingual signs over the other aids to expressing thought consists in five things. Firstly, they save time. Secondly, they economize a user's effort. Thirdly, one can use them at a distance. Fourthly, one can fix them with the aid of writing and printing. Fifthly, one can link them together in different ways, and therefore they are able to render the most complex thoughts and the smallest differences among them.

Language — as a system of signs — is a double instrument. Originally, it is an aid to communicating; secondarily, it is an aid to thinking; namely, it enables symbolic and hemisymbolic concepts to be created, and thanks to this role it enables a great simplification of mental work. This simplification creates, however, two menaces: the menace of pragmatophobia, i.e. losing the ability to return to indirect thinking, and the menace of fanaticism, i.e. losing the ability to consider things objectively.

Language is a double instrument thanks to the fact that particular lingual signs fulfill double representative function (i.e. functions of expressing) with regard to spiritual acts (originally, to emotional and volitional acts; secondarily, to intellectual acts). These are objective and subjective functions. The fact that lingual signs fulfill representative functions does not mean, however, that they fulfill substitutive functions. They are quite different and independent functions. (For instance, an ambassador is a representative of his country, but he is not its substitute. On the other hand, a vice–chancellor is the substitute of a chancellor, but he is not a representative of the latter).

Objective functions — i.e. significative and denotative ones — consist, respectively, in the fact that a lingual signs signifies the product of represented spiritual acts, and denotes the object of these acts. Subjective functions — i.e. indicative and evocative ones — consist respectively in the fact that a lingual sign indicates the act of a sender, and evokes the act of a receiver; the products of the very acts are signified by this sign. Thanks to the indicative function of (natural) lingual signs, they can indicate, among others, emotional moments, marked, moreover, not only in the very selection of the vocabulary (e.g., the pair of words: "a nag" — "a horse", where the first element is usually marked pejoratively). This possibility of indicating emotional moments creates, besides, certain difficulties in thinking. On the other hand, it is thanks to the evocative function that lingual signs can be understood at all.

The word "signify" as well as the word "denote" referred originally (in any case, in Latin) to a physical act of providing something with a distinctive characteristic. Apart from (let us say) the marcative sense and the significative (psychological) sense, the word "signify" is sometimes used in the axiological sense, as a synonym of the word "be valid" ("have value"). The logical sense of lingual sign (e.g., a name, in particular) is a general entity having all (and only) those properties which are common to the particular individual products of a mental act (e.g., a presentation) represented by this sign.

Lingual signs are usually polysemic. One kind of a sign can have more than one logical sense. (For instance, "my portrait" means "the portrait which I made", "the portrait which belongs to me", or "the portrait which presents my person". The word "is" means "equals", "belongs", or "has a property" — as in the contexts: "Two and two is four", "A dog is a vertebrate" and "A circle is round". "Painted" as a determination of a landscape can mean "being a painting" or "being the model for a painting"). Moreover, some signs have an indefinite number of logical senses.

Such indefinitely polysemic signs are indexical expressions: their sense varies with the person using them or the place or date concerned. (For instance, the word "now" means "in the moment of pronouncing". The word "here" means "in the place of pronouncing". The word "this" means "being here and now".)

Language is distinguished, moreover, by its multinominality. Many kinds of lingual expressions correspond to one kind of thought.

Polysemy and the multinominality reflect the discrepancy between speaking and thinking, this being a point against their parallelism. The fact that it is possible to speak unthinkingly (psittacism) and to think wordlessly (also constantly — like mutes) falsifies, of course, the hypothesis about the identity of speaking and thinking. The double connection occurs, however, between speaking and thinking. Firstly, signs of language — as symbols of respective thoughts — remain in a causal relation with the latter. Secondly, in thinking — especially more abstractive — what we have to do with are many hemisymbolic and symbolic concepts. For that reason, apart from this discrepancy the "woolly", obscure style of language — of philosophical literature, anyway — can be regarded as the diagnostic of woolly thinking.

The set of lingual signs consists of two subsets: of sentences, and of sentential parts. The latter can be, moreover, "presentatives", i.e. categorematic signs, or copulations, i.e. syncategorematic signs. Categorematic signs perform independently representative functions with respect to presentations. Syncategorematic signs are only cosignifying. Names are typical categoremata, whereas conjunctions are typical syncategoremata.

15. Names

Among the parts of speech (conceived in terms of traditional grammar) the role of names is generally that of proper names (e.g., "Lvov", "Stanislaus Augustus", "Sophroniscos") and apellative nouns (e.g., "father", "soul", "difficulty"), pronouns (e.g., "he", "we", "something"), adjectives (e.g., "white", "gloomy", "sunny"), numerals (e.g., "two", "tenth", "fifty seven and a half") and verba (e.g., "run", "learn", "terminate"). Our focus is, however, on these parts which constitute a grammatical subject (excepting predicativeless sentences), a predicative (excepting subjectless sentences) or a subject complement in syntactically simple clauses. Names are not only single nouns, but also nominal phrases, i.e. combinations of a noun with another noun (e.g., "an eye of a man"), with a demonstrative pronoun (e.g., "this man"), with an indefinite pronoun (e.g., "any man"), with a numeral (e.g., "the second son"), with a propositional phrase (e.g., "the highest mountain in Europe") or with a subordinate sentence (e.g., "the son who dishonors his father"). It also concerns adjectives and verbal phrases.

There are no subjectless presentations, and so there are no empty names. Every name denotes a certain entity — and only one entity (even if it is a complex noun). On the other hand denoting a certain entity does not imply the existence of this object.

The names can represent either images, or concepts. In the first usage every name represents a certain image, but the great majority of names represent general concepts. A general name denotes the object of a certain general concept, and at the same time, designates all the entities falling under this general entity. The very names can be used to denote general entities, as well as designate individual entities, which is an additional source of polysemy.

Various kinds of names can denote entities of any ontic category. Only verbal names exclusively denote states — and acts, in particular — or their products.

Apart from names, "presentatives" also contain quasi–nominal phrases: some sentences (in the grammatical sense of the word) which are, in particular, dependent adjunctive sentence (e.g., "that tomorrow there will be fine weather"). These sentences represent exclusively presentations of judgments.

16. Sayings

Sentences are, basically, signs (expressions or sequences of expressions) representing judgments, orders — wishes, requests, curses (e.g., "Read!", "May the weather be fine tomorrow", "I want you to read") — and questions.

Sentences representing orders and questions also represent (usually) certain judgments — about the object denoted. In particular, the interrogative sentence, meant to evoke an answer — i.e. prompting to give judgments about a certain object or to perform certain acts — also expresses one or more judgments about this object; these judgments are presuppositions (data) of a question. A question is logical, if its presupposition is not a false judgment; otherwise a question is illogical (e.g.,"Is the verb 'field' masculine or feminine?").

With respect to the kind of answers the set of interrogative sentences breaks up, on the one hand, into simple questions requiring answers in the form of one judgment (e.g., "When did Casimir the Great die?"), and complex questions requiring answers in the form of a few judgments (e.g., "What does a bear look like?"). On the other hand, the set of interrogative sentences breaks up into questions requiring a decision (e.g., "Did the Reformation have any supporters in Poland?") and questions requiring a completion (e.g., "How did the union of Poland and Lithuania come about?"). Answers themselves — which express, of course, judgments — can be appreciated according to their accuracy. An accurate answer strictly contains, what a given question is about (e.g., the answer "No, it is not" to the question "Is the distance between the Earth and the Sun always the same?"). Otherwise it is an inaccurate answer, even if it expresses a true judgment (e.g., the answer "The Earth revolves round the Sun" — to questions similar to the question in the previous example).

Sentences representing exclusively judgments are sayings. (Not every saying can be characterized as "a sentence" in the grammatical sense of the word. For instance, the word "Fire!" sometimes represents the judgment that something is on fire.) A saying signifies a contexture of a certain judgment (i.e. an existence), indicates that a judgment has been made by a speaker, and evokes making — or

only presenting (i.e. understanding) — a judgment by a listener. Particular representative functions are either performed separately by individual elements of saying, or by a given saying as a whole.

With regard to their sense sayings can be simple (e.g., "God exists") or complex (e.g., "Lvov and Cracow are Polish towns"), i.e. they can represent one or more than one judgment respectively. The simplicity and complexity of sayings ought to be distinguished from the simplicity and complexity of judgments.

Simple sayings are relational or irrelational — depending on whether they represent judgment having a relation as their object (stating only the existence of this relation — and not of the arguments of it), or an entity of another kind. Relational sayings contain some categorical sayings (e.g., "Roses are flowers", "Two and two is four", "All the radii of a circle are equal") and potential–hypothetical sayings, i.e. belonging to *casus potentialis* (e.g., "If there is still a resource, it is necessary to seize upon it", "He who sows the wind, reaps the whirlwind", "A man must be able to content himself with the little nothing of life, in order to be happy"). Irrelational sayings contain existential sayings with explicitly expressed contextures (e.g., "Revenants do not exists", "Conferences take place", "There is the risk") and impersonal sayings (*impersonalia*) with contextures which are not explicitly expressed (e.g., "Fire!", "It dawns", "Cloudiness").

Now, complex sayings can be existential–relational, real–hypothetical or irreal–hypothetical *(casus realis* and *casus irrealis),* disjunctive and conjunctive. Existentional–relational sayings can be of two kinds. Firstly, we have categorical sayings (e.g., "I live at number 10 Gołębia Street in Lvov"), which express allowance for the existence of a certain relation (in our example: living) and of the arguments of this relation (in our example: I — and number 10 Gołębia Street in Lvov). Secondly, we have restrictive sayings (e.g., "Only human being have the ability to speak"), which express judgments allowing the existence of a certain relation (here: having) and of its arguments (here: human beings and the ability to speak), and at the same time denying certain entities (here: being other than human beings with nonetheless have the mentioned ability).

Real–hypothetical sayings (e.g., "Since you want to answer, I shall ask you a question") express judgments allowing both the sentential elements of sayings (here: that you want to answer, and that I shall ask you a question) and that the object stated in the first element (here: the fact that you want to answer) joins with the object stated in the second element (here: the fact that I shall ask you a question). Irreal–hypothetical sayings (e.g., "If it was Sunday today, there would not be any lectures") express judgments denying both the sentential elements of sayings, and allowing, that the object stated in the first element joins with the object stated in the second element. Disjunctive sayings (e.g., "The world is ruled by God or by blind chance") express judgments that the judgments presented by the sentential elements of sayings are probable, that it is impossible for any of them to be true, and that the simultaneous existence

sayings (e.g., "The feelings are circulating in the soul, glowing, firing" — from Mickiewicz) express judgments expressed by particular sentential elements of a given sequence.

Definition–formulae of the structure "*A* is *B*" (e.g., "The state is a public society, which contains a population settled in a certain territory as a community of rulers and ruled peoples") are a special kind of sayings. These sayings represent *de facto* judgments, that '*A*' denotes *B* (in particular, that "state" denotes a certain object, the presentation of which was constructed in a given way); they do not represent the judgment that *A* is *B* (in particular, our definition does not represent any judgment about a state).

Truthfulness, evidence, and probability — and their opposites — can be ascribed to sayings only indirectly (metaphorically): with respect to the judgments represented. Thus, in particular, a given saying is evident, when if somebody understands it, then he knows at once that the judgment represented by this saying is true. On the other hand, the distinction between absolute and relative truthfulness — which is not admissible in the area of judgments — is admissible here. Absolute truthfulness characterizes, namely, a saying which represents exclusively true judgments. Only complete sayings can be true in this sense. A saying which represents sometimes true and sometimes false judgments can be defined as relatively true. Elliptical sayings (e.g., "It rains", "Cold baths are healthy", "Flats in Lvov are expensive") belong to such relatively true sayings. (Exemplary complete analogues of the elliptical sayings given above are the following sentences: "At noon on the first of March, 1900, according to the Gregorian calendar, it rains in the region of Castle Mountain in Lvov", "Cold baths are sometimes healthy", "Flats in Lvov are expensive for the most part").

Analogously, unlike the area of judgments, with reference to sayings, there is room for speaking about synonymity (equipolency). Two sayings are, namely, synonymous, if they represent equal judgments.

17. Copulations

Among copulations, a special place is occupied by qualifications.

Qualifications are those nouns, pronouns, adjectives, adverbs, and numerals — and phrases equivalent to them — which occur in attributive contexts (e.g., nouns like "a speed *of movement*", the father *of Socrates*", "a gable end *of a house*"; pronouns like "*this* man", "*any* man", "*no* man"). In predicative contexts they are categoremata.

A qualification — together with the name next to which it stands — (co) represents a presentation of the judgment referring to the object denoted by a qualified expression. Depending on the object of this judgment the ascriptive function performed by the qualification on account of the qualified expression, consists in determination, abolition, confirmation, or modification (i.e. abolition and determination satisfied at the same time).The abolitive and determinative functions consist in changing a given sense: respectively, in enriching (e.g., "a

good man") or derogating (e.g., "a *sham* form"). The confirmative function consists in intensifying or restoring certain components of a sense (e.g. "the *real* fact"). These three functions are simple functions. On the other hand, the modificative function is a complex one. It consists in enriching and derogating a sense at the same time (e.g., "a *former* minister").

Qualifications — even in attributive contexts (e.g., "a *bad* man") — are not, however, syncategoremata proper, because, they not only (co)present a certain judgment (here: the judgment that a man is bad), but also independently represent auxiliary presentations (here: the image of something bad), evoking the presentation of the proper object of a given complex expression as a whole (here: the image of a bad man), but the content of these auxiliary presentations does not depend on the content of the underlying presentation (here: on the content of the image of a man), creating the sense of the qualified expression.

In the fulfillment of the determinative, abolitive, confirmative, and modificative function in relation to names by complex qualifications — pronouns (e.g., "which") and prepositions (e.g., "as", "as far as", "without") take part.

The pronouns "which" or "who" (in the contexts: "a man *who* makes pictures", "a body *which* is chemically indecomposables", "a book *which* is yellow") indicate that the presentation of the named entity should be in relation to the underlying image — enriched or derogated (or, in the end, modified) by the attribute mentioned in the presented judgment belonging to this presentation. These pronouns also fulfill the modificative function in relation to the preceding sentence, what makes this sentence become the expression of a judgment presented, but not made. The word "that" has a similar function.

The prepositions "as" (in the context "Salzburg as the birthplace of Mozart") and "insofar as" (in the context "American monkeys, insofar as they are all caudate") signalize to a hearer that he should present the named objects by complementing the attributes mentioned. The preposition "without" (in the context "a country *without* mountains") signalizes, that the proper presentation (here: the presentation of a low country) should be preceded by a certain auxiliary presentation (here: the presentations of mountains).

Copulations proper are formed by conjunctions, which can occur in nominal (e.g., "non–") or propositional contexts (e.g., "not", "or", "if").

The conjunction "non–" in a nominal context (e.g., "non–Greek") has a specific modificative function with respect to its nominal argument: the infinitative function. It changes the sense of this argument in such a way, that the sense of all the context becomes equal to the sense of the generic name (*genus proximum*) superior to this member (here to the name "man"), enriching the sense by the presentation of the judgment denying the object of this name specific attributes of the object of the negated name (here: the name "Greek"). The infinitation rule is binding here. It permits adding "non–" only to those names which are subordinated with respect to a certain name. The expression "non–entity" violates this rule, because it is impossible to find a *genus* for the word "entity". Thus

"non–entity" is nonsense. If we recognize the noun "nothing" as synonymous with the expression "non–entity", we should recognize "nothing" as nonsense. As a matter of fact "nothing" is the syncategorematic element of negation of an existential quantifier. Thus the phrase "Nothing is eternal" is synonymous with "There is not an entity, which is eternal".

The conjunction "or" performs the modificative function with respect to sentences which are connected by it. These sentences represent in such a context judgment not made but only presented. And in a disjunctive sentence, as a whole, the probability of these presented judgments is expressed. The degree of this probability here is inversely proportional to the number of main elements of the whole.

A similar modificative function — in some contexts, at least — is performed by the conjunction "if" to sentence–elements (here: to antecedents and to consequents). This kind of context expresses as a whole the judgment that the logical argument–consequence relation occurs between the presented judgments. The problem here concerns formal truths. They are sometimes contrasted with material truths. But if these "truths" are true, their truthfulness is identical with the truthfulness of every materially true judgment.

18. Understanding

The person *O* understands the name *N,* denoting the object *P*, if *O*, hearing or reading *N*, evokes in himself — or at least can do so — the presentation of *P.* The person *O* understands the sentence — and the saying, in particular — *Z*, denoting the judgment S, if *O*, hearing or reading *Z,* evokes in himself — or at least can do so — the presentation of S.

We do not understand words of an unknown language, just because they do not evoke in us either an image, or a concept.

19. Conclusion

Kazimierz Twardowski's descriptive semiotics is an abstract theory of lingual phenomena, i.e. a system of definitions and their consequences, a system built with the method of logical analysis, preceded by an inventory and supplemented with a classification of these phenomena. This theory consists in the psycho–physical conception of signs, the functional conception of expression, the noematic conception of sense, and the discrepant conception of language.

10. On Leon Chwistek's philosophy of language

1. Introduction

Leon Chwistek born on 13th of June, 1884, in Zakopane and died on 20th of August, 1944, in Moscow, was a true renaissance figure and probably the most all–round Polish scientist of the first half of our century. He was the creator of rational metamathematics (in the field of the foundations of mathematics) and the defender of nominalism (in the philosophy of mathematics). He realized (as a formal logician and methodologist) the postulate of formalizing sciences, in his semantic system. He presented (as an ontologist) the theory of the plurality of realities, and his epistemology was founded on broad empiricism and realism. In psychology he was the follower of experimentalism, in ethics of rigorism, in his own version. In aesthetics and the theory of art he inclined to relativism, and as a critic of art he supported the so–called formism.

After all, he himself painted fascinating «strefistic» pictures and was the author of an expressionistic novel.

Semiotic problems were dealt with by him mainly in three periods: from 1916 to 1917, from 1920 to 1924, and from 1930 to 1937. The first period is opened by the treatise *Sens i rzeczywistość* [*Meaning and reality*] (1916), the last one is closed by the paper "Überwindung des Begriffsrealismus" (1937). Chwistek most important remarks on language can be found in his main work *Granice nauki* [*The limits of science*] (1935/1949).

Remarks put below concern Chwistek's views on general semiotic problems.

2. Sign, meaning and truth

Every object can be a sign, but no object by itself is a sign. It becomes a sign thanks to a convention which can be contracted without determining the ontological status of the object under consideration (Chwistek 1935, t. II: 55), i.e. apart from establishing whether it is a thing, a concourse of molecules, a system of impressions or an extra–temporal entity; whether it is an individual object (sign–token) or a set of such objects (sign–design). Diving into such a question is harmful punctiliousness because we are then in danger of involving ourselves in verbal controversy, as for instance when '*a*' ceases to be 'a' and begins to be 'd' or 'o' (Chwistek 1935, t. II: 11). One needs to get over the fact that it is impossible to catch the right connotation of the word 'sign' (Chwistek 1935, t. II: 56). It is necessary and sufficient if we simply indicate the (simple) signs used by ourselves and the rules of forming out of them composed expressions (Chwistek 1935, t. II: 55). We may leave out of the question in their possible indefiniteness as long as it does not begin to result in disturbances in using these signs (Chwistek 1935,

t. II: 11). The rules mentioned above are necessary because compound expressions cannot be constructed quite arbitrarily; full arbitrariness leads sooner or later to contradiction (Chwistek 1935/1961–1963, t. II: 35).

Every sign is a twofold object. One of its aspects is a more or less determinate combination of sounds, the second is a more or less determinate meaning (Chwistek 1920a; 1960: 101) expressed by these sounds (Chwistek 1920b: 105). This meaning can be understood doubly. Originally, in speech, an expression is a sort of label for the perceived object. The meaning of such an expression — a name in particular — is the main framework, the scheme of this object (Chwistek 1935, t. II: 213). The object in question is always the real object, for there are no general objects, to which verbs, adjectives and some nouns appear to refer (Chwistek 1917, t. I: 3, 6, 109). In the case of sentences it will be a certain distinguished real event (Chwistek 1932, t. I: 127) or a relation between components of reality: extralingual reality for the affirmatives and lingual reality for the negatives (Chwistek 1921, t. I: 65). Secondarily, first of all in the course of reading, this framework is replaced by a certain experience (Chwistek 1932, t. I: 121), namely the image or thought come into our head at the moment of reflecting upon the mode of using this expression in speech (Chwistek 1932, t. I: 129; 1935: XX–XXI). The formation of such a secondary meaning — of the image in particular — is the condition of forming suitable habits affording use of general expressions or names (Chwistek 1932, t. I: 121).

Only thanks to the fact that one attribute fixed meaning in the original sense to a given expression, a reaction of replying to a given structure of impression by equal lingual behavior (Chwistek 1930–1933, t. I: 128) is developed. As a result of a habitual mode of using the expressions in speech fixed in such a way, secondary meanings are established and the constitutive impressions are analogous among different people using this language. This analogy grows little as we become more distant from the area of everyday life. Out of this area only partial understanding is possible. Hence, for example, all attempts at finding intersubjective meaning, reachable finally for all the users of a given language, have failed (Chwistek 1932, t. I: 121).

Since the original meaning of any expression — including also sentences — is a real object or a system of real objects, a meaningful sentence, i.e. proposition, is true if and only if it corresponds to reality. The criteria of this correspondence (accordance) for experiential propositions are identical with the original criteria of sound reason. So if they fulfill these criteria then they are absolutely true. Sentences like "The distance from my home to the university is more than ten centimeters" (Chwistek 1930–1933, t. I: 201; 1935, t. II: 24) or "Two times two is four" (Chwistek 1921, t. I: 42) are examples of absolutely true propositions. But the absoluteness or doubtlessness of such propositions has dubious roots; they stick in our everyday convictions (Chwistek 1930–1933, t. I: 208). Thereby the scope of experiential propositions is very limited and the limits are dubious (Chwistek 1930–1933, t. I: 207). One can hardly hope here for more than the generalities just uttered.

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In the case of scientific (theoretical) propositions, the truth value of the proposition depends upon how the extensions of the expressions occurring in this proposition have been determined. So it is a relative property of some propositions, but then it is possible sufficiently strictly to determine it (Chwistek 1935, t. II: 78). It is a relative property because it depends upon the accepted general solutions in a given theory, the full systems of propositions in which a given proposition occurs, and these general solutions are provisional and revocable by nature. Even if one grants as absolutely true the propositions being repeated in all the solutions, this choice itself is evidently arbitrary (Chwistek 1930–1933, t. I: 207–208). One must not confuse this relativity of truth value characteristic of extraexperiential propositions with the pragmatic criterion. Indeed, something can be useful on account of different purposes. One can set oneself of course a task of which falsehood or absurdity favors the success (Chwistek 1930–1933, t. I: 206). But if any scientist (even a mathematician) takes such and such premises or definitions for granted, his arbitrary choice is in accordance with the pragmatic criterion only in the sense that it is fitted for ensuring that a given branch of science be as fruitful as possible (Chwistek 1921, t. I: 42; 1932, t. I: 134).

3. Natural language

Natural language arrogates to completeness (Chwistek 1924: 14). It admits of talking about everything: one can talk in it of talking, signify expressions by expressions, use (without restrictions) phrases like "all expressions", "all properties", etc. (Chwistek 1935, t. II: 16). This completeness is accompanied however, by indefiniteness, ambiguity, and self–contradiction (Chwistek 1935, t. I: 17).

Natural language is indefinite because it does not have, first,

1. distinct criteria permitting demarcation of
    a. meaningful from senseless expressions (Chwistek 1935, t. II: 31) and
    b. true from false sentences (Chwistek 1935, t. II: 78);

and second,

2. distinct rules of constructing expressions (for example a satisfactory rule of substitution); hence there are not in natural language general sentences with totally definite content (Chwistek 1935, t. II: 93).

Then, it is ambiguous (Chwistek 1921, t. I: 46, 192; 1930–1933, t. I: 192; 1935, t. II: 55) because its expressions are obscure (Chwistek 1935, t. II: 55, 74) and equivocal (Chwistek 1935, t. II: 4); hence one may, in certain circumstances, accept sentences like "This is white and nonwhite", "Electrons are real and unreal" (Chwistek 1935, t. II: 96).

Natural language is self–contradictory finally because applied to descriptions of phenomena transcending everyday life it leads to antinomies (scil. Eubulides', Grelling's, etc.) (Chwistek 1935, t. II: 8).

In spite of its completeness and because of its indefiniteness, ambiguity, and self–contradiction, natural language is not a perfect tool (Chwistek 1935,

t. II: 5). It requires improvement (Chwistek 1935, t. II: 13–14). The attempt at such improvement may be taken up by two means: analytic or constructive methods.

4. Analytic method

Applying the analytic method, one admits in fact the claim of natural language to completeness; and its imperfectness is counted as removable by explanation and arrangements of ready, existing expressions. It requires only an analysis of meaning of given expressions. This analysis makes it possible to establish their essential, true, and distinct meaning.

Assumed is here the possibility of obtaining absolute, final knowledge. This belief is accompanied by conviction that expressions of natural language do have such true and distinct meanings; our concern is only to uncover and put them in order (Chwistek 1923, t. I: 114). That is an illusory conviction. Expressions of natural language have not one sole, true meaning; natural language does not hide kernels of absolute truth (Chwistek 1935, t. II: 9). We will never get to know what is good, beauty, love, friendship, personality, or matter by searching for the immanent meaning of suitable words used in natural language. We will never have knowledge of that sort (Chwistek 1924: 52; 1935, t. II: 4) because it is not possible to achieve it by any means. One can settle somehow the extension of an expression, for example of the notion of honesty; and dependent on the establishment of this extension (i.e. how many people we ought to recognize as being honest) our activities will be more or less efficacious. We can confer such a meaning upon the notion of honesty that it would be possible to call nobody honest; then the word 'honesty' would be useless. So the question what is the true extension of a given expression in natural language is simply an absurd question (Chwistek 1935, t. II: 204). (Here — to anticipate possible strictures — I hasten to say that Chwistek has in mind research oriented not historically but theoretically. There is no denying that a pleasant task for a historian is the reconstruction of true meaning; for instance, of the word 'meaning' as used by such–and–such thinkers. And, as a matter of fact, I am now doing something like that with Chwistek's views). So, no expression of natural language — including the simplest names such as "horse", "sparrow", "penny", "man" — has a sharp extension or clear content.

Of course it is difficult to confound, for example, "friendship" with "horse–races" (Chwistek 1924: 52), but the analysis of meaning reaches such a point in the end, in which it is impossible to decide if a given expression refers to a given thing or not (Chwistek 1935, t. II: 10–11). Evidence of this may be found in the old paradoxes of the bald head, of the sand–pail (both attributed to Eubulides), and of the rustle (attributed to Zeno of Eleia) (Chwistek 1935, t. II: 11). It is easy to convince oneself as to the described situation — proposing to make the simplest dichotomic division in the area of natural language (Chwistek 1923, t. I: 113).

Therefore, natural language is not a system of clear and unambiguous expressions; and it will never be such a system as long as it is a natural (i.e. complete) language (Chwistek 1935, t. II: 9). And there is no need to look for such a system in natural language (Chwistek 1935, t. II: 47–48). Moreover, the poverty of the results obtained by the analytic method also proves the fruitlessness of this way (Chwistek 1921, t. I: 39): it leads inevitably directly to verbal metaphysics.

It is because in carrying out the analysis of the meaning of expressions belonging to natural language we substitute finally for some expressions of this language other ones belonging to the same language, that our definitions are not free of obscurity and equivocity. There is as yet no efficacious criterion for the distinguishing of more or less ambiguous expressions in natural language.

Besides, one should remember that such substitutions are unfortunately sometimes made by means of classical definition *per genus proximum et differentia specifica.* Then another illusion appears: that we can find such *differentiam specificam.* In the majority of cases we get the property differentiating, for example, "sparrow" and "canary"– instead of the *differentiae specificae* of "sparrow". Thus is hidden the real states of affairs, namely that the word "sparrow" (like most expressions in natural language) is introduced finally by pointing at a living specimen with one's finger (Chwistek 1935, t. II: 12). The result of such a verbal definition is usually that instead of trivial but simple utterances, we get the pronouncement of apparently unambiguous, but in fact only obscure and heavy ones. The situation reduces considerably the validity of resources connected with the analysis of meaning.

5. Constructive method

The constructive method, on the other hand, can be proud of great achievements: it yields valuable results first of all in the works of logicians and mathematicians, but also, for example, in those of codifiers of law (Chwistek 1924: 52; 1932, t. I: 130).

According to the constructive method, natural language needs not explanation or arrangement but total reconstruction. First of all it is necessary to reject its claim to completeness because precisely this claim is the source of the indefiniteness, ambiguity, and self–contradiction of natural language. This language is a good tool as long as we put up with its being limited (Chwistek 1935, t. II: 128, 129). It is free of these faults if we do not try to describe with the aid of it phenomena not belonging to the world of everyday things (Chwistek 1930–1933, t. I: 192; 1935, t. II: 4). Then it is necessary to reject the view that expressions in any language are clear and nonambiguous by themselves, and consequently to reject the hope of obtaining final knowledge concerning their meaning. Expressions may become clear and nonambiguous only by suitable operations (Chwistek 1935, t. II: 47–48). The analysis of meaning may be a useful preliminary operation. But true reconstruction begins afterwards. It consists in building a nearly quite new language which permits us to talk about

matters going beyond everyday life with no risk of indefiniteness, ambiguity, and self–contradiction (Chwistek 1935, t. II: 68). The validity of substituting such a language for natural language is founded upon the fact that every language can be treated as containing, as a rule, a finite number of words (Chwistek 1917, t. I: 7) and one can conceive of a list of combinations of these words which draws out all that is and will be performed in a given language (Chwistek 1917, t. I: 8). (Please, do not forget that this opinion was formulated at the beginning of our century.) Such an artificial language ceases to be indefinite, because it is supplied with a list of simple expressions and with a list of rules of building compound expressions, of auxiliary rules of abbreviations, and of rules of demonstration (establishing the principles of recognizing given expressions as statements of a system).

The delimitation between senseful and senseless expressions can be done here according to an arbitrarily chosen principle (Chwistek 1912, t. II; 1917, t. I; 1935/1961–1963, t. II: 13). This is because the lingual units form one continuous sequence. The expressions with scientific sense (including senseful sentences, i.e. statements) occupy one of its poles, the senseless (i.e. empty of meaning) expressions occupy the opposite pole (Chwistek 1921, t. I: 98; 1935, t. II: 13). Depriving language of indefiniteness — in just such a way — causes the basis of classifying the statements as analytic or synthetic, *a priori,* to disappear, because it proves that all the statements are inferred from primitive statements; the system of these latter exactly determines the meaning of the primitive expressions.

Expressions with meaning determined in such a way can be used without intuiting this meaning (Chwistek 1932, t. I: 121) if one does not transcend the system of the above–mentioned primitive statements; beyond this system, we run the risk of nonconclusive problems, i.e. problems admitting arbitrary decisions (Chwistek 1922: 543). By these means the source of ambiguity of language is removed (Chwistek 1935, t. II: 74–75). On the other hand it really comes to this: no rule is strictly speaking an analytic statement because all rules bring something really new and none of them can be proved: all of them are accepted quite arbitarily (Chwistek 1921, t. I: 45; 1935, t. II: 41).

6. Artificial language

Language built in such a way — free of the indefiniteness and ambiguity of natural language — becomes free of self–contradiction (Chwistek 1921, t. I: 46). It is, however, necessary to keep in mind two things often omitted by non–logicians.

First, this artificial language is not a substitutional language in relation to natural language. Ultimately in every field in which there is the need of communication we are condemned to use natural language. Formally correct language, for instance, the language of symbolic logic (Chwistek 1921, t. I: 41), is not a tool of verbal communication but only a tool making possible the establishing

of the limits, the scope of natural language, and enjoining our nondisturbance of them during our speech acts (Chwistek 1935, t. II: 216). We say "Socrates is a man" independently of using in this statement the word "Socrates" as a proper name or as an individual or general name. But if we read this sentence and if we want to hold to what is written, we have the obligation to understand this inscription as having the same meaning as the statement "The set SOCRATES is a subset of the set MAN". Every other understanding is an addition of someone's interpretation, and may be quite strange to the sender of the communication, appealing to our faith in or doubt of the existence of the definite man named Socrates (Chwistek 1932, t. I: 124–125).

Second, this artificial language, like natural language, ought to keep to the principles of sound reason, first of all to the principle of non–contradiction (Chwistek 1935, t. II: 6–7). Sound reason cannot be identified here with common sense, which is, rather, "horse sense"; the requirements of the latter change together with the conditions of life (Chwistek 1935, t. II: 2). Sentences which may be built in this language and which are contradictory to the principles of sound reason ought to be rejected. One such sentence is the principle of subordination; when a general statements has the strong interpretation — i.e. "For every x: if x is P, then x is Q" and not "There is not such an x that: x is P and x is not Q" — this principle leads to asserting irreal things. For instance, the acceptance of all devils being spoilers ought not to oblige us to assert that some spoilers are devils, and then that devils really exist (Chwistek 1935, t. II: 8–9, 91). In such circumstances taking up the problem of, for example, the complexity of soul, we can overlook the fact that the word 'soul' is simply an empty name. Assertion of existing things of that sort has as its consequence the ambiguity of expressions of our language and the generation of apparent problems.

The faults of the analytic method reveal themselves much more explicitly when one applies it to scientific languages. Here it is easy to see that an enterprise depending upon explanation of primary scientific notions is theoretically useless for science because of the ambiguity of these notions (Chwistek 1921, t. I: 39, 46). One can say that, for instance, in physics it is necessary to establish the notion of the location of an electron so broadly in order that the notion of the momentum of an electron has a sufficiently narrow extension. Then it is no wonder that the true location and momentum are not fixable. To search for the «true» location and «true» momentum is as absurd as to search for «true» honesty (Chwistek 1935, t. II: 202). The same problem arises with the ambiguity of the notion of a straight line and with the possibility of building many different systems of geometry (Chwistek 1921, t. I: 40).

The analysis of meaning of scientific expressions can best impel to a conscious appointing of their extension and content (Chwistek 1921, t. I: 461). Such an appointment depends, according to the constructive method, on substitution of primitive notions by precise lingual units (Chwistek 1921, t. I: 48; 1922: 342). They should be chosen in a way which enables us to find their correlates in natural

language (Chwistek 1932 t. I: 129) and to anticipate results of out experiments (Chwistek 1930–1933, t. I: 195–196). One cannot, however, expect the miracle of anticipatory real, spontaneous, elemental phenomena (Chwistek 1921, t. I: 71), except the simplest ones (Chwistek 1932, t. I: 129) in all their details; this can be done only by Laplace's spirit. It concerns linguistic data as well as, for instance, meteorological data. The reconstructed or just simply constructed meaning is fully determined by primary statements (Chwistek 1923, t. I: 113). It is hard to speak about any understanding of them outside of the system of these statements.

7. Conclusion

Chwistek not only demanded the creation of such a formal language and the reconstruction of the primary principles of sound reason in it but tried to realize his purpose. He gave utterance to it in the system of rational semantics improved by him again and again. This system is the theory of expressions (Chwistek 1935: XXIII), a reconstructing in a formal way — and free from metaphysical presuppositions (Chwistek 1935: XXIII) — the original properties of expressions: the relations of sequence, inclusion, substitution, and synonymity.

11. On Władysław Tatarkiewicz's personality and philosophical achievements

Writing on Władysław Tatarkiewicz as a historian of philosophy, Tadeusz Czeżowski expressed the very accurate opinion that "at only one point was the author unfaithful to historical precision: in the third volume of his *Historia filozofii* [*History of philosophy*], when presenting the state of philosophical studies in twentieth–century Poland, he totally neglected his own achievements" (Czeżowski 1967).

Let us try to supplement that gap.

1. Life and personality

He lived exactly 94 years — from the 3th of April, 1886, to the 4th of April, 1980. He was born and died in Warsaw. He was a successor of the Polish social–intellectual elite, but without any inclinations towards exclusivity. He was the grandfather of a Warsaw professorial dynasty but without an inclination towards nepotism. A patriot but not a nationalist: he loved, valued, and knew his homeland. A globetrotter but not a cosmopolitan: he was known, highly esteemed, and well liked in the world.

He was a scholar who worked in eight languages (above all — Polish), and studied in five domains (above all — aesthetics); a lecturer at five universities (above all — Warsaw from 1915 to 1968, with several interruptions), and a participant in seven international conventions (above all — the aesthetics congress held in Amsterdam in 1964); a member of seventeen societies (above all — The International Philosophical Institute, from 1930), and an editor or co–editor of four periodicals (above all — the *Przegląd Filozoficzny* in the years 1919 to 1950); the recipient of eight medals (above all — Commander with the Star of the *Polonia Restituta*), and the winner of seven awards (above all — the Alfred Jurzykowski Foundation award). Three universities (including Jagiellonian University) granted him the title of doctor *honoris causa*, and five international institutions (including the Polish Philosophical Society) bestowed the honorary chairmanship (or membership).

He was a man of four–fold elegance. His elegant wardrobe matched his elegant taste, sensitivity to art and a particular liking for classicism, although from time to time his weakness from Romanticism made itself known. His elegant manners revealed an elegance of character; moderation revealed inflexibility, directness — modesty, serenity — happiness, politeness — indulgence, usefulness — magnanimity, although his personality, like that of every person of style, was not free of dissonances.

Władysław Tatarkiewicz

It was said that he was inflexible, since even in adversity he never gave vent to bitterness. (He was the victim of quite a number of such adversities: the manuscript of *Zagadnienia filozofii* [*Problems in philosophy*] written during an occupation–period seminar, was lost. The manuscript of *O szczęściu* [*Analysis of happiness*] (1947) almost shared the same fate when it was thrown in a gutter by a Nazi officer with the words, "Es gibt keine polnische Kultur mehr". The manuscript of the third volume of *History of philosophy* was burnt in the Warsaw Uprising, and despite the fact that it was recreated, much time passed before it was issued. Difficulties accompanied the publication of *Droga do filozofii* [*Path towards philosophy*] (1971–1972), as well as the *Historia sztuki polskiej w zarysie* [*History of Polish art in outline*] (Dobrowolski & Tatarkiewicz (eds.) 1962), of which he was co–author, and even the selection entitled *Jakiej filozofii Polacy potrzebują* [*The philosophy needed by the Poles*] ((ed.) 1970).) He did not, however, succumb to disappointment, although he did not conceal his doubts: "Life taught me to expect little from other people", he admitted during his ninetieth birthday.

It was said that he was modest because when famous he was never proud, although he appreciated celebrity, and sometimes even sought it. In *Zapiski do autobiografii* [*Notes for an autobiography*] (1979), he admitted outright: "haughtiness is less unsympathetic than pride". He described himself as happy, although one of his students witnessed that during a lecture about Kant, Tatarkiewicz recalled how the aged philosopher, when asked whether he would want to relive his life in the same manner, cried: "No, definitely not". And the words of Kant sounded like Tatarkiewicz's personal admission.

It was said that he was indulgent since he did not try to convince at any price those who erred that they were wrong, even if their failing was all too obvious, and despite the fact that he never abandoned a view that in his opinion was sufficiently justified. But his indulgence was probably much too far–reaching, since he also tolerated dilettantes and the frivolous in his environment.

It was said, finally, that he was magnanimous, or even good, since he never tried at any price to destroy his attackers, even if the circumstances were conducive, and despite the fact that he never ceased to negatively evaluate the author of evil. But his magnanimity must have been too extensive since he sometimes favored careerists and flatterers.

2. Writings

Tatarkiewicz published over 300 works. His main philosophical treatises include *Die Disposition der aristotelischen Prinzipien* (published in German in 1910, and not in Polish until 1978), the study *O szczęściu* [*Analysis of happiness*] (published in 1947, and written basically during the II world war, i.e. at a time, as one of his students aptly noticed, when Albert Camus was working on *The plague*), and finally, *O doskonałości* [*On perfection*] (published in 1976, in the ninetieth year of his life). Part of the remaining writing is contained in selected

studies entitled *Skupienie i marzenie* [*Concentration and dream*] (1951), *Droga do filozofii* [*Path towards philosophy*] and *Droga przez estetykę* [*Path through aesthetics*] (1971–1972), and *Parerga* (1978).

The historical works constitute Tatarkiewicz's *opera vitae:* the three volumes of *Historia filozofii* [*History of philosophy*] (vol. I and II published in 1931, vol. III in 1950), and the three volumes of *Historia estetyki* [*History of aesthetics*] (vol. I and II published in 1960, vol. III in 1967), which are supplemented by *Dzieje sześciu pojęć* [*History of six concepts*] (1975). A special place among works dealing with the history of philosophy is held by the little study on Polish thought entitled "Między Oświeceniem a mesjanizmem" ["Between the Enlightenment and messianism" (1970), which is an introduction to the anthology *Jakiej filozofii Polacy potrzebują* [*The philosophy needed by the Pole*], published in 1970. The history of art was enriched by his works *Łazienki Warszawskie* [*The Warsaw Łazienki*] (1957a) and *O sztuce polskiej XVII i XVIII wieku* [*On Polish art of the XVIIth and XVIIIth centuries*] (1966).

Zapiski do autobiografii [*Notes for an autobiography*] (published together with *Wspomnienia* [*Reminiscences*] by his wife, Teresa, in 1979) proved to be a masterpiece of reminiscences and a document of an epoch long passed.

3. Development

Tatarkiewicz's basic views took their ultimate shape around 1915 and from that time on did not undergo any serious changes. If something was altered in his long life, it was his interests. Until 1925 he concentrated on ethics and aesthetics, from 1925 to 1930 on the history of philosophy, from 1930 to 1940 on ethics, once again on the history of philosophy in the period of 1940 to 1950, and once more on aesthetics from 1950 on. On the other hand, his teaching career encompassed four great breakthroughs: the first lecture, given at Warsaw University in 1915 ("Z dziejów filozofii na wszechnicy warszawskiej" ["From the history of philosophy at Warsaw University"] (1915/1971)); the first post–war lecture, at Jagiellonian University in 1945; the first course upon his return to Warsaw University in 1957 ("Dzieje filozofii ostatnich stu lat" ["History of philosophy during the last hundred years"]); and the last lecture he delivered there in 1977 ("Dwa pojęcia piękna" ["Two concepts of beauty"]). These breakthroughs were originally of a mainly personal significance, but with time they also took on a more general dimension, since they coincided with turning points in the twentieth–century history of Polish scholarship.

4. Predecessors

Tatarkiewicz's closest predecessors were Blaise Pascal in regard to formation (metaphysical disposition); Aristotle and Heinrich Rickert in regard to interests (polyhistorism and aesthetics, respectively); Kant and Franz Brentano in regard to orientation (ontological pluralism and ethical variabilism, respectively); Pierre Abélard, Wilhelm Dilthey, and George Edward Moore in regards to

method (semantic contrasting, historical interpretation, and semiotic analysis, respectively); finally, in the field of style — Aristotle (succinctness), St. Thomas (pedantry), and Francis Bacon (aphorisms).

Of the old Polish thinkers, Tatarkiewicz most valued Sebastian Petrycy for his cult of Aristotle and his "interests in practical problems as well as the retention of a union between philosophical theory and the needs of national life" (1931–1950, t. II: 38); Feliks Jaroński for his program of a philosophy "on which one could base both science and a world outlook, which would be formulated in an accessible and understandable language" (1967: 191); finally, Michał Wiszniewski for his sensible and mediation–oriented stand, "for his minimalism […] of intellect, and an extensive and unprejudiced interpretation […] of problems" (1931–1950, t. III: 174).

5. Teachers

The greatest influence was exerted upon Tatarkiewicz by his direct teachers, those whose lectures he attended: Ludwik Krzywicki, although initially he treated his lectures as a "supplementation of general education" (1976b: 3); Twardowski, "a clear–cut and sober thinker, and a naturally gifted teacher" (1931–1950, t. III: 376); and Adam Mahrburg, whose lectures "were probably the best of all those" Tatarkiewicz heard in his life (1979: 122). From the first of these teachers he borrowed a liking for observing the transmigration of ideas — their shifting in time and space. The second strengthened a minimalistic option. The third, to whom Tatarkiewicz was particularly indebted, inculcated in him a habit of descriptive interpretation of ethical and generally axiological problems, a constant methodological self–control, and a dehypostazed and predominantly clear and artistically ideal formulation of his own philosophical conceptions, as well as those of others.

Slightly later, the impact of those with whom Tatarkiewicz became acquainted and whose works he read with in his youth came: Władysław Biegański, Marian Massonius, Jan Łukasiewicz, and Konstanty Michalski. In *Etyka ogólna* [*General ethics*] (1918) by Biegański, published by Tatarkiewicz from the author's manuscript, he discovered not only affirmation of the attitude of goodwill, but also of perfection, which was the source of his willingness to deal with the problem of happiness. Massonius, with whom Tatarkiewicz quickly became friendly, confirmed the conviction that the idea that positivistic postulates are justified only in the domain of scientific cognition is mistaken. An acquaintanceship with the famous work *O zasadzie sprzeczności u Arystotelesa* [*On the principle of contradiction in Aristotle*] (1910a), by Łukasiewicz (which was published in the same year as *Die Disposition der aristotelischen Prinzipien*, NB. reviewed by Łukasiewicz) was one of the most important motives for Tatarkiewicz to rapidly abandon his previous style of expression and thought, which he discovered in Marburg. Gradually, his own style became so congenial with that of Łukasiewicz that if Tatarkiewicz's later studies about Aristotle ("Trzy etyki Arystotelesa" ["Three ethics of Aristotle"]

(1931) and "Dwaj nowocześni estetycy: Arystoteles i Cycero" ["Two modern aestheticians: Aristotle and Cicero"] (1961)) were to be published together with those by Łukasiewicz, there could emerge a whole that could be mistaken for the work of a single author. From Michalski, on the other hand, Tatarkiewicz borrowed a general view about the tasks and manner of conducting historical studies, as well as a high regard for scholastic tradition.

Tatarkiewicz's main guide was Władysław Weryho, who was a protector and an ideal, and a model of the well–wishing person, to whom Tatarkiewicz dedicated the study *O bezwzględności dobra* [*On the absoluteness of good*] (1919).

It is noteworthy that only a slight and short–lived trace was left by Tatarkiewicz's foreign teachers in Berlin (Georg Simmel), Marburg (Herman Cohen and Paul Natorp), and Paris (Henri Bergson and Pierre Janet), although lectures by Simmel were fascinating and the interpretations proposed by Cohen and Natorp were as apt as those later offered by Tatarkiewicz himself. He described the lectures by Bergson and Janet briefly: "I found in them more pleasure than substantial nourishment" (1979, p. 125).

6. Views

6.1. Ontology and epistemology

Reality is interpreted by man in a dual manner: as an ensemble of qualitatively defined things (objects), and an ensemble of quantitatively defined phenomena (processes), both independent of cognition. The prime source of the common image of the world is external experience (sensory impressions and re–creative and creative presentations); the main source of the scientific image is reasoning. The universal image is far from perfect, since (despite universal assumption) it is incomplete as a whole and its details are dim, variable, and relative (because they depend upon the perspective and the state of the cognizant). But the scientific image is also imperfect, since (contrary to the claims of scholars) it is even less complete, despite its greater exactness, uniformity, and generality (which it owes to putting details into types and to generalizations that reflect the constant relations between phenomena).

The task of the philosopher is to analyze precisely and compare every form of both images — above all, the degree of their departure from «true» reality.

6.2. Ethics

Values as qualitative properties belong to the common image of the world. The questions concerning their types, ways of existence, cognition, experiencing, and order were regarded by Tatarkiewicz as the fundamental problems of axiology. He also considered solutions developed previously to be unsatisfactory. His own answers to those inquiries had the following form.

Owing to the fact that, whether the objects are valuable in themselves or due to certain relations to other (valuable) objects, one can divide them into

objects possessing their own (direct) value, and objects of derivative value. The latter includes the means (e.g., money, equipment), or conditions (e.g., forces, capabilities) for attaining directly valuable objects, as well as 'reservoirs' (e.g., the family, community, science or art) and their signs (e.g., the attributes of power, national relics, scientific degrees, distinctions).

Among the values themselves, from the point of view of the (directly valuable) objects to which they are due, one can distinguish intellectual values (i.e. values of thought: wisdom or foolishness), moral values (i.e. values of conduct: goodness and wickedness, honesty and dishonesty), hedonic values (i.e. values of feelings: pleasure and suffering, happiness and disappointment), aesthetic values (i.e. values of things: beauty and hideousness), and, finally, vital values (i.e. values of life: health and illness, beauty and ugliness). Intellectual, moral, and hedonic values constitute specifically human values, while aesthetic values belong (also) to objective values, and vital values are on the borderline of human and objective values. Some of the values mentioned above, and in particular the values of goods (one's own intellectual and aesthetic values as well as other people's moral and hedonic values), are regarded by Tatarkiewicz as intentional (purposeful, primary), since they can be attained by means of intentional activity, and comprise its intentional outcome. Others (one's own moral and hedonic values) are effectual (secondary, resultant) goods, which means that they can be the outcome of intentional activity but also (usually and more easily) of an activity aimed at something other than goods. Finally, still other values (vital goods) are composed of natural (fate) goods, i.e. they cannot become the object of undertakings and are simply the gift of chance.

Objects are valuable when some of their properties are valuable; goodness (as well as evil) is a value that is absolutely and independently due to certain properties. This was the conclusion drawn by Tatarkiewicz when he demonstrated the baselessness of (ethical) relativism and subjectivism. Objects that possess exclusively good properties and those with a (quantitative or qualitative) predominance of such properties are good in themselves, while objects that possess only bad properties or are dominated by them are bad in themselves. But an object that is good in itself can contain a certain negative feature, and *vice versa*; moreover, that valuable object can lose its value. The absolute and independent nature of the values themselves (the fact that values are due to certain properties without regard to something else, and independent of the act of their perception) is accompanied, therefore, by the hetero–valence and valuable changeability of the carriers of values (the fact that valuable objects are, on the one hand, bad, and on the other hand, good, and that the valuable objects alter their value).

This is the reason why when Tatarkiewicz reflected on the problem of moral values he differentiated the estimation of the (absolute and independent) values of a certain deed from the value of its outcome, the intention that acted as the motive, and the effort of the person who undertook it. This is the source of the

differentiation between estimations about goodness, legitimacy, nobility (morality *sensu stricto*), and merit. Only the judgments about goodness ascertain the value really due to a deed.

The judgment about legitimacy pertains to the results of a deed; the latter is estimated to be legitimate when it produces the most good or the least evil. We speak about the noble nature of a deed when someone embarks upon a legitimate activity because it is legitimate. The greater the effort necessary for the fulfillment of the noble deed is, the greater the merit of the author of this deed.

Judgments about value (and in particular about goodness) are elementary axiological (ethical) theses, intuitively (scil. *a priori*) justified, and as such they are obvious and certain. On the other hand, judgments about the legitimacy of a deed are justified partly empirically; in consequence they lose their obviousness and certainty. The foundations for the recognition of duties (scil. norms), which determine the legitimacy of conduct, are conditional; they vary in different circumstances. The prime principles for legitimate conduct — the principle of goodness (the positive rule) and the principle of honesty (the negative rule) — are neither universal nor necessary. At times, they simply prove to be irreconcilable and have to be replaced by a fallible calculation of goods. This would be unnecessary for the good whose realization is always recommended by the principle of conduct as being more valuable than all others; then, the supreme good would be the only one. Tatarkiewicz believed that it is justified to not assume such an exceptional distinction of one of the goods. Furthermore, he was of the opinion that despite the hopes harbored by certain thinkers, there is no constant order (hierarchy) of goods. They cannot be compared *in abstracto,* but only *in concreto;* one must enquire not about that which possesses the supreme value in general, but in concrete conditions. Moreover, situations can occur in which it is impossible to evaluate such calculations *in concreto* because activity must be undertaken immediately; in those cases, the only solution left is to base oneself on intuition (reflex).

Even less certain than judgments concerning legitimacy, according to Tatarkiewicz, are those concerning nobility and merit. Both prove to be judgments whose justifications must be sought in extrapolations of introspective data (using the method of analogy). Obviously, this procedure is always partial and poorly justifying.

Tatarkiewicz devoted an exceptionally great amount of attention to the problem of happiness. People wish to be happy, but understand 'happiness' in different ways. Tatarkiewicz distinguished four concepts of 'happiness': happiness–success (favorable fate), happiness–exhilaration (great joy), happiness–perfection (the possession of supreme goods), and happiness–luck (a complete, permanent, and justified satisfaction with life as a whole). Of the four, he recognized only feeling lucky — a resultant good — as happiness *sensu stricto.* He subsequently showed that it remains loosely connected with pleasure, that it attaches more significance to the future than to the present, that essentially it is the object of efforts to a

lesser degree than is commonly believed, and that it is attainable if one assumes a suitable attitude and does not make excessive demands. Above all, Tatarkiewicz demonstrated that although it possesses an objective and absolute value, it remains subjective and relative. This is why we do not have a right to be happy, but we have an obligation to take care of happiness (our own and that of others) "because it is a good thing if a good life provides deserved satisfaction".

6.3. Aesthetics

Some people believe that the object of aesthetics is beauty, while others claim that it comprises works (of art), and still others — a *sui generis* experience.

Tatarkiewicz opted for ascribing to aesthetics the most extensive domain of research; he included in it beauty, artworks, and the experiences connected with them. In this manner, he opened up the borderline between axiology, the theory of art (poetry, music, architecture, sculpture, and painting), and the psychology of reception.

According to Tatarkiewicz, beauty *sensu largo* remains all that we perceive and imagine with preference and appreciation. But beautiful objects are beautiful in themselves, not due to the fact that they please someone, or that someone regards them as beautiful. Beauty is due to the objects, with regard to their properties, and predominantly owing to their commensurability (proportion), i.e. beauty *sensu stricto* (the beauty of form); and additionally, to their suitability (expediency), subtlety, grace, loftiness (majesty), and picturesque, poetic nature. Objects that constitute works of art are configuration of a certain manner, i.e. they possess a formal–material structure, and only literary compositions (including poetry) are significant configurations, i.e. possessing a semantic function.

An artwork is a conscious product that recreates reality and endows objects with certain new forms or expresses the emotional experiences (of the creator), and at the same time, is capable of bringing about a certain experience (e.g., delight, emotion, shock) on the part of the recipient. Those experiences can be of three kinds: aesthetic (the attitude of sensuous concentration), literary (the attitude of intellectual concentration), or poetic (the attitude of dream). The first type of these experiences is specific to contact with art, but the other two are also admissible (and *de facto,* do occur), just as it is possible to at times accept the attitude of research concentration towards a work of art.

One can demand that an aesthetician supply regulations, descriptions, or explanations of suitable states of things. Tatarkiewicz acknowledged that aesthetics has room for regulations, descriptions, and explanations. For example, he described the state of contemporary art as critical, and explained this by referring to the disappearance of traditional aesthetic norms (scil. regulations), to the fact that beauty has ceased to be recognized as an indispensable property of works of art and products of all types of creativity are regarded as artworks, and that it is no longer required that the attitude of the recipients of art should contain aesthetic experience.

6.4. Methodology

In the domain of knowledge, Tatarkiewicz counterpoised formal disciplines with real ones, and distinguished among the latter nomological (scil. constituting laws) and typological (scil. historical and systematic) branches. Among the typological disciplines, he devoted the most attention to history, and especially to the history of philosophy, aesthetics, and art, which he pursued himself.

Tatarkiewicz perceived the tasks of the historian as inventory, interpretation, periodization, and typology of facts. Inventory cannot be restricted to an ordinary collection, since the historian must select the inventoried facts. Interpretation must be managed without causal or genetic explanations, and the historian can remain at the state of contextual (systemic) explanation, and indicate the cultural context of the interpreted facts (the elements of this context corresponding to each other, coexisting and being mutually connected). Periodization is supposed to facilitate the presentation of the evolution of opinions, problems, and language that was used to discuss them in particular periods. Typology should result in the preparation of a unified conceptual apparatus and a network of problems.

The methodological program proposed by Tatarkiewicz was, therefore, one of interventionism and integrationism; one must not only engage in making inventories, but also interpret, not only periodize, but also type. This program was successfully realized by Tatarkiewicz himself, who employed a suitable method of semiotic analysis and historical retrospection. (NB. When in 1975 he organized a private competition for a dissertation in the field of axiology, he stipulated that it should contain an analysis of a selected ethical or aesthetic concept.)

Tatarkiewicz's method of semiotic analysis was composed of two basic steps: the making of the distinction (usually by means of semiotic contrasting — the comparison of pairs of contrary expressions), and explication (usually by means of a regulating definition — making precise the meanings of the examined expression). The method of historical retrospection came down to viewing the past through the eyes of contemporary times, seeking current problems (philosophical, aesthetic, or artistic) in the statements and solutions of the past. The acceptance of this method deprived the saying that the historian discovers in the documents only those thoughts that he formulated himself of all overtones of a paradox.

The analytical–retrospective method was applied, above all, in his semantic-historical treatises concerning value in general: goodness, happiness, and perfection; beauty, creativity, and re–creativity; experience, and language; art, and poetry; type, and form. The embodiment of the program of interventionism and integrationism enabled Tatarkiewicz — predominantly in *Historia filozofii* [*History of philosophy*] (1931–1950) and *Historia estetyki* [*History of aesthetics*] (1960–1967) — to overcome the traditional dilemma of historians: whether to present the history of particular people and their opinions (immanent studies)

or the history of particular problems and currents (transcendent studies). In the first place, it made it possible for his image of the history of philosophy, aesthetics, and, possibly to a lesser degree, of art, to be exceptionally diversified and multicourse, and at the same time, constant and uniform.

6.5. The history of philosophy

Historia filozofii [*History of philosophy*] (1931–1950) by Tatarkiewicz was the first Polish work that provided a picture of the whole history of (West European) philosophy. Publications in this field heretofore pertained only to the history of ancient and medieval thought (Władysław Heinrich 1925–1930), or exclusively to medieval thought (Twardowski 1910a), ancient philosophy (Wojciech Dzieduszycki 1914), and merely classical Greek philosophy (Stefan Pawlicki 1890–1917). In cases where such works tried to include contemporary philosophy, they were usually far from satisfactory (Władysław Mieczysław Kozłowski the younger 1904–1910).

Not only was the picture of the whole of philosophy presented by Tatarkiewicz extremely diversified, but the same holds true for his presentation of the thought of particular philosophers. Tatarkiewicz especially revealed the multi–current nature of the views propounded by Aristotle: metaphysical (the co–existence of various categorisations of the world: the natural systems of individuals, the physico–mathematical system of energy–potency and form–matter, and the strict metaphysical system of the absolute–substance), ethical (the co–existence of perfectionism, rigourism, and altruism: the ideals of perfection, justice, and goodwill), and aesthetic (the co–existence of traditional polymorphism and pioneer homomorphism: theses about the unity of art; traditional mimetism and pioneer creationism: theses about the creative element of art; traditional heteronomism and pioneer autonomism: theses about the independence of art from nature and morality).

Tatarkiewicz decidedly supported the view that relations between the philosophical (or more extensively: intellectual) formation and other components of culture — such as political formation — are not subject to general regularities. He demonstrated with many examples that changes in the ways of thinking precede transformation in social arrangements more frequently than *vice versa.*

Tatarkiewicz perceived a multi–course and relatively independent nature not only in various element of culture in general; the same, according to him, was true of relations between particular elements of philosophical culture. For example, he showed that contrary to formerly circulating stereotypes, empiricism and skepticism were combined with theism (or outright mysticism) by many of the medieval and later thinkers, just as rationalism and dogmatism were with atheism.

The history of philosophy is composed of many epochs, but Tatarkiewicz found something that guaranteed the sequence of epochs a continuity and uniformity. In the first place, in every epoch he distinguished three basic stages: the stage of

critique (concerning solution proposed by predecessors), the stage of system (of one's own views), and the stage of schools (which gradually grew intellectually ossified). In the second place, he discovered certain repetitive trends in each epoch which he included in, above all, two general philosophical orientations: maximalistic (which offered bold ontological systems), and minimalistic (which was satisfied with careful epistemological critiques).

6.6. The history of aesthetics

Up to now, in presenting the history of aesthetics, historians limited themselves to two periods: antiquity and contemporaneity. They treated the Middle Ages and modern times either as an interval in the history of aesthetics (Robert Zimmerman, Max Scheler, Bernard Bosanquet), or as partially or entirely unworthy of the attention of historians (Katherine Gilbert, Helmut Kuhn, Monroe Beardsley). Tatarkiewicz devoted as much attention to the period from the third to the eighteenth centuries as to ancient aesthetics. To a large degree, this became possible thanks to the introduction of the concept of implicit aesthetics.

Aesthetics had different forms, and thus its history should be manifold. Tatarkiewicz did not remain at the stage of comparing the universal convictions and loose observations stated *expressis verbis*, i.e. explicit aesthetics, to which certain historians of aesthetics (e.g., William Elmer Kennick) would like to limit themselves. Tatarkiewicz tried to recreate the aesthetic opinions (norms) that were not verbalised but only exemplified in artistic praxis.

At the same time, he demonstrated that in certain periods explicit aesthetics remained in accord with implicit aesthetics — as was the case in ancient Greece and Renaissance Italy; in others, there came to be a divergence between norms proclaimed *ex officio* and those that *de facto* steered creativity, as was the case, for example, in the late Gothic and mature Baroque. This trend was connected with the fact that, generally speaking, ancient aesthetics was rather monolithic and modern aesthetic — pluralistic; but even in the latter case, certain motifs possessed an antique lineage.

6.7. The history of art

In the domain of the history of art, Tatarkiewicz dealt mainly with Polish art, and primarily with architecture and sculpture, almost exclusively from the eighteenth and nineteenth centuries (especially classical). This was a novelty in the historiography of Polish art since up to then research was basically concentrated on Romanesque, Gothic, and Renaissance art.

Tatarkiewicz regarded the history of art, as he did history of all sorts, as a typological discipline. And he offered detailed descriptions of three types in particular: the Stanislaus Poniatowski type of architecture (distinguished owing to the single royal patron), the Lublin–region type of sacral architecture (later known as the "Tatarkiewicz style" — works from a single area), and the type of tomb sculpture with kneeling figures (as single iconographic motif).

As a historian of philosophy, Tatarkiewicz acknowledged the actual value of scholastics. As a historian of aesthetics, he included the Middle Ages and modern times in contemporary aesthetic tradition. As a historian of art, he appreciated the merit of the newest art. He was probably the first to do justice to the works of Stanisław Ignacy Witkiewicz and Władysław Strzemiński, and the first Pole to recognize the greatness of Paul Cézanne.

7. General orientation

The stand taken by Tatarkiewicz could be generally described as philosophical polymorphism. Polymorphism in metaphysics comes down to the view that there are several basic images of reality, and it contains a slight realistic overtone; in practice, Tatarkiewicz was inclined to favor a commonsense image.

Polymorphism in axiology consisted of the conviction that ethical and aesthetic values are multi–form, and it possessed a certain moralistic overtone (in ethics) and a formalistic one (in aesthetics). There are many varieties of good but the outstanding one could be nobility (the value of motives); similarly, there are many varieties of beauty, but if one wishes to seek beauty *sensu stricto,* it would be identical with commensurability (scil. proportion). Tatarkiewicz combined axiological pluaralism with cognitivism, intuitionism, objectivism and absolutism; for him, axiology (the theory of good and the theory of beauty) was a knowledge based on (*a priori*) intuition of independent and absolute values. In deontology, this was accompanied by the altruistic element (the supreme principle of conduct could be the principle of universal goodwill); in the theory of artwork — the calomorphic element (there are many varieties of artwork but what truly distinguishes the work of art among other human products is, apparently, beauty); and in the theory of aesthetic experience — the contemplative element (it is possible to experience works of art in different ways but the proper approach is the attitude of concentration). Polymorphism in methodology consisted of the equal rightness of various modes of research, the choice depending on the domain of the examined object; in the historical sciences, which Tatarkiewicz himself pursued, he preferred the analytical–retrospective method which was subordinate to the program of interventionism and integrationism.

If one were to apply Tatarkiewicz's own measure to the views he expounded, the one would have to recognize him as a representative of the minimalistic orientation, but not threatened with being accused of relativism, a representative of positivistic orientations but free of the charge of skepticism, and finally, a representative of the eclectic orientation, but one who defends himself (effectively) against being ascribed with variabilism.

9. Pupils

Tatarkiewicz's long life was filled not only with scientific activity but also with the work of a teacher. Of the many generations of his pupils, one can distinguish three. The first was composed of pupils a mere decade younger than their professor

who initiated his academic career early on: Mieczysław Wallis–Walfisz, and Maria Ossowska and Stanisław Ossowski, representatives of a generation that did not survive its master. The second generation included pupils born some ten years after the first one: Jan Salamucha, Stefan Swieżawski, and Bolesław Miciński; their fate proved to be unfortunate — the majority died during the II world war (mainly in the Warsaw Uprising). Only the third generation, which was separated from its predecessors by twenty years, was able to reach its creative peak, after the death of their professor.

All the persons mentioned, and also perhaps Jerzy Pelc, not cited above, were probably the most representative, and at the same time, closest to Tatarkiewicz regarding the style in which they pursued philosophy, the style of their language, and even their own lifestyle. None of them, however, treated Tatarkiewicz as their sole teacher or model; the same can be said about his other students. Quite possibly, this was the reason for the intellectual diversity of the Tatarkiewicz's school. His students reflected many political orientations: the right–wing, the center, and the left–wing. Different ideological tendencies were represented: fervent Catholics and equally vehement atheists. Above all, one is struck by the multiplicity of interests and professions. The Tatarkiewicz's school attracted artists as well as poets and writers of prose, aestheticians and critics (of literature), historians (of politics) and historians of arts, historians of philosophy and authors of bibliographies, and lastly psychologists.

10. Peers

The quarter–century in which Tatarkiewicz was born was particularly conducive to the Polish philosophy. Just a few days before Tatarkiewicz, Stanisław Leśniewski and Tadeusz Kotarbiński were born, and Zygmunt Łempicki was born slightly more than a month later. Witkiewicz was older by a year, and Leon Chwistek by two years. Henryk Elzenberg was younger by a year, and Tadeusz Czeżowski by three years. Władysław Witwicki was born eight years before, and Michał Sobeski — nine years, while Kazimierz Ajdukiewicz was born four years later and Roman Ingarden — seven years.

This was an epoch rich with antagonistic talents and just as rich in competing ideas. Tatarkiewicz was simply created for moderating those contradictory personalities and extremities of thought, and in reality he often accomplished just that. He was not only well acquainted with the writings of all those people, but maintained close contacts with many (for example, Leśniewski and Kotarbiński), and was the friend of others (e.g., Sobeski and Ingarden).

Chwistek proposed the concept of radical pluralism and Kotarbiński an equally radical monism, Tatarkiewicz accepted that there are no numerous realities but only a single one, although it can have more than one image.

If in methodology Kotarbiński regarded the natural principle for the classification of knowledge to be its object (which made it feasible to distinguish such disciplines as mathematical, physico–chemical–biological, historical, practical

and philosophical), and Ajdukiewicz accepted as that principle the manner of justified ultimate premises (he distinguished a *priori,* empirical, and humanistic disciplines), Tatarkiewicz declared that what is examined and the way in which it is examined is less important in knowledge than the outcome of research (which provided the foundation for distinguishing formal, nomological, and typological disciplines).

In ethics, an intermediate place between ambition–oriented conceptions (Witwicki's principle of dignity) and protectionist conceptions (Kotarbiński's principle of worthy guardianship) on the one hand, and perfectionist conceptions (Ingarden's principle of responsibility) on the other hand, was held by egalitarian conceptions (Czeżowski's principle of equal measure) of either a pessimistic hue (Elzenberg's principle of indulgence) or an optimistic overtone (Ajdukiewicz's principle of justice). In this situation, Tatarkiewicz opted for something more modest than the principle of guardianship or responsibility, but at the same time going further than the principle of equality, i.e. for altruism: the primacy of the principle of goodwill.

The most striking difference in aesthetics concerned the interpretation of the work of art from the point of view of the recipient. The reaction to the artwork was described either from the viewpoint of intellectualistic (Ingarden's concretization experience) and interpretationistic conceptions (Łempicki's intuitive experiences), or from a hedonistic position (Witwicki's excitation experiences). The more moderate conceptions shared a receptivistic approach (Witkiewicz's metaphysical experiences, Chwistek's aesthetic experiences, and Sobeski's affective experiences), to which (and in particular to Chwistek's interpretation) Tatarkiewicz and his contemplationism was closest.

11. Evaluation

It was said about Tatarkiewicz not without reason that he almost never polemicized with anyone. It is also striking that he himself was rarely the object of destructive criticism.

His ethical doctrine was questioned relatively late. It was noticed that his moralistic ethics contains a certain perfectionist feature since it claims that "one must formulate optimum axiological rules of conduct for each moral situation". Ryszard Wiśniewski (1980: 170), who drew attention to this trait, also indicated that the division of good into good–aim and good–result cannot be maintained in the domain of moral good owing to the dualism of perfection and happiness. Previously, Izydora Dąmbska (1948c) recognized Tatarkiewicz's characterization of the happiness quality as erroneous: either happiness–luck does not have to be justified by satisfaction or it cannot be constituted by satisfaction concerning one's whole life, and thus its unexperienced part, after all, remains unknown; finally, happiness can be attained only at the moment of death when there is no longer a (temporal) future. In contrast to Tatarkiewicz's opinion, the idea of luck was not alien to antiquity; if the ancient philosophers placed emphasis

on perception, they did so because they regarded it as a *conditio sine qua non* for the attainment of satisfaction.

In the domain of aesthetics, the view held by Tatarkiewicz that the semiotic functions fulfilled by art could be applied as the basis for distinguishing literature in the area of art, and poetry in the area of literature, met with criticism. Jerzy Pelc demonstrated in 1960 that literary works are not the only ones to signify and poetic works are not the only ones to express. Subsequently, Bohdan Dziemidok (1967) voiced doubts regarding Tatarkiewicz's supposition that the only way of determining art (in general) would be the enumeration and definition of its fields, and proposed instead of it an outline of a direct definition, which referred to fragmentary ascertainments made by Tatarkiewicz. Maria Gołaszewska (1973) questioned the typology of the attitudes to artwork proposed by Tatarkiewicz. She claimed that Tatarkiewicz had not taken everything into account, but rather only that which is essential in aesthetic experiences; this is the reason he deprived his solution of explanatory merits.

The greatest controversy was brought about by Tatarkiewicz's interpretation of history, and in particular the history of philosophy. The earliest reservations were presented in the 1930s. Marian Massonius (1932) criticised Tatarkiewicz for the fact that in the first edition of his *Historia filozofii* [*History of philosophy*] (1931–1950) he devoted much too little attention to certain philosophical disciplines (e.g., the philosophy of mathematics, aesthetics, and ethnopsychology), and was overly lenient towards certain philosophers (in particular Kant). The sharpest criticism was voiced in the 1950s by Tadeusz Kroński (1952), who stressed three issues: the fact that Tatarkiewicz regarded materialism as one of the many permissible attitudes; the fact that according to Tatarkiewicz the particular components of cultural formations accompany each other in a way that is impossible to capture with any sort of law; and thirdly, that Tatarkiewicz limited himself basically to the history of West European philosophy and gave the history of sociology no more space than the other sciences in his *Historia filozofii* [*History of philosophy*]. All that was true, but Kroński did not stop there. He perceived symptoms of 'reactionary' idealism and cosmopolitanism, "fanatic" immanentism and absolutism. His diagnosis was as unjustified as it was aggressively expressed. In the 1960s, a critique of the *Historia filozofii* [*History of philosophy*] was offered by Stefan Morawski (1961), who discerned in the historical writings of Tatarkiewicz an adialectical nature (a unification tendency), and an ahistorical character (modernising terminology), as well as anticausalism (correlationistic interpretations), and antisociologism (traditional periodization). At the same time, Paweł Beylin (1961) once again accused Tatarkiewicz of the sin of immanentism. In the 1970s, all those unfounded accusations, often the outcome of ill will, ceased. Stanisław Rainko (1973) aptly summed up the controversy by saying neutrally that there is simply no sociological analysis in the works of Tatarkiewicz.

12. Language

The legacy left by Tatarkiewicz is testimony of the encounter in a single person of rare criticism with a still rarer competence: erudition (excellent knowledge), thoroughness (independence and research based on sources), and empathy (the ability to verbalize even para–poetic fantasies).

The unquestioned merit of Tatarkiewicz's writings is their language — an unsurpassable model of scientific studies, and not only philosophical prose. This language satisfies all, predominantly logical postulates. Tatarkiewicz wished to speak concretely: to–the–point and lucidly, unambiguously and precisely, and at the same time clearly: comprehensibly and objectively, concisely and simply. His efforts to be concise and simple proved to be especially successful, and his works are written in a manner so succinct that they cannot be easily summed up. Their arrangement is composed in such a way that any alteration would be experienced as an introduction of architectonic disharmony.

The logical merits of Tatarkiewicz's language are accompanied by literary qualities. Concreteness is combined with suggestiveness; many readers of his historical treatises become aware of self–identification with the philosopher presented by the author. Clarity merges with artistry; the writings of Tatarkiewicz produce in some readers the experience of not only a scientific concentration but also a sensuous one: not only concentration as such, but also dream. It was said correctly that regarding language, Tatarkiewicz was *doctor subtilissimus.* Undoubtedly, he was the main co–author of modern Polish philosophical terminology. It is not by chance that his *Historia filozofii* [*History of philosophy*] is one of the few philosophical works used by the *Słownik języka polskiego* [*Dictonary of the Polish language*] (Doroszewski (ed.) 1958–1969) by Witold Doroszewski, and the one that is cited the most.

13. Influence and significance

In the East (and especially in the Soviet Union), the greatest impact was exerted by Tatarkiewicz's ethical views (although his study *O szczęściu* [*Analysis of happiness*] was translated relatively late into Russian (1947/1981)). The problem of happiness — seen as satisfaction — was alien to the West (1947/1976); the French dealt rather with the ways of achieving immediate happiness for mankind, while for the Anglo–Saxons happiness brought to mind almost exclusively success.

In the West (predominantly in the United States), the greatest interest accompanied the conception of aesthetics proposed by Tatarkiewicz (*Historia estetyki* [*History of aesthetics*] (1960–1967/1970–1974) was his first larger work translated into English). For the East, implicit aesthetics (and philosophy) was nothing new; for quite some time the Russians recreated their intellectual tradition by reconstructing the missing elements on the basis of indirect testimonies.

The greatest influence exerted by Tatarkiewicz was, obviously, upon the intellect of the Poles.

Three of his great peers are celebrated authors of new disciplines: Leśniewski — of mereology, Kotarbiński — of praxiology, and Łempicki — of pure poetics. "I am not inclined", said Tatarkiewicz, "to distinguish new sciences and to endow them with individual names". It is typical that as an erudite, Tatarkiewicz was usually satisfied with the collection, more perfect expression, and better confirmation of statements that had already been made.

Leśniewski regarded everything that had been accomplished in philosophy as murky foolishness. Tatarkiewicz, who dealt with the history of philosophy most of all, would tolerate the messianistic fantasies of his good friend Wincenty Lutosławski, and work in his own domain of a purely scientific nature, even if the object was the history not of truth and lucidity but falsehood and confusion, to which the proper reaction would be Leśniewski's historical "I do not understand". Tatarkiewicz's works (also the history of philosophy and aesthetics) do not provide an opportunity for such a reaction. In this manner, his works satisfied, at least partially, the vital need, experienced by many, to achieve a temporary comprehension of fundamental metaphysical problems at a time when Polish philosophy was dominated by liquidation–oriented tendencies (propagated especially by the Lvov–Warsaw School). Later on, the history of philosophy as a whole, and the *Historia filozofii* [*History of philosophy*] (1931–1950) in particular, constituted a chance to escape the one–sided metaphysical diet for quite a few people. This fact had a paradoxical consequence. Tatarkiewicz, whether he wished to or not, embedded in his readers the questionable opinion that every philosophical system which reveals itself in the history of thought enjoys equal rights with others, providing an opportunity for collectors of the absurd to boast.

Kotarbiński explicitely proposed a program of the humanities without hypostases and personifications, although he himself did not shy away for baroque ornaments in his writings. Ingarden, who was not only Tatarkiewicz's friend but also shared his interests (even the titles of many of their works are strikingly similar) in a program–like manner opposed the postulates of Kotarbiński and utilized (especially initially) all the stylistic measures in his description of that "what is ocularly given". In Tatarkiewicz's works, on the other hand, the postulates proposed by Kotarbiński are enrooted implicitly and realize themselves within them to a considerable extent. His reply to the question concerning the philosopher is symptomatic: "I do not believe too much in the role of the 'philosopher' in our present–day world; I do know, however, that the role of particular philosophers is great" (1976b: 22). Only in his recapitulation syntheses was Tatarkiewicz not afraid to employ aphoristic–metaphorical stylization — a fact that once again had a paradoxical consequence. Many of his readers and listeners came to the conclusion that such a style is not only admissible but simply necessary to adequately express at least some of the philosophical problems.

Contrary to formalistic tendencies, represented at that time by Manfred Kridl, Łempicki ascribed prime importance to analyses of the author's personality in

research into the history of literature. Tatarkiewicz declared that in the history of philosophy, one cannot go further than the histories of philosophers, and in certain works, especially the later ones, he tried to be faithful to his declaration. But in his fundamental historical opera, the gallery of individual conceptions was placed (for different reasons) higher than the amphitheatre of supraindividual problems. The popularity of those works was the reason why in current consciousness (of humanists), certain images of philosophy as a variety of literary art and not a scientific discipline became indelible. This was still another paradoxical consequence of the extraordinary perception of the writings of Tatarkiewicz.

12. On Tadeusz Czeżowski's metaphysics and semiotics

1. Introduction

As all experts of the matter stress in agreement, Tadeusz Czeżowski belongs to the «corps» of the most representative members of the Lvov–Warsaw School. Everybody, who falls back — as I do — upon Czeżowski's «philosophical miniatures» not for the first time, finds them always so interesting theoretically, that he becomes convinced it is worth to consult them not only once in a blue moon.

If I succeed in inspiring somebody to do it, one of the main purposes of this text will be reached.

I shall begin with metaphysics.

Tadeusz Czeżowski divides metaphysical problems into general and particular ones. Among the former problems he distinguishes, i.a., the analysis of the notions of being, existence, and reality — as well as the classification of beings.

I would like to show two kinds of troubles connected with Czeżowski's view. The trouble of the first kind concerns the general metaphysical problems as they are apprehended by Czeżowski. The troubles of the second kind appear when we state the results of the analysis and the classification, i.e. in the area of a certain semiotic problem, related to these metaphysical problems.

2. Generalization and categorialization

Let the following Czeżowski's utterance be our point of departure:

(1) Notions are more or less general. If we have such two notions that one of them is more general, while another one is less general, the latter being subordinated to the former, we call the first notion "genus", and the second notion "species". For instance, RECTANGLE is a genus for the species SQUARE, and SQUARE is a species for the genus RECTANGLE, because every square object is rectangular as well. Genera and species are transformed into another genera resp. species in the processes of generalization, specialization, and negation. Namely, generalization is transforming species into genus; specialization is transforming genus into species; negation is transforming species into complementary species, in the range of the same genus (these processes are well known from elementary logic). The notion of being is the most general notion; it behaves in the processes of generalization, specialization, and negation in a way quite different from all genera and species. For that reason, if oversteps in a way the hierarchy of notions, ordered according to generality from the lowest species to the highest genus — *omni genera transendit*, as the Schoolmen expresssed it, calling in result the notion of being TRANSCENDENTAL (*transcendentale*). This curiosity of the notion of being should be analyzed more carefully.

Every species contains elements — called properties — of two kinds. Some of them are common to a given species and another species of the same genus. These are generic properties; the complex of them constitutes a genus. Another properties differentiate species of the same genus. These are specific differences of the particular species. That is why we define a species *per genus proximum et differentiam specificam.* For instance, the species SQUARE joins in itself the genus RECTANGLE, and the specific difference EQUILATERAL[ITY]. The complementary species NONEQUILATERAL RECTANGLE is the conjunction of the genus RECTANGLE and the specific difference NONEQUILATERAL[ITY]. Generalization from species SQUARE (equilateral rectangle) and NONEQUILATERAL RECTANGLE to the genus of RECTANGLE is brought to effect by abstraction, i.e. by eliminating generic differences. In our example we abstract from properties of equilaterality and nonequilaterality, observing the condition, that both the specific differences (equilaterality, nonequilaterality), being subject to abstraction have no common elements, excluding one another. The abstraction fulfilled this condition is called a PERFECT or PURE ABSTRACTION (*abstraction perfecta v. pura*). It is possible in every case, where specific differences do not contain elements (properties) belonging to the genus; because properties common to both the complementary species would be in fact generic properties. The notion which is not obtainable from subordinated notions in the way of perfect abstraction, is not a generic notion for them. For instance, the notion of color is not a genus for the notions of redness, greennes, yellowness, and blue, because a perfect abstraction is not possible here. For the qualities (properties), which are here abstracted from, it is common, in fact, that they are colors, but we cannot separate in redness, greennes, etc., their shadow from colorfulness. The colorful shadow remains always color. Colors are simple qualities; they are not decomposable into *genus et differentiam specificam.* The result is that color does constitute no ONE generic element, foundable in redness and greenness; a DIFFERENT color is, in fact, in redness, a different one is in greenness, etc. In metaphysics, this state of affairs is expressed by saying that color is possessed by redness, greenness, etc. ANALOGICALLY (*analogice*), not UNIVOCALLY (*univoce*). In the cases of perfect abstraction, a genus is possessed by species univocally; the SAME genus is a constituent of various species, joined with various differences. If perfect abstraction is not executable, if it is impossible to separate generic properties and specific differences and to create genus, we can talk only about analogy; it is like in all other cases, when we predict something common about notions, not considering them, however, as being of the same genus; we state, e.g., analogy in a calm face, and in a calm morning; it is only analogy, because these two things do not belong to the same genus; calmness of a face is one matter, while calmness in the meteorological sense is another matter (1948: 70–71).

Now, let Z, Z_X, Z_Y, X, and Y be sets; let R, R_P, R_Q, P, and Q be peculiarities of elements of consecutive sets, mentioned before. We shall identify the peculiarity of objects belonging to a certain set with the property possessed by all and only by these objects.

Tadeusz Czeżowski

On the basis of the respective fragments of the quotation (1), I interpret the notion of generalization in such a way:

(G) $Z \wedge Z_X \wedge Z_Y$: $[(Z_X \supset\subset Z_Y) \wedge (Z_X \subset Z \wedge Z_Y \subset Z)] \rightarrow$

Z is a generalization for Z_X and $Z_Y \equiv$

$\vee X \vee Y$:

(1) $[(Z_X = Z \times X) \wedge (Z_Y = Z \times Y)] \wedge$

(2) $(X \supset\subset Y) \wedge$

(3)$(X \neq Z \wedge Y \neq Z)$

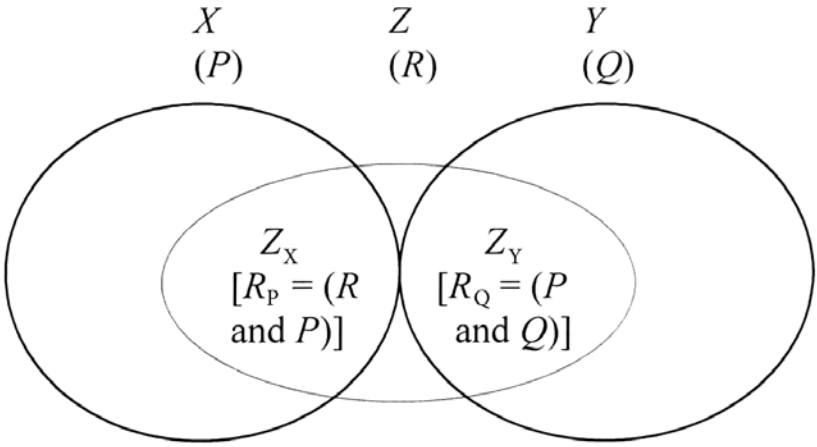
We have also:

$\wedge Z \wedge Z_X \wedge Z_Y$: Z_X and Z_Y are specializations for $Z \equiv$

Z is generalization for Z_X and Z_Y

The introductory condition of the definition (G) can be expressed in a different way, namely by the statement that: (i) all elements of Z_X have the property R_P; (ii) all elements of Z_Y have the property R_Q; (iii) all elements of Z_Y as well as all elements of R_Q have the property R. The conditions (1)–(3) can be expressed together by the statement that R_P — or the peculiarity of elements of Z_X — is a «conjunction» of the properties R and P, while R_Q — or the peculiarity of elements of Z_Y — is a «conjunction» of the properties R and Q; at the same time the properties P and Q exclude one another.

Thus, the situation looks like this:



Let us assume that the above interpretation is correct. Then fulfilling the conditions (1)–(3) results in that two subsets Z_X and Z_Y excluding one another are species with regard to the set Z, while the set Z is a genus for the subsets Z_X and Z_Y. R is correspondingly the generic property of elements of these species; this property is possessed by them univocally (as their property *sensu stricto*, or quality). P and Q are their specific property (i.e. differentiating properties or specific differences). According to what has been said above, peculiarities of elements of species are «conjunctions» of their generic property and specific

properties. The generalization is the effect of eliminating specific properties from such «conjunctions», i.e. by perfect (or pure) abstraction.

I forejudge here that a genus is a set of objects, and it is not a complex of peculiarities, though we can find passages in the quotation (1), where a genus is identified with a generic property.

The formula (G) is fulfilled for e.g.: Z — the set of rectangles, Z_X — the set of squares, Z_Y — the set of nonequilateral rectangles; because there are for them correspondent supersets: X — the set of equilateral objects (figures), and Y — the set of nonequilateral objects (figures). The set of rectangles is here the genus for the set of squares, and the set of nonequilateral rectangle, which are — respectively — species for the set of rectangles. The rectangularity is the generic property of squares and noneqilateral rectangles, while the equilateral-ity and nonequilaterality are specific properties of squares and nonequilateral rectangles, respectively.

Now, we shall distinguish categorization and analogization (let us call it in such a way) from generalization and specialization, assuming that:

(A) $\wedge Z \wedge Z_X \wedge Z_Y$: $[(Z_X \supset\subset Z_Y) \wedge (Z_X \subset Z \wedge Z_Y \subset Z)] \rightarrow$

Z is a categorization for Z_X and $Z_Y \equiv$

$\sim \vee X \vee Y$:

(1) $[(Z_X = Z \times X) \wedge (Z_Y = Z \times Y)] \wedge$

(2) $(X \supset\subset Y) \wedge$

(3)$(X \neq Z \wedge Y \neq Z)$

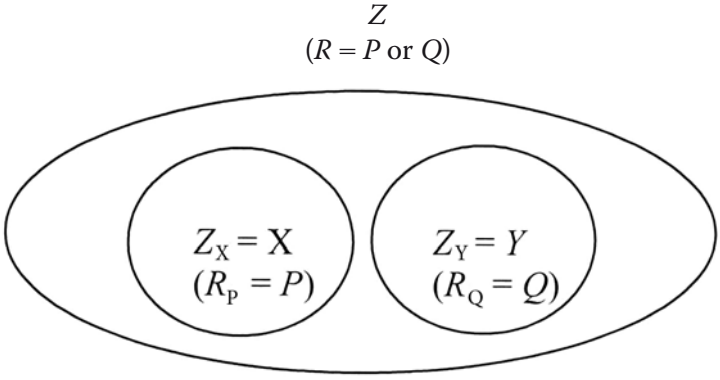
Respectively, we shall assume also that:

$\wedge Z \wedge Z_X \wedge Z_Y$: Z_X and Z_Y are analizations for $Z \equiv$

Z is a categorization for Z_X and Z_Y

Definiens of the definition (A) can be expressed in a different way, namely by the statement that R_P — or the peculiarity of elements of Z_X — is identical with the peculiarity of elements of X, while R_Q — or the peculiarity of elements of Z_Y — is identical with the peculiarity of elements of Y.

Thus, the situation here looks like that:



Let us assume again that the above interpretation of the corresponding fragments of the quotation (1) is correct. Then, two subsets Z_X (identical with X) and Z_Y (identical with Y), excluding one another, are — let us call it in such a way — analogues with regard to the set Z, while the set Z is the category for the sets Z_X and Z_Y. R is respectively the categorial property of elements of analogues — and it is possessed by these elements (only) analogically (i.e. not as their properties *sensu stricto*, or not as their qualities). P and Q are their analogical properties. The peculiarities of analogical elements are identical with analogical properties; they are not, in particular, «conjunctions» of their categorial property and analogical properties. According to Czeżowski, a categorial property is identical with the «alternative» of analogical properties. For that reason, categorization cannot be reached by something, what is similar to perfect abstraction in the case of generalization. Imperfect abstraction, or ignoring analogical properties, does not remain a categorial property in elements of analogues. On the contrary, objects guiltless of all properties, being members of the «alternative» categorial property, would lose this property at all, and they would cease creating a category.

The formula (A) is fulfilled for: Z — the set of colorful objects, Z_X — the set of red objects; Z_Y — the set of green objects; because there are not for them corresponding sets. Thus, the set of colorful objects is a category (not a genus) for the set of red objects and the set of green objects, which are analogues (not species) for the set of colorful objects. The colorfulness is a categorial (not generic) property of red objects and green objects; redness and greenness are analogical (not specific) properties of red objects and green objects, respectively. Saying that red objects are colorful, we say nothing more than that red objects are red or green, etc.; we ascribe them, in general, nothing «new».

Let us notice that, according to an example from the quotation (1), a calm of one's face and a calm of a certain morning belong to analogues with regard to the category of calms. What is more, if we impose here no additional conditions, then any two disjoined sets can be «combined» into one category, «endowing» it with adequately constructed, «alternative» categorial property.

I must declare that the only way of escaping this consequence I see in raising Czeżowski's implicit assumption, that lack of supersets X and Y fulfilling the conditions (1)–(3) of the definition (G) forecloses in any case that elements of the respective superset Z have not «normal» nonalternative peculiarity.

3. Modifications of being

According to Czeżowski, going here after the Schoolmen, the set of objects is a category — not genus — for every of its subsets. We read:

(2) The notion of being distinguishes itself by the fact that there are not such notions, that we can obtain the notion of being through generalization of them by perfect abstraction. Because everything assumed as the specific differences would have the

following common property: they would contain being among their elements; whatever we shall think about, is being. […] Thus, the notion of being is not a generic notion; it is analogical — not univocal — notion; various beings are peculiar beings (1948a: 72).

The subsets of the category of objects are not species in relation to it too; they are — according to the terminology adopted here — analogues.

Ontic categories (in analyzed apprehension of category) are such subsets of the category of objects, that the only category for them is just the category of objects; then, they are the «highest kinds» of beings. Let us agree, in conformity with the traditions, to call them "modifications of being" (*modi essendi*) or, briefly, "modalities". As Czeżowski writes:

(3) It is common for all the members of these distinctions (not always formulated in the same way) that they create genera and species neither with regard to the notion of being, nor in relationships among them; the reason is that they will come into being by imperfect abstraction; thus, all of them are modifications of being (1948a: 76).

Czeżowski quotes a few different classifications of objects.

(4) All beings or object were classified into REAL, i.e. ACTUAL or POTENTIAL, i.e. which are actually (like this house) or can be (like a house, which can be built a little further) — and THOUGHT (*entia rations*), i.e. which can be only thought, but which are neither actual, nor potential, as e.g., contradictory objects (1948a: 69).

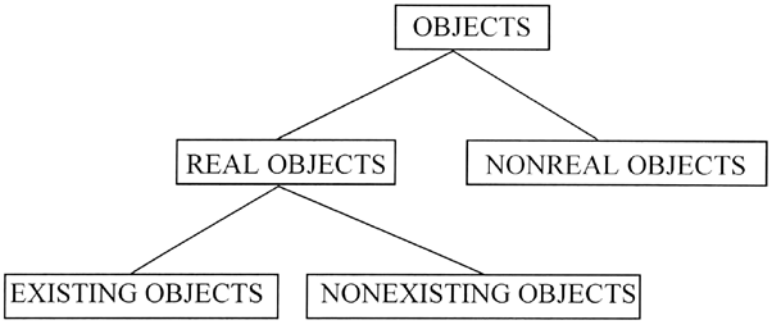
(5) We classify being into real (*entia realia*) and thought (*entia rationis*); now, we classify real being into actually existing and possible. […] Three classifications […] [of actual beings] act the significant part, namely classifications into: (a) EMPIRICAL and EXTRAEMPIRICAL beings; (b) THINGS and PROPERTIES; (c) PHYSICAL and PSYCHICAL beings (1948a: 88).

(6) According to the other distinction, mentioned above as originating from Aristotle, real — actual or potential — being, and thought being, are listed as the highest kinds, and actual being is further divided into necessary and accidental being (1948a: 76).

(7) The notion of reality (*realitas*) covered — in classic metaphysics — actual as well as potential being; whatever exists as well whatever can occur. Reality, understood in such a way, was opposed only to *entia rationis* as nonreal beings (sometimes also *ens intentionale* — reflection of real object in a soul). Thus, the notion of reality is wider than the notion of existence, containing only actual being (1948a: 77).

Thus, the first three floors of this classification look like this:

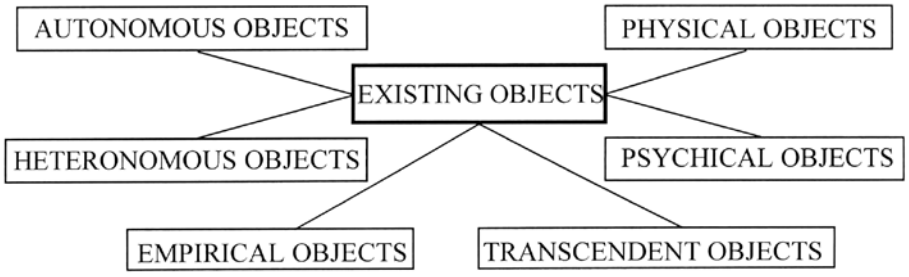
Classification 1.



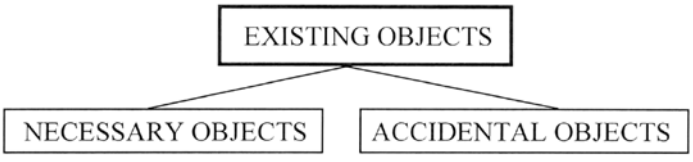
(For the sake of clarity, I omit here all synonyms — for "objects": "thought objects" and "presented objects"; for "real objects": "*entia realia*"; for "nonreal objects": "(only) thought objects", "intentional objects", and "*entia intentionalia*"; for "existing objects": "objects which exist", "actual objects", and "actually existing objects"; for "nonexisting objects": "objects which can occur", "objects which can only be", "possible objects", and "potential objects".)

Now, existing objects are classified in two different ways (see the quotation (5) and (6), respectively):

Classification 1a.



Classification 1b.

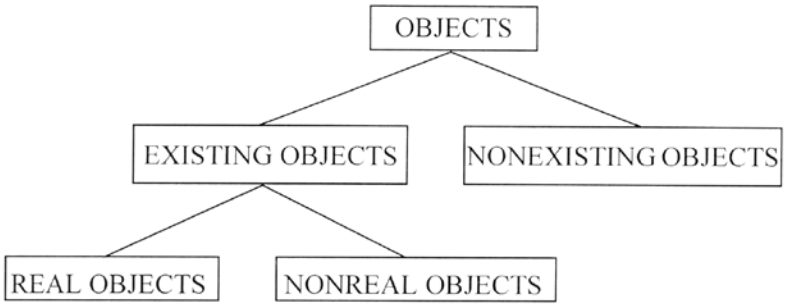


(Here I also omit numerous synonyms — for "autonomous objects": "substances", "things", "individuals", and "*entia per se*"; for "heteronomous objects": "accidents", "features", "properties", and "*entia in alio*".)

A quite different classification of objects is given in the following fragment:

(8) However, the extension of existence was considered, in some respects, as wider than the extension of real object. The existence of objects of negative form was assumed, considering this object to be nonreal too. Here we have such objects like e.g.: luck, evil (luck of good), vacuum (luck of matter); it was claimed that possessing a certain property or possibility of possessing it, is something real, while the negation of this possession is a negation of this reality, and — in consequence — is an assertion of nonreality (1948a: 78).

Classification 2.



It is not clear against this background, what means "nonexistence" asserted to fictitious objects, when it is said that:

(9) The [so–called] fictitious or nonexisting object can be in no sense considered as existing (1948a: 75).

To make it worse, the following dilemma arises here: either all these classifications are ramified and then only their first «branches» are modalities or all the «branches» are modalities, and then these classifications are only apparently ramified. In the latter case, particular classifications are (?) mutually independent; on the ground of classifications (1)+(1a) not only some existing objects would be heteronomous, but also, e.g., nonexisting ones.

It seems that the last solution is supported by the following utterances of Czeżowski:

(10) The classical metaphysics (beside the other distinctions) distinguished, in particular, as the two highest kinds of beings, *ens per se*, AUTONOMOUS BEING — substance of thing, and *ens in alio*, HETERONOMOUS BEING, inhering in autonomous

being — properties of things. The hierarchy of genera and species began at those highest kinds (*summa genera*).

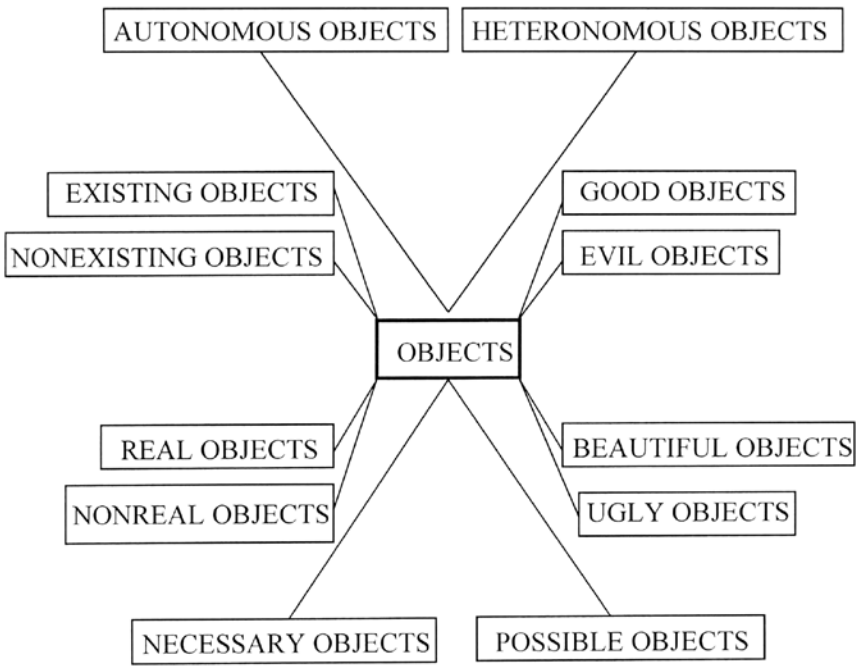
Thus, already in the classical metaphysics, the most general notion of being seemed to be unyielding to logical operations of generalization and specialization; it should be broken into less general notions, *ens per se* and *ens in alio* (1948a: 70–72).

(11) Existence is not a quality of existing things; it is not their property, as color or size are; it is, as the Shoolmen called it, "*modus essendi*" — a way of going, as well as the necessary and sufficient condition of possessing properties (1948a: 75).

(12) We have previously used the expression "*modus essendi*" to refer existence. It was said above that *ens* is a transcendental notion; it is possessed by the highest kinds, *ens per se* and *ens in alio*, analogically, not univocally. *Ens per se* and *and in alio* are beings, but thay are not beings in the same way: they are MODIFICATIONS OF BEING or *modi essendi.* […] Good and beauty are the other modifications of being (1948a: 76).

If my assumption is correct, the classification of modalities should look like this:

Classification 3.



As a matter of fact, it does not eliminate all the difficulties. It is not clear, e.g., what is the relationship between necessary and possible objects in the classification (3), on one hand, and necessary and accidental objects in the classification (1b), on the other hand.

4. Stating modifications of being

We read in Czeżowski:

(13) Necessity, possibility, goodness, beauty — like existence — are not properties of objects; they do not enter into presentations of objects, but they are stated in different kinds of sentences: existence is stated in assertoric and categoric (indicative) sentence; necessity is stated in apodeictic sentence; possibility is stated in problematic sentences; goodness is stated in estimations of value; beauty is stated in esthetic estimations (1948a: 76–77).

Czeżowski describes different modes of being in such a way:

(14) Stating that an object possesses a certain property, is synonymous with stating that this objects, possessing a given property, exists (1948a: 75).

(15) To state *A* (e.g., to state fine weather) is the same as to state the existence of *A* (the existence of fine weather); to state that *S* is *P* (triangle is equilateral) is the same as to state the existence of *SP* (the existence of equilaterality of triangle) (1948a: 74).

(16) We distinguish between two types of EXISTENTIAL SENTENCES, i.e. sentences stating existence, as well as between two notions of existence connected with theses two type of sentences. A sentence of the first type concerns the existence of an object indicated individually; a sentence of the second type concerns the existence of objects defined by its properties, without indicating object itself. When we indicate an individual with the pronoun "this", the sentence "This is so–and–so" is synonymous with the sentence "This so–and–so exists". We have to do here with the existence of object given empirically by perception. On the other hand, the sentence "*a* exists", if "*a*" is a name of an object not being indicated individually, but being defined by the fact that it corresponds to the meaning of the name "*a*" (e.g., "black stork") or, more precisely, "There is *x* such that *x* is *a*" ("There is such a bird, which is a black stork"). In contrast with the previous existence, this is existence of objects given conceptually, by definition. According the interpretation of the classical metaphysics, existence of the first kind corresponds to Aristotelian apprehension of existence of the secondary substances; the term "*a*", defining a certain object conceptually, is the name of a secondary substance, which exists in primary substances: in objects *x*, which are *a* (1948a: 75).

(17) Aristotle and medieval metaphysicians distinguished between properties of objects and modifications of being, like existence, necessity, possibility, goodness […]. The sentence "*a* exists" has a structure different than the structure of the sentence "*a* shines"; namely, the former means "For a certain *x*: *x* is identical with *a*" […]. Analogously, the sentence "*a* is good" expands itself into "It is good that *a* exists" (or "It would be good, if *a* existed"), or "It is good that for a certain *x*: *x* is *a*", and analogously for sentences concerning necessity and the other modifications of being; it would arise a nonsense, if somebody wanted in the similar way to expand the sentences, in which a property is asserted, e.g., "*a* is square" (1960a: 107).

Cezary Gorzka takes the latter without comments:

(18) The valuing expressions, in the logical sense, are sentence–forming functors from sentential arguments; they are similar to modal functors; sentences of the type "[Object] *a* is valuable" are — according to Czeżowski — abbreviations for "It is valuably that for a certain *x*: *x* is identical with *a*". […] [Czeżowski assumes] that the sentence "It is valuably that (*Ex*) (*x* = *a*)" […] is the adequate translation of the sentence "*a* is valuable" (1991: 20, 21).

Then Gorzka argues that:

(a) if the particular quantifier in these formulas were interpreted existentially, we would conflict with common ascribing moral values to fictitious objects (thus, with ascribing educational values to fables);

(b) if the particular quantifier in this formulas were interpreted in the existentially neutral way, we would state being valuable of tautologies in estimating sentences; it follows from Leon Gumański's view (adopted also by Gorzka) that the sentence "(*Ex*)(*x* = *a*)" is equivalent to the sentence "*a* = *a*".

Let us interject that the fragment (17), quoted from Czeżowski, excludes *de facto* existential interpretation; then it excludes the situation (a); Gorzka ignores this fact.

Gorzka's conclusions sound like this:

(19) Independently of the fact, how we shall interpret the quantifier in […] [the translation of the sentence stating being valuable of something, as it is proposed by Czeżowski, this translation] implies paradoxical consequences; these consequences seem to negate that valuing expressions are sentence–forming functors from sentential arguments. Thus, the thesis that values are *modi essendi* of objects should be estimated skeptically (1991: 21–22).

This seems to me, that it is a precocious conclusion; but if we want to escape this conclusion, we must rather «correct» Czeżowski.

The matter is that Czeżowski, on one hand, declares:

(20) The author adopts the so–called idiogenic (or idiogenetic, as other people say) theory of convictions; […] it assumes that every conviction is existential, i.e. it affirms or negates the existence of its objects" (1948a: 97).

Thus, every sentence, expressing a conviction, is either an existential sentence, or is reducible to an existential one. In the fragment, quoted above, we find examples of various types of existential sentences, as well as of existential paraphrases of different sentences (see the quotations (14) or (16), and (15), respectively):

(a) [The individual] *a* has the property $P \equiv a$, having *P*, exists

(b) [The species] P is $Q \equiv Q$–ity of P exists

The fact is, that for some existential sentences Czeżowski gives paraphrases in the language of functional calculus (see the quotations (17) and (16), respectively):

(c) [The individual] a exists $\equiv \vee x\ (x = a)$

(d) [The species] P exists $\equiv \vee x\ (Px)$

It seems to me that Czeżowski would accept also the following paraphrases:

(e) a, having P, exists $\equiv \vee x\ [(x = a) \wedge Px]$

(f) Q–ity of P exists $\equiv \vee x\ [Px \wedge Qx]$

In virtue of (e) and (f) we have also:

(g) a has $P \equiv \vee x\ [(x = a) \wedge Px]$

(h) P is $Q \equiv \vee x\ [Px \wedge Qx]$

However, it is also the case that existential paraphrases are given in the above examples only for sentences expressing convictions; in fact, the idiogenic theory deals only just with such sentences.

On the other hand, Czeżowski, after the schoolmen, believe that the sentence "a exists" (or "a is existing", in a more emphatic apprehension of Stanisław Leśniewski) has not a semantico–categorial structure similar to the structure of the sentence "a is rectangular"; in particular, it has not the structure of "Pa". Existence is not a property, and "existence" is not a predicate. Thus, let us suppose that "existence" is a sentence–forming functor form one sentential argument. I ignore here the question, whether it is admissible to carry generalization saying that no expression referring to a category or an analogue is a predicate. Then, the semantico–categorial structure of a sentence, stating, e.g., the existence of the individual a, looks like this: "It is existing, that a certain object is identical with a". But the statement, e.g., of the existence of the individual a, having the property P, will be of the following form: "It is existing, that a has P". Thus, we get in general: "It is existing, that p". We may interpret the sentence "p", i.e. the argument of the existential functor, according the idiogenetic theory; but we are not obliged to do it.

Now, if stating goodness or beauty (or remaining modifications of being) is to be analogous to stating existence, then the correspondent sentences should be of the following structure: "It is well, that p", "It is beautifully, that p", etc. Analogously: "It is necessary, that p", "It is possible, that p", etc. Thus, these paraphrases are quite different from those in the quotation (17) of Czeżowski, and in the quotation (18) of Gorzka: "It is well, that a (having P) exists", and finally "It is well, that it is existing, that a has P", etc. Even the idiogenetic theory does not require to put always existential sentence as an argument of the functor "It is well, that", because — let us repeat — it is the theory of sentences expressing convictions, not e.g. estimations.

After such an amendment, we are not in danger of the paradoxical consequences, indicated by Gorzka.

Nevertheless, it does not follow from this ascertainment that the idea of modifications of being, and Czeżowski's list of them, is without serious reserve.

I would expunge, otherwise, of this list among others: necessity — and *a fortiori* possibility. Because I do not understand "the necessity of a given state of affairs" in a context different than a sentence stating that something occurs what is a sufficient condition of occurring of this state of affairs. In other words, I interpret, e.g., the sentence "It is necessary, that *Qa*" as the abbreviation of the sentence "$Pa \wedge \bigwedge x\ (Px \rightarrow Qx)$", the second factor of which stating, at the same time, that the fact that *Qx* is necessary condition of the fact that *Px*. I also understand "the possibility of a given state of affairs" only in the context of a sentence stating, that this state of affairs co–occurs with another one. "It is possible that *Qa*" means the same as "$Pa \wedge \bigvee x\ (Px \wedge Qx)$".

5. Contributions to logic

Semiotics is one but not only one branch of *largo sensu* logic, engaging Czeżowski; many of his logical works concern also *stricto sensu* (scil. formal) logic, and methodology. Among the most important issues, acquired in these works — apart from reconstructing Brentanian interpretation of the syllogistic, mentioned above — I would set up the following results:

(1) in the class theory: a solution of the paradox of the class of classes not constituting their own elements — by recognizing such a class being incorrectly defined (classes not constituting their own elements, as well as classes constituting their own elements, being admitted), namely defined by a reflexive property (1918a);

(2) in the theory of propositional functions: giving a good criterion of their classification after syntactic categories of arguments (for sentences: after logical types of objects in question), a criterion affording decision as to a category of mixed sentences, like, e.g., "*a* has property *C*" (1965);

(3) in the theory of syllogistic: filling up the traditional pentamerous classification of possible relations between categorical sentences (and analogically: of possible relations between extensions of two non–empty names) to heptamerous classification (distinguishing independence, subordination, subopposition, opposition, superiority, and contradiction) (1920; 1928–1929; 1931);

(4) therein: discovering a graphic method of illustrating relations, mentioned sub (3), by means of either sections or ranges of concentric angles (1928–1929);

(5) therein: giving triple admissible interpretation of individual sentences (of the form "This *S* is *P*"): (a) as universal sentences (then their converse sounds: "No non–*P* is this *S*"), (b) as particular sentences (then their converse sounds: "A certain *P* is this *S*"), or (c) as compound existential sentences (of the form "There is such *x* that: *S* refers to *x*, and *x* is the one, and *x* is *P* and *x* is identical with *S*)" (1952a);

(6) therein: reconstructing various interpretations of Aristotelian modal logic and demonstrating its duality for logic of categorical sentences (see, e.g., following correspondences: "It is necessary that *S* is *P*" —"Every *S* is *P*"; "It is possible that *S* is *P*" — "A certain *S* is *P*") (1936);

(7) in methodology: demarcating the following logical operations: (a) generalization (scil. logical summing), (b) idealization (scil. selecting types), (c) abstraction (scil. passing to a higher logical category), and (d) formalizing (scil. replacing constants by variables) (1926; 1965; 1978);

(8) therein: precizing criteria of distinguishing (a) real definitions (among them: either content, scil. normal and axiomatic, ones, or extensional, scil. ostensive ones and definitions by abstraction) in opposition to nominal (vel 'verbal') definitions; (b) analytic versus synthetic definitions; finally (c) reporting versus projecting definitions (1959–1960; 1962; 1966b).

6. Analytic and synthetic method

Before exposing Czeżowski's semiotic views it might be of use if we give thought to one methodological problem, because it is an essential problem for estimating his philosophical production in general, and semiotic production in particular. The question is about two inquiring methods in science, named by Czeżowski "analytic" and "synthetic" (vel "inductive") respectively.

It may be simply said, that both of them consist of three 'steps'. In the case of the analytic method, the first step lies in formulating real definitions of certain distinguished objects, the second step being inferention of analytic consequences from formulated definitions. In the case of the synthetic method, the first step lies in inductive generalizing interdependences occurring among the examined objects of different types, the second step being a formulation of hypotheses explaining these interdependences. The first step in both the cases is a certain (analytic or synthetic, respectively) "description"; the second one is reasoning (scil. deduction or reduction). The third step is common to both of the methods: it is testing consequences and hypotheses respectively.

Czeżowski warned many times against neglecting the analytic method as purporting to be only prototheoretic. What is more, he believed there were disciplines of science, in which this method was either more fruitful than remaining ones, or simply it made the only method, which showed a certain promise of achieving conclusive results. He considered, i.a., the philosophy as one of the last disciplines.

It is not surprising that he himself practiced semiotics by means of the very analytic method.

7. Functions of expressions

Largo sensu expressions — or lingual signs (scil. symbols) — play various functions: they express something, mean something, refer to something, indicate something, signify something.

Let what is expressed by a given expression be the content (scil. sense) of this expression.

Having or not–having sense breaks the set of expressions into two subsets: the subset of expressions–with–content (scil. *stricto sensu* or senseful expressions) and the subset of expressions–without–content (scil. senseless expressions). Contents of expressions are acts of thinking (scil. thoughts) expressed by these expressions. An expression, if it is a *stricto sensu* name, expresses a certain presentation (in particular: "a presentation connected with the name, and causing that this name names a *designatum,* to which the presentation in question refers to" (1918b)); if it is a *stricto sensu* sentence, it expresses a conviction (scil. a judgment).

The difference between presentations and convictions can be verbalized, i.a., in the following manner: to have a presentation of something is to know about something, *what* it is like; to have conviction — is to know about something, that it occurs or does not occur.

There is something mediate — as to the content — between *stricto sensu* names and *stricto sensu* sentences: these are quasi–sentences (scil. suppositions). Suppositions are expressions having the (grammatical) form of sentences, but their contents are not convictions: they are presentations of a special kind, i.e. presentations of judgments (scil. judgments not 'made' but only presented) (1946b). As suppositions can be considered, i.a., all the sentence–like expressions, (a) which might he proceeded by the words "Let us suppose that" or "Let us assume that" (and must not be — under threat of changing their sense — proceeded by the words "It is true that" or "I claim that"); (b) which are members of conditionals; (c) which are quotations (and should be placed in quotation marks).

8. Truth in literary fiction

Sometimes (*largo sensu*) sentences belonging to works of literary fiction are considered as suppositions. According such an approach sentences–suppositions like "Achilles killed Hector" are interpreted as abbreviations of *stricto sensu* sentences "We read in *Iliad* that Achilles killed Hector", "After Homer, Achilles killed Hector" etc.

The fact that proposed paraphrases speak neither about Achilles nor about Hector, but about a certain work of art or its author, militates against this approach.

It is more natural to assume, that some of these sentences are true in a special manner — namely are formally true (after the fashion of hypothetico–deductive systems in science). It means they are true under the condition of adopting assumptions 'constituting' the world of literary vision. The only rigor valid at such a 'construction' is the rigor of non–contradiction: contradictory 'constructions' are unimaginable; thus they are unintuitive. Individual concretisations of literary works — of imaginative, scenic or cinematographic kind — can be treated here as semantic models of these 'schematic' works; only for the sake of such

concretisations, one can say about material truth of respective interpretations of a given work.

Formal truth of a given schema–work and material truth of its interpretation for the sake of a respective concretisation must be distinguished from 'metaphoric': truth, where (as it goes in naturalistic literature) the more literary 'constructions' are similar to real situations, the more they are 'true' (1958a/1969).

The virtue of the last approach lies in its explanatory power: it explains namely the essence of creative contribution brought by readers and performers of a given literary work: every interpretation asks for making some additional assumptions, individualizing a model — and a lower or higher element of creativity sticks in the very choice of these assumptions.

9. Meaning

Let what is meant by a given expression be the meaning (scil. connotation) of this expression.

Having or not–having connotation breaks the set of expressions into two subsets: the subset of meaningful expressions and the subset of meaningless expressions.

Meaningful names — contents of which usually being concepts — are common names (scil. general names, Russellian "class concepts"); meaningless names — contents of which usually being psychical images — are proper names (scil. individual names) and (in definite conditions) personal or demonstrative pronouns (scil. indexical expressions like "this"; "here"; "today", "tomorrow"; "present"; "local").

The difference between common names and proper names in everyday speech is defaced by ambiguity of the word "is". If we insert a meaningful name instead of dots in the expression "… is *B*", the word "is" will be synonymous with "is included in" (scil. it indicates the relation of subordinating), and an arising expression will be equivalent to the expression "Every … is *B*". On the other hand, if we insert a meaningless name there, the word "is" will be synonymous with "is element of" (scil. it indicates the relations of belonging), and such an expression might not be — with–out changing (or losing?) its content — proceed by the expression "Every".

Now, meaningful sentences are real sentences, meaningless sentences being nominal ones. The first sentences (e.g., "Cain killed Abel") are of general form "*aRb*" (scil. "a stands in the relation *R* to *b*"), and their content is a conviction about the existing relation *R* between objects *a* and *b*. The second sentences (e.g., "Planets are heavenly bodies") are of general form "*A* is *B*", and their content is a conviction about the existing relation of subordination between the expression "*A*" and the expression "*B*" (1918b). In other words, they state that a certain object has two different names, predicating nothing about the extralingual reality.

The meaning of an expression can be approached either extralogically — i.e. psychologically, behavioristically or objectivistically — or logically.

The psychological meaning of a given expression is a content of thought expressed by this expression: a content of presentation — in case of *stricto sensu* names, and a content of conviction (scil. judgment) — in case of *stricto sensu* sentences.

To determine what is a behavioristic as well as a objectivistic and a logical meaning, one needs to determine in advance what is indicated by expressions.

10. *Designatum*

Let what is indicated by a given expression be the 'indication' (scil. *designatum)* of this expression.

Having or not–having *designatum* breaks, on the one hand, the set of *stricto sensu* names into two subsets: the subset of non–empty names (i.e. non–empty common names like "king", and non–empty proper names like "Nero") and the subset of empty names (i.e. empty common names like "square circle", and empty proper names like "Chiron"). Instead of speaking that a given (empty) name has no *designatum,* we can assume that its *designatum* is «nothing».

On the other hand, having or not–having *designatum* breaks the set of *stricto sensu* sentences into two subsets: the subset of true sentences (i.e. true real sentences like "Kant wrote *Kritik der reinen Vernunft",* and true nominal sentences like "Whale is mammal") and the subset of false sentence (i.e. false real sentences like "France lies in America", and false nominal sentences like "Triangle is quadrilateral").

The common *desigantum* of true sentences is truth. The following argument speaks for such a solution.

(1) The sentence *a* is equivalent to the sentence "*a* is the true".

(2) The sentence "*a* is the true" is a nominal sentence; thus the expression (here: the sentence) *a* is subordinated with regard to the expression "true" (or "truth").

(3) The expression "true" ("truth") indicates truth, thus the sentence *a*, as well as all the other true sentences, must also indicate truth.

Assuming, that the *designatum of* a given sentence is, e.g., this state of affairs, which is a conviction expressed by this sentence concerns, would result in the necessity of accepting the identity of *designatum* both *of* the sentence "Volcanoes appear nearby Cracow" and of the name "appearance of volcanoes nearby Cracow".

Like in the case of names, instead of speaking that a given (false) sentence has no *designatum* (scil. it does not indicate truth) one can say that its *designatum* is falsity.

11. Behavioristic, objectivistic, and logical meaning

The behaviorisitc meaning of a given expression can be now described as a definite behavioral disposition (of users of this expression) with regard to a *designatum* (vel to *designata)* of this expression.

The objectivistic meaning is but a certain 'aspect' of designata: a definite complex of their essential properties — in case of names, and a definite state of affairs (being a certain described 'aspect' of truth, resp. a certain fragment of reality) — in case of sentences; if such a sentence is false, it 'inserts' into this state of affairs a certain property not occurring in it in fact (1918c).

Lastly, the logical meaning of a given expression is a result of a definite operation made over other expressions. Logical meaning of a given name is, in particular, the product of (all?) names superior with regard to this name. (Logical meaning and logical extension fulfill the traditional principle of inversion of content — or here: meaning — and extension (1965).)

12. Correlate

Let what is referred to by a given expression be the object (scil. the correlate) of this expression, identical with the object of thought expressed by the same expression.

Correlates of general names are general objects, i.e. objects having all and only 'generic' properties, belonging to contents of respective presentations. A general object can be identified with an alternative complex of certain individual objects. Thus the correlate of the name "Napoleon's eye" is the object: Napoleon's right eye or Napoleon's left eye.

The following paradox is connected with general objects: since a given general object is general, then generality is a «generic» property, and — as such — this property belongs to the content of (every) general presentation; thus this property belongs to all individual (non–general!) objects, falling under this presentation. The paradox will disappear, if we agree, that (a) generality is identical with having (in content) «generic» properties, and that (b) having and not–having certain «generic» property *W* in particular is not having a (new) property of having this «generic» property *W.*

Correlates of sentences are, of course, objects of convictions expressed by these sentences; e.g., the correlate of the sentence "It rains" is raining.

13. Extension

Let what is signified by a given expression be the extension (scil. denotation) of this expression. The objectivistically approached denotation of a given name is the set of (all) its *designata.* The logically approached denotation of a given name is the sum of (all) names subordinated with regard to this name.

14. Indefinite expressions

Expressions–with–content (scil. meaningful expressions) and expressions–without–content (scil. meaningless expressions) should be distinguished from expressions–with–indefinite–content (or, shortly speaking, indefinite expressions) as well as from expressions–with–many–contents (or, shortly speaking, polysemic expressions).

The set of indefinite expressions contains indefinite names, i.e. nominal variables and nominal functions, as well as indefinite sentences, i.e. sentential variables and propositional functions. Indefiniteness of their sense causes that their *designata* are also indefinite, i.e. unknown or any one.

In everyday speech, 'indefinite' pronouns (like "anybody", "somebody", "something", "any one", some one"; "whichever") can be considered as nominal variables. The following fact witnesses a nominal variable being only *largo sensu* (and not *strico sensu*) names. One must predicate nominal variables about nothing: the expression "This is *x*" is an expression–without–content.

Nominal functions are expressions consisting of a functional concept (scil. a functor) and its determination (scil. its argument), the last being a variable; e.g., the functional concept of the nominal function "killer of *x*" (i.e. "killer of somebody") is the expression "killer of".

Sentential functions are *largo sensu* sentences consisting of at least one indefinite member (an indefinite name, in particular).

A special kind of indefinite sentences are «autoreflexive» sentences (scil. antinomian impredicative phrases, Epimenidean sentences like "The sentence, uttered by me now, is false"), containing a variable (here: "the sentence, uttered by me"), which could become constant, only if a sentence, containing it, were indefinite, i.e. only if this variable were not variable (what is, of course, impossible).

15. Polysemic expressions

A polysemic name — in opposition to indefinite names (i.e. names–with–indefinite–content) — has many contents, given conditions (like who utters it, and in which circumstances) deciding, which of these contents is at stake. One can identify expressions of a varying content with meaningless names, because proper names, as well as 'demonstrative pronouns' acquire derivatively — by indicating designata — a 'temporary' (scil. «occasional») content (scil. meaning?). Both the proper names and 'demonstrative pronouns' are closely interconnected. On the one hand, 'demonstrative pronouns' (like "that", "this"; "today", "tomorrow"; "here") become, in definite circumstances, proper names (e.g., on the 1st of January, 1919, the word "today" names this very day; when I am indicating a certain chair, pronoucing the word "this", the very chair is designatum of the word pronounced). On the other hand, connecting a proper name with its designatum takes place by using an indexical name, indicating the *designatum,* in a sentence, identifying the *designatum* of both the names (compare: "This is Garłuch") (1953c).

There is the following method we can «disoccasionalize» sentences (containing indexical expressions). Let us call a sign–token of a given expression–design "signant" (an expression–design being the class of equiform signants). Now, every sentence of the form "This is *P*–al" is equivalent to the sentence "The object, indicated by this signant, is *P*–al", where the word "This signant" indicates the inscription, to which they belong.

16. Theses about semiotic entities

What is said above, in the paragraphs (7)–(15), can be considered — in the light of remarks of the paragraph (6) — as a complex of real definitions of semiotic entities. However, Czeżowski does not limit himself to perform the first step in analyzing semiotic problems: he performs also the next step, posing and defending some theses.

That is how they sound.

(T1) There is an analogy (vel a parallelism or duality) between two classes of main elements of lingual systems, i.e. the class of names and the class of sentences: e.g., the relation of subordinating in the domain of names corresponds to the relation of consequence in the domain of sentences (1918b).

(T2) Every sentence — concerning any object — is reducible to a sentence stating that a certain object belongs to a certain class (scil. is element of this class); e.g., the sentence "Harpagon is miser" states that Harpagon fulfills the propositional function: *x* likes excessively money; the sentence "Cherry is red" states that cherry fulfills the propositional function: *x* is like *this* (object); the sentence "Harpagon exists" states that Harpagon is like x (or anything) (1918a).

(T3) Every nominal sentence (scil. stating that a certain object is element of a certain class) of the type "*a* is $\phi(b)$" (e.g., "*a* is the killer of *b")* is equivalent to a certain real sentence of the type *"aRb"* (here: "a killed *b*") (1919).

(T4) Some sentences can be interpreted either as real or as nominal. One can regard the content of the sentence "Salzburg is more picturesque than Cracow" either as the conviction about occurring the relation of being more–picturesque–than between Salzburg and Cracow (in real interpretation), or as the conviction that the expression "Salzburg" is subordinated by the expression "being more picturesque than Cracow" (in nominal interpretation) (1918b).

(T5) No expression–without–content has *designatum* (1918b).

(T6) The logical connotation of a given name (and of every expression?) is identical with its logical denotation (1965).

(T7) If the *designatum* of a nominal variable (i.e. the class of its values, the scope of this variable) is given, then a common name having denotation identical with the set of *designata* of values of this variable is given also (or can be created) — and inversely (1919).

(T8) Some expressions are used in some cases as common names (e.g., the word "palace" in the sentence "A palace is distinguished among houses by its magnificence"), in some other cases being functional concepts (e.g., the same word in the sentence "Versailles is a palace of Louis XIV") (1919).

(T9) Negative names with an empty name as a determination (e.g. "non–work of Minotaur") are empty names. Negative sentences with an empty name in place of their grammatical subject (e.g., "Minotaur is not devote of communism") are true sentences respectively (1919).

(T10) Let us call sentences of the type *"aRb"* (scil. "*a* stands in the relation *R* to *b")* "Zarembian sentences", if a (and *b?)* does not belong to the field of the

relation *R*, i.e. if there is no object, to which something could stand in this relation (the sentences "Warsaw is the logical consequence of Lvov" being an example of such a sentence). Zarembian sentences are not sentences–without–content (scil. indefinite on account of logical value). Otherwise we should agree that some definite — true, in particular — sentences either would be consequences of Zarembian sentences, or would have Zarembian sentences among their consequences. Let us consider the sentence "Wawel is not a number"; it is hard to deny this sentence being true, but it is the consequence of the conjuction of the Zarembian sentence "Wawel is neither lesser, nor greater than, nor equal to the number 2" and the sentence "It is true for all pairs of numbers that one of the members of a given pair is either lesser, or greater than, or equal to the other member". Now, let us consider the sentence "Every entity stands in a spatial relation to the Mozarteum"; its consequence is the Zarembian sentence "My psychological image of the Mozarteum stands in a spatial relation to the Mozarteum"; if we denied the last sentence (and other similar sentences) a logical value (falsity, in particular), the respective generalization would not be falsified.

17. Comments

Now, I would like to formulate some comments on Czeżowski's semiotic definitions and theses.

(K1) According to Czeżowski, the word "is" in expressions like "Whale is mammal" is synonymous to the expression "is included in" (or "is subset of" etc.), whereas the same word in expressions like "Garłuch is a mountain" is synonymous to the expression "belongs to" (or is element of" etc.). It is, however, a kind of simplification. One must say neither that whale is 'included in' mammal nor that Garłuch 'belongs to' mountain (the right formulas sound: the set of whales is included in the set of mammals, and Garłuch belongs to the set of mountains, respectively).

(K2) I am afraid that if the theses (T2)–(T4) were accepted, the classification of sentences as either real or nominal would be superfluous.

(K3) Czeżowski declares the access for the semantic definition of truth. He formulates it — with reference to empirical theories — in such a loose way:

> A given sentence is true, iff it is fulfilled by every sequence of values (of variables), representing — on the ground of a respective theory — various observational conditions (1952a).

But this sentence is fulfilled, only if it becomes true for every sequence, or — more explicitly speaking — true in every circumstance. We have, finally, the result that a certain sentence is $true_1$, if it is $true_2$ in every circumstance. If "$truth_2$" differs from "$truth_1$", then the question of the meaning of "$truth_2$" arises; if both the words are synonymous, the danger of *circulus in definiendo* appears.

(K4) All horses are *designata of* the common name "horse"; its denotation is identical with the set of horses. The sultan Soliman is the only *designatum* of the proper name "Soliman". The question of the denotation of this last name (and denotations of proper names, in general) is not answered by Czeżowski.

(K5) Let us assume that the thesis of duality (T1) has no essential delimitations. If so, one could regard the conjunction of all (semantic?) consequences of a given sentence as a logical connotation of this sentence. Analogically, the disjunction of all (semantic?) reasons of a given sentence can be regarded as its logical denotation. Such a solution provoke some questions, e.g.: are connotations and denotations, defined in such a way, equal, as it takes place in the case of logical connotations and logical denotations of names, according to the thesis (T6)?

(K6) Czeżowski introduced a "logical" approach to the connotation and denotation of names in order not to leave the sphere of "lingual entities" in the process of defining semantic relations. However, reaching this goal seems to be an illusion, because logical multiplication and logical addition are made *de facto* over objectivistic denotations, i.e. over classes of *designata* of respective names. The matter would stand better in the case of sentences: conjuctions and disjuctions are operations carried into effect "immediately" over them.

(K7) In Czeżowski's conception, there is a parallelism between the results of logical and psychological analysis, e.g., between indefinite names and sentences in the area of logic, and general presentations and presented judgments (vel presentations of judgments) in the area of psychology, respectively, variables in propositional functions being the analogue of a basic presentation. However, neither general presentations, nor presentations of judgments, are objectless. On the contrary, both of them have "definite" objects: "general" objects and judgments, respectively. Thus, we cannot also regard variables expressions without "definite" contents, because they express the very respective presentations. Propositional functions finally approach to suppositions, in this respect.

(K8) The status of *designata* of indefinite expressions, i.e. indefinite names (scil. nominal variables) seems not to be clear in Czeżowski. On the one hand, one should not say that variables — like empty names — have no *designata.* One should not say also that variables — like (some of) common names — have many *designata.* On the other hand, Czeżowski identifies "extensions" (i.e. scopes) of variables with sets of their values, i.e. some definite names, which can be substituted in place of these variables; we use here the word "extension" in a sense quite different from the sense, when "extension" refers to the set of *designata* of a given expression.

Another matter is that Czeżowski contrasts logical variables in question with *objective* variables (e.g. mathematical variables). A certain object *O* corresponds to such an objective variable *x*, and this *x* is the name of *O* like the word "Rome" is the name of the Eternal City. Thus an objective variable is a name, namely indicating (scil. symbolizing) a certain (changing) object — i.e. its range — as

its only *designatum:* it is the set of its objective values, i.e. some objects given together with their positions. The last ones are interpreted as juxtaposition of objective values and some other objects (scil. *designata* of determinations) on the ground of a certain relation; if values of the variable y are integral numbers, then the value of the variable y juxtaposed with the *designatum* of the determination "7" on the ground of the relation of being–greater–of 3, is the number 8.

18. Historical remarks

Concluding, I would like to express a few historical remarks.

Czeżowski's semiotic views were crystallized and formulated at the beginning of our century. They were closely connected with the main ideas transmigrating inside the European philosophy of this period.

I have indicated Czeżowski's ideological parentage with Brentano. Now, I shall add some other parentages.

The solution of the Russellian paradox of classes, proposed by Czeżowski, is a certain modification of solutions given by Poincaré and Zermelo. In generalizing the classification of relations among categorical sentences (and among non–empty names) Czeżowski recurs to Gergonne, Schröder, and Sleszyński. The conjunctive interpretation of individual sentences bases on Reichenbach's proposal. Reagarding the distinction between acts and products, a foundation for delimiting psychology and logic, invokes Twardowski's conception; Czeżowski accepts here Twardowskian psychological analysis of thinking (with his idiogenic conception of judgments, in particular), as well as his interpretation of indexical expressions. The analysis of quasi–sentences is made in terms similar to the Ingardenian conceptual apparatus. In recognizing truth as a common *designatum* of true sentences, Czeżowski goes, of course, after Frege. The starting point of Czeżowski's views on truth in empirical sciences is the semantic definition in the version given by Tarski. Czeżowski's position in the matter of sentences–without–content is his reaction to Zaremba's views on the very subject. Finally, the analysis of autoreflexive sentences takes advantage of some of Bolzano's observations.

13. On Roman Ingarden's philosophy of language

1. Introduction

Every semiotician when asked about Polish semiotics during the first half of twentieth century (or about our philosophy at that time at all), usually cites the Lvov–Warsaw School and says no more. Indeed, the circle of Kazimierz Twardowski's pupils was the most influential group at the time, but it formed the center of Polish philosophy in this period, the center between two radical and opposing wings — the first represented by Roman Ingarden, and the second by Leon Chwistek. Outlining their views provides an opportunity for understanding the turning–point which this school represented, a shift in thinking that was then continued by other philosophers and semioticians throughout the world. Moreover, it seems that this presentation would make it easier to understand the differences among Twardowski's pupils in the field of semiotics itself, for Tadeusz Czeżowski and Tadeusz Kotarbiński were closer to Ingarden's standpoint, and Stanisław Leśniewski and Jan Łukasiewicz were closer to Chwistek's standpoint, while Kazimierz Ajdukiewicz's views were a fusion of both the tendencies.

Roman Ingarden (1893–1970), one of the most distinguished figures in twentieth century Polish philosophy, is known as an aesthetician and an epistemologist rather than as a semiotician. And yet, in most of his writings one can find considerations of various problems concerning natural language. I wish to present a short outline of these considerations. Irrespective of the cognitive validity of his views — which today, after more than forty years, can be called in question — I hope that making his way of thinking familiar will prove to have a certain heuristic value, independent of historical light I seek to shed.

2. Signs and linguistic formations

The name Ingarden usually gives to words, phrases, sentences, and complexes of sentences is usually the term "linguistic formations". These linguistic formations show some likeness to signs. Both linguistic formations and signs are — according to Ingarden — the so–called two–sides (or two–ply) objects. (Today this is a rather common opinion, but not in Ingarden's time.) Two–sided objects have both a "get–up" and a function performed. But the linguistic formation and the sign are different on both sides.

The most essential difference concerns the second "stratum", namely, the function performed. In Ingarden's opinion an object is the sign when it indicates an object other than itself, and by means of its own existence it causes the conviction of the existence of the denoted object. Thus exanthema can be a

sign of allergy, and smoke, a sign of fire and so on. But it is not imperative that there be a causal nexus between the signs and the designated object. Therefore the traffic–signal is a sign also.

One cannot attribute these properties to all linguistic formations. For among them one can find some formations which do not designate (namely, the so–called functional words), others which do not cause conviction of the (real) existence of the designated objects (for example, some names), and still others with which such a conviction is connected, though it is caused by a special act (namely, the act of judgment) for which the given linguistic formation is only a tool.

The difference in the first "stratum" lies in the fact that the get–up of signs is the object–specimen and that of linguistic formations is the object–type (first of all, sound–type, and then symbol–type).

3. Meaning

The second "stratum" of the proper linguistic formation is meaning. To explain what meaning is in Ingarden's mind, one need to appeal to the notion of "intentionality." This notion Ingarden adopted from Edmund Husserl, who himself developed it from the ideas of Franz Brentano and Kazimierz Twardowski.

Intentionality is, in Ingarden's estimation, a property of the specific relation between objects. This relation — namely, the intention — between object *x* and object *y* occurs, when: (i) object *x*, i.e. the *intentio* object, is different from object *y*, i.e. the intentional object; (ii) *x* seemingly exceeds itself, indicates *y*; (iii) *y* is transcendent to the intention itself.

Ingarden speaks of two kinds of intentional objects. If the intentional object exists autonomously and independently of the *intentio* object, Ingarden names it "the co–intentional object". If an intentional object exists non–autonomously and dependently on the *intentio* object, it is for Ingarden a purely intentional object. It should be explained here that an object exists non–autonomously, when its properties are granted to it from outside. For example, properties of an object imagined by my reader (if he imagined anything at all, let us suppose he has) are not properties immanent to — let us say — a woman imagined by him, but are only granted her by her "creator". We cannot say this about a lady, who is — for instance — reading this paper. Her properties are her own properties; they inhere in her; thus she exists autonomously. At the same time the object *y* exists independently of the object *x*, when it does not claim co–existence with the second object, i.e. when for example destroying the object *x* results in no changes in the existence (in the ontological sense of the word) of the object *y*.

Intentionality, i.e. the capacity to create an intention, belongs in its original form to human experience. Let us take the following example: somebody looks at me. The *intentio* object here is this person; the intentional object — also called the co–intentional object — is me. Another example: the same person imagines his wife or simply thinks of her. This imagined or thought of wife is a purely

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intentional object. Moreover, it is originally a purely intentional object, as an immediate product of this person's experience. No burst of his consciousness would make me either non–existent or for example a perfect writer in Chinese. Furthermore, I cannot — as a co–intentional object — be internally contradictory: I cannot be white and black at the same time.

However, it is precisely my reader who creates and grants the properties of objects of his own thoughts and dreams. And by and by, these objects can be internally contradictory. My reader can, for example, think of a woman, who is white and black at the same time — in his thinking of course.

This fact is possible thanks to a certain detail in the structure of the purely intentional object. The structure of any object is, according to Ingarden, determined by three factors: the formal structure, the material structure, and existential character. In other words, every object has a certain form, a certain set of properties, and exists somehow. The peculiarity of the purely intentional object is its possession of the so–called content, which is the moment of its material structure. This content of a purely intentional object has its own formal structure and existential character as well. For that reason Ingarden speaks of the double structure of the purely intentional object.

Let us come back to my reader, who imagines for himself his wife. She is probably imagined by him as a human being (the formal structure of a thing), existing in the spatio–temporal world (real existential character), and being a very beautiful, pretty, and intelligent lady and so on (a certain material structure). But this imagined young lady is only the content of an object in my reader's imagination. And this object, as a pure intentional object, has quite different properties. One cannot say that it is the real thing (his wife being, let us suppose, imagined as being real), or that it is an intelligent lady (for it has a material structure different from that of its content), and so on.

As an originally purely intentional object, the image of my reader's wife is his own actual product. The original purely intentional object is, in Ingarden's mind, the mono–subjective object. This means that my reader is the only person, who can give us a real description of his wife as imagined by himself.

But there are also purely intentional objects which are intersubjective objects. Ingarden names them "derived purely intentional objects".

Let us return once more to my reader's fantasy. Imagining is an act in his experience; thus the subject of his actual imagination is an original purely intentional object. But his wife can become a purely intentional object in another way, for my reader will imagine her just now. She — as a purely intentional being — can be fixed by a certain linguistic formation, for example just by the description "my reader's wife". Now we have two sequences: my reader — his imagination — the imagined my reader's wife; and "my reader's wife" (i.e. a sound–or–symbol–type) — its meaning — the designated my reader's wife. What is the difference between the imagined and designated reader's wife? The intentional correlate of the linguistic formation is — in Ingarden's terminology — the schematic object.

One can not tell much about the properties of the *designatum* of the word "my reader's wife", when one knows nothing of my reader's wife from other sources. Ingarden says that derived purely intentional objects have imperfectly–definite space in their content.

Now we are prepared to understand Ingarden's conception of the linguistic formation. The proper linguistic formation is a specific two–sided object, composed of a sound–(or symbol–)type and a meaning. The meaning is a sort of potential intention, which is conventionally connected with the sign–type and is actualized during the process of understanding. This actualization is first of all the fulfilment of the imperfectly–definite space, mentioned above.

4. The kinds of the meaning

Every act of experience always fixes only one intentional object. Every act in particular: (i) apprehends somehow (at one stoke or step by step or by–and–by) the content of this object; (ii) attributes some (more or less numerous) properties to this content; (iii) ascribes to it a certain structure (of a thing, activity, event, relation, property, or state of affairs); (iv) establishes a certain (real, purely intentional, or ideal) type of existence for the content; and (v) somehow establishes this existence (in a mode of certitude, possibility, doubt, negation, or demand). And that is why Ingarden speaks of at least five possible moments of the intention, of the potential intention (i.e. of the meaning) in particular: (1) an intentional direction indicator, (2) material content, (3) formal content, (4) existential character, and (5) existential thesis. (By "a moment" Ingarden understands "a non–self–reliant component".) He distinguishes three kinds of intention: static, dynamic, and synthetic. Dynamic intention is intention, which — in contrast to static intention — has no intentional direction indicator. Dynamic intention belongs (potentially of course) to verbs, and static intention, to names, whereas synthetic intention is improper to sentences.

We shall limit ourselves to the analysis of verbal and nominal meaning only. Moreover we shall get to know Ingarden's views on the so–called in proper linguistic formations.

5. The name

To have an example of Ingarden's method of analysis, let us see what the meaning of a name looks like. The meaning of a name, as a derivative potential intention, has the five moments mentioned before, i.e. an intentional direction indicator, material content, formal content, existential character, as well as an existential thesis. This means that, according to Ingarden, the isolated name determines not only what is names (i.e. the constitutive nature of the content of the purely intentional correlate) and that which this named entity is (i.e. the material and formal structure of the content), but decides how and whether (or with what power) the indicated and determined object exists (i.e. the existential character of the content).

For example, the meaning of the name "a woman": (1) refers to something, namely to a woman; (2) determines that this object is an adult female human being; (3) determines that the object is a thing (and not, for instance, a property); (4) decides that it is a real thing (and not, e.g., ideal or intentional); and (5) decides that this thing certainly exists.

The kind of the intentional direction indicator determines the sort of the given name. In considering the number of the indicated entities Ingarden speaks of: (i) the mono–radiant indicator (that of singular names, like "the woman", "the Pole", etc.); (ii) the multi–radiant indicator (that of plural names, like "the women", "the Poles", etc.).

In his consideration of how much entities can be indicated *in a term,* Ingarden distinguishes: (i) the settled indicator (that of strictly proper names, like "Hungary," "Mikołaj Kopernik", etc.); (ii) the changeable indicator (that of general names, like "a country", "a man", etc.).

An interesting feature of the material content of the meaning is the presence of the so–called variable and non–variable components. The material content of the name "a woman" determines explicitly that the question is about an adult female human being of a particular color of skin (the non–variable component), but it does not determine, whether the color is white, yellow, red, or black (an inconstant component). Ingarden speaks too about actual versus potential components of the material structure. Nobody can be certain whether he is able to recognize all properties or even all kind of properties of a given *designatum.* The material structure, in Ingarden's terminology, has a set of non–actual, potential components.

6. The verb

Contrary to the nominal meaning, the meaning of the (isolated) verb is not self–standing. This is because it lacks an intentional direction indicator and the moment of existential character, as well as probably that of the existential thesis (being a potential one). However, the meaning of the verb has two other moments, namely: (6a) the subjective (or verbal) indicator and (6b) the objective indicator — in the instance of the transitive verb only. These are the so–called backward indicators. They turn not toward the intentional correlate of the verb, i.e. not toward the activity, but toward either the subject of this activity (in the case of the subjective indicator) or toward the object of the given activity (the objective indicator).

Thus verbal meaning has, according to Ingarden, the following moments: (2) material content, (3) formal content, (6a) a verbal indicator, and occasionally, (6b) an objective indicator.

The meaning of the verb "plays" for example: (2) determines that the question is about, let us say, performing on a musical instrument; (3) determines that it is in any case a certain activity; (6a) indicates the subject of this activity (for instance — a man); and (6b) indicates its object (for instance — a sonata).

The difference between verbal and nominal meaning will be more clear if we compare the mentioned verb "plays" with the name "playing." The meaning of the noun "playing" has the very same material and formal content, but it has besides an intentional direction indicator, and the moment of the existential character as well as that of the existential thesis. This means that the activity named by the word "playing" is apprehended as a subject of possible properties (i.e. *substantia*), and is established as real and actually existing being.

7. Improper linguistic formations

Among linguistic formations one finds formations which do not "produce" their own intentional correlate (i.e. which do not have the moment of the material and formal structure in their meaning), but which perform certain functions relative to the correlates of other linguistic formations — or simply to linguistic formations only. One may say that these formations have *sensu stricto* no meaning at all. Ingarden calls them "improper linguistic formations" (or "functional words").

He gives most of his attention to the logical functors, analyzing especially the functions of the formations "is", "if …, then …", "some", "only", "every", and "and", as well as "no". As an example showing the pattern of Ingarden's analysis I shall present his description of the functor "is". It can fulfill both the function of predicating and of existential stating. Predication has four modifications: (i) attribution: in a sentence like "The cat is black" "is" is equivalent approximately to "has the property"; (ii) inclusion: in a sentence like "The cat is a mammal" "is" is equivalent to "belong to"; (iii) identification: in a sentence like "Wrocław is the main city of Polish Silesia" "is" is equivalent to "refers to the same as"; (iv) appellation: in a sentence like "This is a cat" "is" is equivalent to "is called".

The function of the existential statement consists in stating the existence of something: in a sentence like "There is the most beautiful woman in the world" "is" is equivalent to "exists".

8. Language as a tool

Language is, according to Ingarden, the product of two mutually connected human acts: speaking and sense–giving. That is the reason for the two–sidedness of linguistic formations. As we remember these sides or strata are: the sound–(or symbol–)stratum and the meaning–stratum. The sound–stratum is the carrier of the meaning, while the meaning–stratum is the producer of the derived purely intentional correlate of the linguistic formation. Hearing or reading, we actualize the meaning, i.e. the potential intention; in the performance of writing, we give evidence of the sense–actualization. The actualization of the meaning leads to the production of the appropriate purely intentional object. One can say that the linguistic formation has the capacity for the intimation of the sense–actualization, and for the presentation of the intentional correlate of the actualized intention.

The functions of intimating and presenting are the specific functions of language. Through them language becomes the main tool of the human communication. Two other functions of language are not functions peculiar to it. I mean, first, the function of effecting, i.e. the engendering of certain behavior in the recipient, and secondly, the function of expression, i.e. the manifestation of a particular spiritual state of the speaker (or sender).

Let us consider the following example — somebody tells me indicating the blackboard: "The blackboard is white". This sentence: (a) presents or intentionally produces a particular state of affairs, namely that the blackboard is white; (b) intimates to me the actualization of its meaning made by my interlocutor and provokes in me a similar actualization; (c) effects me, creating for example my astonishment (over why, the blackboard is not white); (d) expresses the state of my interlocutor's mind, for instance his being in good humor and the like.

As the tool of communication — language is a cognitive instrument first of all. In Ingarden's opinion we have two modes of cognition: perceptive and mental. The most important form of mental cognition is judgment. To judge is, according to Ingarden, to perform four interrelated activities, namely: (i) to isolate mentally a certain state of affairs from its environment; (ii) to predicate, i.e. as if to open up this state of affairs; (iii) to ascertain it; (iv) to absolutize this state of affairs, i.e. to recognize it as an autonomous one.

9. The problem of truth

For Ingarden a sentence is true, if and only if beyond its intentional correlate it has an objective correlate corresponding to the content of the intentional correlate. Immediately, one can see that the truth of sentences is possible only when the semantic categories are capable of mapping reality. This does not mean that every kind of linguistic formation or every kind of grammatical category must have an objective correlate in the form of sense–data, for example. After all, the most functional words have no objective correlates in reality, even though one cannot deny that they have the cognitive significance.

According to Ingarden's point of view reality is formally very rich. It is composed of things, activities, events, relations, properties, and states of affairs. It corresponds to the multiplicity of semantic categories of natural language. A particular ontic category is rendered by a certain semantic category. Thus, things are best rendered by names; activities, by verbs; states of affairs, by categorical sentences; etc.

To be sure, all ontic categories can be nominalized, i.e. grasped by names, but this would be adulteration of the reality. Thus, the objective state of affairs: *A* is *B* — one can grasp by name "*B*–al *A*", if *B* be made an adjective, but the adequate expression in this instance is "*A* is *B*".

10. Some critical remarks

Descriptive psychology is concerned with experiences. This does not mean, however, that it is limited to the description of individual experiences. Contrary

to Husserl's opinion, descriptive psychology also classifies individual experience. Kinds of experiences are not, as Husserl claimed, discovered through phenomenological investigation. They are established by the classifying of experience which is done in "ordinary" psychology. The novelty of Husserl's phenomenology was only that kinds of experience were assigned a specific, extra–real, unchangeable existence, and thus that the very activity of generalization was considered to be a specific form of perception, i.e. ideation. Ordinary psychology places experiences into respective categories, i.e. classifies them, the properties of the experiences classified which are not important for the principle of classification adopted being omitted; thus, generalizations have to be made. To accomplish ideation, i.e. to perceive Husserl's hypostatized types (and according to Husserl this is something different from imagining), the so–called phenomenological reduction must be carried out.

Ultimately, the whole of Husserl's phenomenology is a more or less consistently hypostatized descriptive psychology. This is probably due to the fact, that Husserl's views were underlain by a protest against some defects of the psychology of his time. As a result of its extensive development in the late nineteenth century, psychology became a paragon for and justification of all other sciences. There was, that is, a tendency to reduce the laws of logic to rules of thinking, and thus, of experiencing. This was the psychologism which Husserl so vigorously opposed. He justly indicated that although understanding the rules of thinking helps to understand the rules of logic and *vice versa,* it is impossible to conclude that they are identical. Unfortunately, even as he opposed psychologism's identification of the objective rules of logic with subjective, psychological truth, Husserl misunderstood the objectivity of logic. He considered the rules of logic to be objective and thus exact because they are not dependent on man and experience. They are, however, exact because they are assumed by common agreement, i.e. because they are (in a certain sense of the word "assumption") subjectively assumed. They do not depend on experience, but their acceptance, i.e. agreement on them, does. Rules of logic must be made exact just as a knife must be sharpened and a microscope, set. Only after being made exact are they good tools for cognition and work.

Husserl effectively opposed the extreme psychologism which identified logical formulations with individual experiences. His phenomenology, however, is not free of psychologism, if the conviction that the justification of the rules of logic should be sought in the rules of thinking, which conviction Husserl did not want to abandon, is considered to be psychological. To preserve an ill–conceived objectivity of the rules of logic, Husserl assumed an equally ill–conceived objectivity of the rules of thinking. That led to the peculiar view that discovery of the regularities of thinking and of experiencing in general is not the description of something subjective, and human, but of something objective, i.e. independent of man, extra–human, or rather suprahuman, to describe the idea briefly. That is, basically, the crux of the whole of Husserl's phenomenology. Identity of

meaning is insured therein not by the similarity of human experiences but by the existence of experiences *in specie.* Pure grammar (description of semantic categories) is not to be a generalization of particular grammars (i.e. descriptions of the grammatical categories of respective languages) but an aprioristic science. The discrepancy between a linguistic formation and reality is held to be due not to the unavoidable inaccurateness of words resulting from the fact that it is impossible to name each object with a separate word (and, presumably, there are not two identical objects) but to the unavoidable imperfection of reality itself which is only an accidental shadow of the hypostatized ideal possibilities.

There is no room here to assess how accurately de–hypostatized phenomenology gives an account of the structure and variants of linguistic experiences (experiences connected with language). Whatever the assessment, though, it should be acknowledged that Husserl's distinctions are proof of considerable effort made to put in order psychological terminology and eliminate misunderstandings resulting from ambiguity of expression. Unfortunately, at the same time, too many imprecise expressions are used to denote the same objects; this pertains to names of such basic objects of Husserl's investigation as act, fulfillment, meaning, etc. As a result, Husserl's concepts sometimes become simply impossible to understand.

Ingarden's works are a step forward in this respect. First of all, he made an attempt at developing the phenomenological theory of meaning, rejecting Husserl's view that meanings are ideal objects. The phenomenological theory of meaning lost, in Ingarden's conception of it, its phenomenological character and became an "ordinary" psychology of language. However, Ingarden inherited Husserl's tendency to hypostatize and did not speak in plain terms. Twardowski considered his essays on language users' relation to language to be psychological essays or essays in psychology, grammar, and logic, whereas Ingarden was convinced that in describing experiences connected with language use he was practicing logic.

It is obvious that in perceiving, i.e. listening to or reading, a linguistic sign one can learn about: (i) objects named or described by the sign; and (ii) experiences of the receiver: concerning the objects named (described), i.e. about his apprehending or imagining those objects; or concerning objects not directly named (described) but which only accompany the apprehending or imagining of those objects.

Obviously, the sender himself can produce (write or say) a linguistic sign to let the receiver know about either the objects names (described) or about his experiences, or to influence the receiver in some way, i.e. to induce him to perform an action.

The first of the above presented relations, namely naming (describing), that refer to reality, reality being a set of objects with their various details, belongs, I believe, to the scope of logic. Laws laid down by logic are assumptions that people themselves have established.

The second relation, namely expressing, that is, referential relation between language and its users, the language being the network of linguistic formations, is, in my opinion, part of the domain of psychology. Laws set up by psychology are generalizations of what is, to a great extent, independent of the users.

It must not be forgotten, however, that when speaking about naming (describing) objects and expressing experiences we speak figuratively. For, firstly, not the very sounds and symbols but the sounding, i.e. the uttering of sounds, and the writing, i.e. the putting down of symbols, may sometimes be a manifestation of certain experiences. The sound or the symbol "the Moon" or say "The Moon is round" is for example not an expression of imagining the Moon or thinking that it is round but uttering of writing the word or the sentence is. Only briefly, figuratively speaking can we say that the sound or symbol conveys a meaning. Saying so is justifiable only in that sounds and symbols are products of speaking and writing. Thus if we confront a sound or a symbol we may assume that it is a product of speaking or writing, and they, in turn, are expressions of some experiences of the speaker or writer.

Secondly, the sign is not a symptom. Let us put it clearly: "Sign *A* denotes object *a*" is a shortened version of the sentence: "People denote object *a* by sign *A*". Likewise, "Sign *A* denotes the same object as sign *B*" is a shortened version of the sentence, "People denote object *a* by sign *A* and by sign *B*". Of course the point is not to cease using such short–cuts for they make it easier to use the language. But if they are truly to do this one must be continually aware that they are only short–cuts. Forgetting this is a source of many misunderstandings in linguistic investigation.

Ingarden lacks such continual awareness, although he often calls for it. Only that can explain, it seems, the way in which he justified opposing linguistic formations to all other signs, both conventional (symptoms) and causal (diagnostic). For in the case of both signs (in Ingarden's understanding) and linguistic formations, only a certain "background" can make the occurrence (presence) of a sign or a linguistic formation evoke a conviction that what they refer to exists. The "background" environment differs for various signs; for a traffic sign, for example, it is the road, for a linguistic sign, it is a complex of other linguistic signs (contexts), the behavior of the user, the prefacing a statement with the phrase "I believe", the specific place of occurrence (e.g., the names of plants in botanical gardens), the fact that the place in which a given sentence occurs is called "a scientific paper", etc. What Ingarden said about signs in general in opposing them to linguistic formations, may concern only diagnostic signs, for only they by themselves confirm that what they are diagnostic of existence. Only similar carelessness in using short–cut expressions explains Ingarden's way of describing the so–called two–sided structure of linguistic formations. A linguistic formation sounds and means, i.e. it has a sound and a meaning. To describe a linguistic formation means to describe its two strata, two objects, sound and meaning. The next step is to anthropomorphize the objectivized

meaning. Meaning becomes for Ingarden (as, as I believe, it did for the Stoics) a potentialized intentional experience. That is to say "the meaning of *A"* denotes: (i) naming, i.e. relation of sign *A* to object *a*; (ii) the named object (*a*); (iii) the relation between sign *A* and sign *B* which denotes the same object as sign *A;* (iv) sign *B.*

Ingarden belived that a linguistic formation *means,* i.e. it indicates an object but also defines the object's properties, structure, and mode of existence and settles whether the object exists or not. It is obvious that such an understanding of the meaning of (independent) linguistic formations arose from the fact that Ingarden, although he had stated that the primary and fundamental semantic category is the meaning of sentences, studied first the meaning of names and only later extended the conclusions of his investigations to other linguistic formations (especially sentences). Similarly, the assumption of the existence of intentional objects arose from the wish to extend the formulation "A name pertains to an object" to embrace all linguistic formations, also empty names and sentences describing fictitious objects as well as false, interrogative, and imperative sentences, etc. Thus, linguistic formations referring to objective objects have been given a double meaning, and not only naming (i) has been confused with the sign denoting of the same object as the sign the meaning of which is being studied (iv) but also the activity of conceiving has been confused with the function of language; and as a result, the property of conjecturing, the object–forming property, has had its basis moved over from the experiencing man to linguistic formations, and this heedless of the reservation that it is the so–called derivative intentionality.

It might seem that if sign *A* is a name, then "Someone understands sign *A"* is a short–cut for the sentence "Someone knows that sign *A* means object *a"* or the sentence "Someone knows that sign *A* means the same as sign *B"* which is a short–cut for "Someone knows the people denote object a with sign *A* and also with sign *B".* According to Ingarden, however, understanding is the taking out, thinking of, a meaning; it is only an actualization, which activates a derivative intention, one previously attached to the linguistic sound (or symbol). Husserl reproached Twardowski for identifying meaning with the content of presentation, i.e. with the purely intentional object of Ingarden's understanding. Husserl, in turn, and Ingarden following him, believed that meaning is the presentation (intention) itself; but, as antipsychologists they, each in his own way, deprecated any understanding of intention as a concrete experience of a concrete person. Husserl believed intention to be an ideal presentation (*species*); Ingarden, in turn, believed that meaning is a potential presentation (a derivative intention). For, if meaning were an ideal, i.e. an unchangeable object, it could not, according to Ingarden, either originate a meaning or, while retaining its identity as a unit of meaning, combine with other meanings to make complex units, e.g., sentence meanings, which always lead to a change in meaning.

Ingarden's description of the structure of meaning is, in fact, a kind of objectivized, depragmatized description of the experiences of a language user. Moreover, Ingarden considered hypostatized meaning at one time to be a complex of factors generating an intentional equivalent, and, at another, to be an outcome of a particular intentional experience, namely the activity of creating a meaning. Meaning, thus, is at one time a derivative intention, and at another, a primarily intentional object attached to the linguistic sound (symbol). The same holds with purely intentional states of affairs. They are products of sentence meaning, thus are derivedly intentional objects, and together with equivalents of the meanings of adjoining sentences they intentionally determine, or present, objects "in which" they take place; these are derivedly intentional objects. And this too, makes it more difficult to understand Ingarden's reasoning.

Ingarden's view on the structure of meaning (at least that of names and verbs) could be defended by identifying some of the moments of derivative intention he differentiated with the functions of linguistic formations, i.e. with naming [of concrete objects — (i)] and experiencing [the degree of conviction as to their presence — (v)], and with other ones having the necessary elements of the *deflniens* of the essential definition, i.e. any one which mentions only those properties of the object defined by the *definiendum* from which all other properties can be derived. Such a definition ought to define what Ingarden called the material structure (2), the formal structure (3), and the existential character (4) of the equivalent of the *deflniendum.* For the name "the stone" for example, it would run: "The stone is a real (4) thing (3) made of stone (2)". Thus, merely the moments hidden, to a greater or lesser degree, in the very meaning of word "the stone" are clearly expounded. It is significant that Ingarden did not study the meanings of adjectives separately but included them in the meaning of names. It seems that they are dependent formations which serve to expound the moments of the material content and existential character of the meaning of names (in the case of the meaning of verbs the same role might be played by adverbs). In the case of our expression "the stone made of stone" would be identical with the moment (2) and "real" with the moment (4). This is suggested by Ingarden's remark that adjectival names assign their equivalents only one property. But this picture is blurred by what Ingarden said about materially, formally, or existentially contradictory names. An example of the first case might be "a wooden stone"; of the second, "a stone being a property"; and of the third, "an ideal stone". It might seem that since "a stone is a real thing made of stone," then the expression "a wooden stone" after having been expounded into "a real thing made (fully) of stone and wood" is internally contradictory for it simultaneously ascribes to an object two mutually exclusive properties: stone–ness and wood–ness. Ingarden, however, believed that the contradiction was caused by the fact that the direction indicator of a contradictory name was not co–directional with the material content. It can not be guessed what he meant because material content is not, from Ingarden's (and Husserl's) general standpoint, something directed.

The list of moments differentiated by Ingarden for verbal meaning renders his standpoint even more difficult to justify. It might be expected that for the verb "is petrifying" the essential definition would be: "real (4) activity of acquiring a property (3) of stone–likeness (2) by something (6)". Then, obviously, a definition equivalent of a sentence of the kind "The resin is petrifying" would be: "State of affairs (3): real (4) activity of acquiring a property (3) of stone–likeness (2) by the resin (6)". However, Ingarden when discussing the meaning of verbs did not mention the moment of existential character. And this does not mean that a verb, e.g., "cries" does not exclude the ideal existence of the activity to which it pertains, like, for example, the name "the stone", if we agree that ideal existence is existence at all.

For the above reasons Ingarden's thought cannot be *in toto* retained, even if some of its fragments can be modified and reinterpreted.

14. On Jan Salamucha's life and work

1. Life

Jan Salamucha was born in Warsaw on the 10th of June, 1903. His mother was Stanisława born Marciniak (1881–1919) and his father was Andrzej Salamucha (1876–?), at the moment of his son's birth a workman, and later a molder in one of foundries in the Warsaw quarter Wola. Fulfilling his mother's wish, on the 1st of September, 1919, he entered the Warsaw Metropolitan Seminary.

From August to October of 1920 he took part in the Bolshevik–Polish war and volunteered to work as an olderly. On the 1st of February, 1924 — soon after completion of the Seminary — he was accepted at the Faculty of Catholic Theology of Warsaw University, where he studied at the Philosophy Department. His philosophy lecturers were František Jehlička, Tadeusz Kotarbiński and Wiktor Wąsik; logic — Stanisław Leśniewski and (probably) Jan Łukasiewicz; mathematics — Stefan Mazurkiewicz and (probably) Wacław Sierpiński; psychology — Stanisław Kobyłecki.

In 1925 he was ordained. On the 30th of November, 1926, he obtained the title of *magister theologiae speciaem philosophiae* for his work *About categories* πρός τι in *Aristotle* written under Kobyłecki guidance. On the 11th of October, 1927, he passed doctor's examination (one of the examiners was Łukasiewicz), and on the 24th of October of the same year he obtained a doctorate on Christian philosophy for the work *Theory of modal consequence in Aristotle. Critical study.* The professor conferring a degree was again Kobyłecki.

In 1927–1929 he studied at the Gregorian University in Rome, where among others, he attended lectures on cosmology given by the Dutch logician Pierre Hoenen. For the work *De deductione apud Aristotelem et S. Thomam* he received the title of *magister aggregatus Universitatis Gregorianae.* Polish version of this work — *Pojęcie dedukcji u Arystotelesa i św. Tomasza z Akwinu* [*The notion of deduction in Aristotle and St. Thomas Aquinas*] (1930) — was the base of his postdoctoral examination at Jagiellonian University, which happened under the guidance of Konstanty Michalski on the 2nd of June, 1933.

2. Work

After he came back from Italy, from the 1st of October, 1929, to the 31st of August, 1933, he was teaching classes on philosophy at the Warsaw Seminary. In compliance with the instructions received from his superior authority, he followed the book *Elementa philosophiae scholasticae* by Sebastian Reinstadler (1913); but he only followed the order of the subjects discussed in this book, but he was teaching "his own way" — as he informed in his letter of the 21st of October, 1934, to Józef M. Bocheński. He was also teaching in Polish, not in Latin, as it was accustomed to.

After the closure of Salamucha's postdoctoral lecturing qualification course, on the 8th of June, 1933, the Board of Faculty of Theology of Jagiellonian University proposed the approval of postdoctoral lecturing qualification, his appointment for a position of an assistant professor and also that the second department of Christian philosophy should be opened especially for him. Because of intrigues of personages being hostile to Salamucha, his qualification was accepted by the Ministry of the Religions and Public Education only on the 17th of November, 1936. In the meantime, he delivered lectures at the Warsaw Seminary and then — from 1935 — at Jagiellonian University, where, on the 6th of December, 1938, he finally was appointed for an assistant professor of the Christian philosophy.

During years of employment at Jagiellonian University, Salamucha was lecturing on logic, epistemology, cosmology, theodicy and history of the ancient philosophy; he held classes on formal logic and epistemology and seminars on history of logic. According to the rules of the department that he received, it was only allowed to study, discuss and continue the work of St. Thomas. Later, Salamucha used to say jokingly, that working on symbolical logic — he was actually following the third option of the above mentioned. In fact, he also studied and commentated Thomistical tradition: among others *Secondary analytics* by Aristotle with St. Thomas' comments, the work *Ars logica* by John of St. Thomas and episodes of St. Thomas' treatise *Summa contra gentiles.*

Apart from teacher's duties and hard scientific work, he was also active in many different fields. He took part in the Second (Warsaw, 1927) and the Third (Cracow, 1936) Polish Philosophical Congress. On the occasion of the last one, on the 26th of September, 1936, he organized — together with Michalski, Bocheński and Jan Franciszek Drewnowski — a discussion which originated the so–colled Cracow Circle, being some kind of the Catholic «branch» of the Lvov–Warsaw School, into which Salamucha — as a student of, among others, Kotarbiński, Leśniewski and Łukasiewicz — was included and he himself would admit.

3. Personality

Salamucha was a tall, well–build, broad–shouldered man. According to the report of Maksymilian Majewski, "he represented a type of an anthropological disharmonic, with the domination of Nordic and Mongoloid features. Slant–eyed, with the well–developed cheek–bones and concave nose — his face looked a little rough–hewed", with some Tatar features ("salamacha" — in Tatar language means "a noodle") and deep, although slightly hazy look of his magnetic eyes, usually covered with glasses. He did not treat too seriously his apparent Tatar origin, and made a joking remark, when in *Krytyka poznania* [*Criticism of cognition*] he gave the example of a true proposition: "Pilaw is the most favorite Eastern meal; it is made out of fat mutton cooked with rice and poured over with butter" (1995: 194).

Talented and hard–working, "he fought his way through to the possibility of studying at a cost of great sacrifices" — as stated by Tadeusz Glemma. He spoke

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seven foreign languages: Greek, Latin and also English, French, German, Italian and Russian. In his letter to Bocheński dated on the 2nd of April, 1939, he wrote:

> What am I doing that I am so tired? When I look at the days to come, there is so much to be done; when I look behind, so little has been done, and every day is so packed, that sometimes even the matter of 5 more minutes becomes a huge problem.

And he would add jokingly:

> I am coming to the conclusion, that luck of moderation at work can actually be a sin more harmful than the luck of moderation in eating and drinking.

He had a precise mind, but at the same time, a sensitive heart. According to Michalski:

> He learned [...] scholastic philosophy, but also he deeply experienced Pascal and Cardinal Newman [and also works of Sertillanges and Rousselot]; during his studies in Rome, he would intently watch with admiration at the ancient sculpture and masterpieces of Italian paintings; he would listen with rapt attention to the classical music and he loved poetry.

As Majewski reports, Salamucha used to say: "What is clearly thought of can be precisely expressed". He would admit that "while doing his arduous and detailed scientific work", he would have "experiences similar to artistic experiences". It is possible that his sensibility was a reason of the breakdown he went through in 1933 because of the failures in his life. Five years later, on the 9th of December, 1938, he told Bocheński:

> I would look at a lot of matters of this world much more peacefully, if I could find some more clear criteria to exclude from some situations an indolence of the good people and intrigues of the evil ones: it is easy to surrender to God's Providence, but not so easy to surrender to evil people.

Concentration camp experiences caused that his sensibility turned into sensitivity.

He was firm, but at the same time charming. Since childhood uncompromising in discussion — he was a type of a «rigid» Catholic. This severity however had nothing to do with dogmatism: Catholicism — as the dogmatic incomplete system — according to him needed to be «completed» by individual activity. And — as Jan Dobraczyński pointed out — "he was charming people, who were involved with him in any way".

He knew how to combine moral courage and "combativeness" with the responsibility. Once at the concentration camp in Sachsenhausen, when some

young SS–man started to torment one of the older priests professors, he asked: "Aren't you ashamed of torturing somebody who could be your father?"; and to everybody's surprise the SS–man blushed and left the barrack without any word. Using words of Andrzej Grzegorczyk, one of his students of the occupation time, "he lived seriously in every detail". But he would unite it with *esprit de contradiction*. When accused that he did not put enough heart into his sermons, he started saying the word "heart" wherever it was only possible — as Maksymilian Majewski reported. He was always preparing his sermons and lectures with great care. "Every speech should have glamour of the freshly washed and ironed linen" he used to say, referring to Stefan Żeromski's opinion on Thomas Carlyle style. His voice was low and strong: even when he whispered, the whole church could hear his words very clearly. Having a feeling that he may die, on the 1st of September, 1939 — before he left Cracow for Warsaw — he made his last will, in which he bequeathed his whole scientific collection of books to the Faculty of Theology of Jagiellonian University.

He believed that "the greatest thing is to do good to one's friends". He had a lot of friends among people of various character, world outlook and occupation — most of them were obviously philosophers. Among others Michalski, Bocheński and Drewnowski belonged to them. He also united in marriage tie Henryk Hiż — declared atheist — and Danuta born Wicentowicz.

He loved nature. He would go for canoeing rallies, but most of all he liked mountain–climbing. When he was studying in Rome, he tramped around Appenines and Alps. In Poland he would set out into Tatra Mountains. As mentioned by Michalski — "he was resting the best when he was on Fajki, when he was climbing Lodowy from Kopa Lodowa side or when has was conquering Szatan". In his letter to Bocheński (dated on the 9th of August, 1937) he wrote:

> I [am] a little scared of the precipices, although […] I am still walking even on clamps with a nonchalant smile. The fear starts — so I say — much further. But overcoming this fear refreshes a man in a peculiar way and makes him really stronger. Sometimes when I am standing on the top of some difficult summit of the mountain, I am thinking why I actually got there, but when I come down, I feel stronger, and after some rest, something up there high is calling me again.

4. War and death

The last remained letter to Bocheński — written on the 14th of June, 1939 — Salamucha ended with the following words:

> We are calm and decisive, but what is going to happen, we do not know anything.

The outbreak of the II world war found Salamucha in Cracow. Before the Germans took over the city — with the permission of Archbishop Adam Sapieha — he went to Warsaw, where on his own request he became the chaplain of Bem

Fort Crew. In the last part of the battle, he commended the defense of the fort. With his head wounded, he got decorated for his courage and self–control with the Cross of Courage. He got out of the prisoner–of–war captivity, thanks to help of the camp doctor — and he returned to Cracow.

On the 6th of November, 1939 — together with 182 other lecturers of JU — he was arrested by Germans. From the prison at Montelupich he was taken to Wrocław. Then he was staying in the concentration camp in Sachsenhausen (from the 28th of November). When — on Archbishop Sapieha intervention and action of the commitee created in Rome by Bocheński and Walerian Meysztowicz, and also after some steps taken by Count Galeazzo Ciano, the Italian Ministry of Foreign Affairs — Germans released priests professors, Salamucha and Michalski, under the pretext that they were not 40 yet, were taken to the camp in Dachau. Both of them were released only on the 4th of June, 1941, thanks to intervention of Łukasiewicz and with the help of the German logician Heinrich Scholz, Salamucha returned to Cracow; visited by his friends (also visited by Archbishop Sapieha) — who took great care of him, for many weeks he was trying to cure nutritional edema.

In the spring of 1941 he went to Warsaw and started to work as a vicar at St. Jacob's parish. He threw himself immediately in the middle of the priesthood, tutorial and scientific work and in the middle of the fight against the invaders.

During Sunday masses in St. Jacob's church he gave very popular sermons for the intellectuals. He gave lectures for more open public within secret courses of the Catholic Academic Association *Iuventus Christiana* and he was the chaplain of the VII Circle of this Association; among the listeners of his lectures was Karol Irzykowski. He was also in charge of *Caritas*. He was giving lectures on mathematic logic and metaphysics at the secret Seminary of priests–Orionists — which were organized by Biago Marabotto — and at the Faculty of Arts of the Underground University of the Regained Territories. He belonged to various underground academic groups, among others, Intercollegiate Committee of Postdoctoral Lecturing Qualification which on the 13th of June, 1944, conferred the diploma to Stefan Swieżawski. He participated in underground seminar meetings by Łukasiewicz and Adam Krokiewicz. The seminar was about Aristotle's logic and was a continuation of their pre–war seminar, which started in 1936. To the group of these seminar participants, belonged later on famous in the world logicians such as Hiż, Jerzy Słupecki and Bolesław Sobociński (almost in front of his very own eyes Salamucha was murdered). In his letter to Michalski dated on the 24th of December, 1941, Łuksiewicz wrote:

> Me and dear Fr. Jan we are seeing each other every week; he is in a quite a good shape and continues studies.

Salamucha also attended seminars held by Tatarkiewicz and prepared under his guidance a volume *Zagadnienia filozofii* [*Problems of philosophy*] ordered by active then in Warsaw bookseller from Poznań Stefan Dippel.

Apparently he was a member of the commanding authorities of the National Armed Forces. A few times he wrote for the rightist *Walka* (it was possible to identify only one of his texts), which was an occupation continuation of *Prosto z mostu* managed by Stanisław Piasecki. He mediated in uniting negotiations NAF and HA, which happened, thanks to Tadeusz "Bór" Komorowski initiative, in the spring and autumn of 1943.

Before the Uprising, Warsaw Curia asked him to work at the presbytery in Skierniewice, but he did not accept it.

On the 1st of August, 1944, after the Warsaw Uprising outbreak, he found himself in the so–called Wawelska Redoubt in the quarter of Ochota. He did duty for the chaplain, but in fact he was a moral leader of the insurgent detachment — 160 people strong — which foghts bravely for ten days. When ammunition and grenades ran out, «war council» of the redoubt took the decision of evacuation of the detachment thorough the sewers to the quarter of Śródmieście. However Salamucha remained with injureds. "If I did not fulfill my priesthood duties, I would not be able to do anything valuable anymore" — he explained himself. And he added with a smile: "I am too tall anyway — I would not fit in the sewers". In consequence, on the 1th of August, he was bestially murdered by bandits of the so–called Russian Liberating National Army [Russian: RONA — Rossijskaja Osvoboditelnaja Narodnaja Armia], special «international» formation of SS, delegated to fight against Polish insurgents.

Slaughtered body of Salamucha was found a few months after the Uprising suppression, and then buried in the common grave for priests killed in the II world war. He rests together with all of them at the Warsaw Powązki (Civilian) Cementary.

5. Methodology

Short life did not give Salamucha the opportunity to fully systematize his own philosophical opinions. However, on the grounds of the work left, the essential part of his position can be reconstructed. We start from his views on methodology.

5.1. Knowledge and belief

In Salamucha's opinion, psychology is neither a part of philosophy — nor the whole philosophy, as psychologists wanted it to be. Nevertheless, within the range of philosophical researches, there are included — if not all, at least some of — psychological acts. Assertive acts (scil. opinionative attitudes) certainly belong here.

According to the type of motivation, assertive acts are rational or irrational.

We accept some truths, because they are obvious to us: we can justify them directly, referring to intuition or empiricism, or indirectly, deducing them — on the way of (correct) reasoning — from the directly obvious truths; such obvious

opinions can be called the demonstrative opinions. The demonstrative opinions are rational opinions.

Also irrational are such opinions, motivation of which we do not realize at all (often the so–called common–sense opinions belong here) or opinions that have clearly emotional motivation; in this case we accept some truths «by habit» or because they are «dear» to us.

There are also such truths, which we accept, because they are accepted (*or* given) by someone who is an authority to us; such truths Salamucha calls the authoritative opinions. The authoritative opinions are situated on the line of rational and irrational convictions. The act of acceptance someone as one's authority, in a way always has an emotional motivation; however if we do recognize someone as our authority, then the acceptance of the truths that he proclaims has a demonstrative motivation (because of the fact that someone is an authority in some domain — that is within this domain he accepts only true propositions — and he accepts, that *p*, follows *p*).

All and only demonstrative opinions compose the knowledge — from the subjective (psychological) point of view. I know that *p*, always and only if my opinion, that *p*, is a demonstrative opinion. I am sure more or less of something: a complete psychological conviction is a state excluding serious hesitation. All irrational opinions together with authoritative opinions form a belief — in the subjective respect. I believe that *p*, when my opinion, that *p*, is an irrational opinion. A subjective belief may also have different degrees: it may be strong or it may be irresolute.

Knowledge in the objective sense means the same as the set of truths which are the subject of demonstrative opinions; belief in the objective sense means the same as the set of truths which are the subject of irrational (and authoritative) opinions. From among demonstrative opinions, let us remove these opinions, which directly or indirectly refer to intuition, and let us call the rest of them — "methodical". From the objective angle, the truths which are the subject of the methodical opinions form scientific knowledge (scil. science). An objective conviction is attributed to scientific truths as much as they are empirically obvious or they have a correct (logically) proof.

Neither objective knowledge and belief, nor subjective knowledge and belief can conflict with one another. It cannot happen, that at the same time it is true that *p*, and it is true that $\sim p$. It also cannot happen that someone accepts that *p*, as well as that $\sim p$. Accepting contradictory opinions is according to Salamucha a criteria of the inner hypocrisy (scil. insincerity) or of the mental confusion (scil. mental disease).

5.2. Language

Opinions — both belonging to the domain of believe, and the ones forming knowledge — are expressed by the language, more precisely: by propositions. It does not mean that the language is a necessary tool of thinking. Salamucha says (in *Krytyka poznania* [*Criticism of cognition*]):

Even us, although we are already «demoralized» by making the thinking easier with the help of the linguistic signs, sometimes in ourselves we ascertain psychological situations, when for the given thought we are looking for a linguistic expression and we cannot find it (1995: 219).

There is a special kind of propositions, which are general propositions, that the scientific knowledge is expressed by. Necessary elements, especially of such propositions, are general expressions; the language which is the set of signs explicitly one–to–one assigned to their designata, would be highly useless. Generality is set to some linguistic expressions, not because of the fact that apart from the real designations, they have some real general notions (scil. generalities).

In general notion we consider elements occurring in the same form in the different concrete objects and therefore we can build the notional knowledge about reality; general notions are not real, but they are intellectual tools to learn the reality (1995: 204–205).

Such — moderately realistic — is Salamucha's position to a question of dispute on generalities position (expressed by him in 1995).

Notions of the given language may have one meaning or many meanings. The particular kind of the last ones, are expressions which have many meanings *typically*. Let us compare, for example, two following propositions:

(1) Propositon "The Earth revolves around the Sun" is true.

(2) Proposition (1) is true.

The word "proposition" (and the word "true") is the expression which has many meanings typically: in proposition (1) its designatum is proposition saying something about not–linguistic reality, and in proposition (2) — its designatum is proposition (1), that is a proposition saying something about some proposition.

Salamucha considers analogical terms to be such expressions, which have many meanings typically.

Expressions, which have many meanings typically, used carelessly can cause antinomies. Protection against such antinomies is the following postulate of types'«purity» (accepted on the ground of theory of types): we can talk correctly about objects of any type, but it is not allowed to mix objects of the different types (1937f: 144). If we identify analogical terms as expressions, which has many meanings typically, also on their ground we have to mind similar restrictions.

5.3. Reasoning

Reasoning is the connecting of the unknown theses with the known theses in such a manner, that the truth or falseness of the thesis unknown follows from the truth of the known theses (1934b. 177).

In others words, on the basis of inference relation, reasoning is an addition of new theses to the theses, truth of which is accepted or assumed, done in such a way that through this connection the truth, or smaller or greater probability of the truth of these theses comes out.

Salamucha has made the classification of reasonings, considering two aspects: certainty or uncertainty of components of reasoning, and the relation between the direction of reasoning and the direction of inference.

The given thesis we consider certain, when we are sure about its truth or when we assume its truth. Because — in Salamucha's opinion — there is no scientific reasoning, where either both premises and the conclusion are (in this sense) certain, or when both premises and the conclusion are uncertain — therefore two possibilities remain:

(a) premises are certain and the conclusion is not certain — this reasoning Salamucha calls a deduction (scil. synthetic method);

(b) premises are not certain and the conclusion is certain — this reasoning Salamucha calls a reduction (scil. analytic method).

When it comes to the relation between the direction of reasoning and the direction of inference, again we have two possibilities:

(c) the directions are correspondent, that is from premises follows the conclusion;

(d) the directions are not–correspondent, that is from the conclusion follow premises.

On the basis of crossing of both divisions, Salamucha differs four kinds of reasoning, that he names successively:

(1) inference — in case (a) and (c),

(2) proving — in case (a) and (d),

(3) testing — in case (b) and (c),

and

(4) explanation — in case (b) and (d).

In other words, deduction contains — according to him — inference (therein — as a special case — the so–called mathematical induction) and proving, whereas reduction contains testing and explanation (therein — as a special case — so called natural induction).

6. Status of philosophy

6.1. Philosophy and logic

Philosophical systems belong to different orientations. Dissimilarity of these orientations, among the others, on one hand concerns searching method, on the other hand — the range of researches. Philosophical researches should be precise to the highest degree — this is a motto of the methodical maximalism. Philosophical researches should consider the whole reality — this motto may be called the ambitual maximalism.

It seems that the methodical maximalism has to go hand in hand with the ambitual maximalism. Scientific methods are truly precise.

> Philosophy is supposed to be a science, not a sentimental wondering about the world in a romantic style, or a chaotic set of some personal wild outpourings (1936a: 184).

Only the scientific methods guarantee objectiveness, because they refer to repeatable observations and experiments, and not to for example some elusive statements about an individual internal experiences.

> The necessary condition of science is the possibility to express what is scientifically stated, and it seems that our experiences always will be more rich, than what can be put in the forms of precise expressions (1939b: 420–421).

Only the scientific methods guarantee precision, because the reasoning allowed within these methods — is not just free speculations, but procedures submitted to rigor of logic. However, if a philosopher is to limit himself in his researches to scientific methods, he also has to limit the domain of these researches: not the whole reality is an empirical reality in this aspect.

If, for a change, a philosopher insists on the ambitual maximalism, then — one could think — he should give up the methodical maximalism. The ambitual maximalism has to go hand in hand with the methodical minimalism.

In Salamucha's opinion, a philosopher can reject the following disjunction: either maximalism of method and positivistic problem «diminution», or maximalism of range and romantic intellectual anarchy. Both maximalisms can be reconcilable, but "one has to be submitted to the other, if they are to coexist" (1936b: 85): the philosophical researches should be precise to the highest possible degree within the given domain of reality. This double — although partly relativistic — maximalism, is not any theoretical fiction: this was the rule of Aristotelism — also referring to Aristotelian traditions scholasticism, tried to carry it into effect. Salamucha refers to a little humoristic analogy (1936b: 85):

> In life practice relationships are somehow similar to described theoretical opinion of scholastics. On the regular basis an educated person cares not only for what he eats (a range), but also how the food is served (a method). But it would be clearly a symptom of some artificial and organic degeneration, if someone preferred to die out of hunger rather than eat not properly served food. And should it be any different in theoretical field?

In the end of *Krytyka poznania* [*Criticism of cognition*] Salamucha adds, seriously this time:

> The highest level of human knowledge is to know God, and one can get to know God *per es quae facta sunt, per omnia quae facta sunt* […]. From this comes the postulate of maximal range. But God does not speak to us through the world, but only gives signs

about Himself. Here, Heraclitus' saying about Delphic oracle could be quoted: το μαντει ον το Δελφοις ου λεγει τι αλλα σεμαινει.That is why the most subtle tools available should be used to read these signs properly. From that comes the postulate of maximal methodical precision (1995: 224).

Scientific theories development is an accumulative process. If in the history of philosophy there is any developmental continuity, it rather is a constant modernization of different orientations.

If Catholic philosophy wants to be a real successor of scholasticism — and not out of date «palaeoscholasticism» — first of all it should keep the loyalty with this orientation in respect of «the architectural style», so accept scholastic ideal of methodical–ambitual maximalism. Modernization is to be an application of this ideal, and not an amplification of the system itself.

With reference to the philosophical researches concerning empirical reality, this means use of modern scientific methods, satisfying, among others, criteria formed by modern logic. Also researches concerning non–empirical reality have to submit to the rigor of logic. So in both cases the main matter is to use the tools of the modern logic — incomparably more perfect than the one used by scholastics in the past. It does not mean that the practice of literary philosophy is in some way «forbidden». There are people of emotional natures, in Salamucha's opinion:

> [This people] will always be satisfied with literary philosophy or they will practice this philosophy. But if logical criteria do not stand there, let at least some aesthetical criteria be obligatory. For the science differs from the so–called belles–lettres only in method, because apart from this, everything can be discussed in a scientific way (1936a: 186).

Opponents of the presence of modern logic in philosophy and theology, put forward three main objections: firstly, that logic is not metaphysically neutral; secondly, that it leads to the mechanization of thinking; thirdly, that it cannot be used in the domain of analogical notions.

So first of all, some are afraid that introduction of mathematical logic in the field of philosophy will be followed by forejudging in advance some of the philosophical controversies in the specified direction. These are groundless worries. It is true that each descriptive theory has — according to Salamucha — set normative consequences: "describing some domain, it enables and justifies drawing common instructions about how we are supposed to behave within this domain, to reach some aims" (1936a: 183). It also concerns logic: "normative consequences of logic contain all the scientific domains and even an ordinary life, if we want this ordinary life to be at least a little logical" (1936a: 184); because logic is not some a priori code of artificial rules, but it is a systematization of factual rules. However it is baseless to fear that "logistic tools themselves" lead to defined philosophical "results" (1936a: 185); that use of these tools has some purely descriptive consequences.

Secondly, some think, that mathematical logic — by making thinking mechanized — "kills the creative thinking" (1937e: 112). It is a misunderstanding. Let us consider any formalized axiomatic system. There are three moments, that subjective, emotional–intuitive elements — this «creative thinking» — cannot be removed in any way: it means choice of axioms, statement of proof steps correctness (in extreme case — statement of the fact, that adequate signs have the same shape) and examination of connection between system theses and the studied domain of reality (especially checking their material truth).

Thirdly, some people question the usefulness of logic in the domain that uses analogical terminology. But logical theses are universal — in this sense, that variables can be instantiated also by analogical terms or sentences with these terms. The real problem lies here in the unclearness of relation between analogical terms and denotations of the given terms treated literally. However, this is an «old» problem, not the problem that appeared in philosophy at the moment of application of modern logic in it; although maybe only then it is fully revealed.

6.2. Philosophical analysis

A special part, that modern logic plays in contemporary philosophical researches causes that to the fore of the methods used in philosophy come formalization and axiomatization.

Salamucha mentions four main advantages of formalistic work. Reasonings presented in the artificially made formal language are shorter, more clear, «sharper», that is "cleaned of various confused associations" (1934a: 57), and more neat linguistically — in comparison with the reasonings, which are made in common language.

If the circumstances do not allow making an axiomatization *sensu stricto*, it is worth — in Salamucha's opinion — to at least use quasi–deductive reconstruction: to mention *explicite* accepted assumptions (scil. put together at least part of axiomatics) and give at least main design of inferential sequences (that is to outline proper enthymema).

Formalization and axiomatization are the methods of presenting ready–made system. There are also, especially useful on the grounds of philosophy, heuristic methods. Salamucha describes (and uses) four of these methods: «modeling», constructing of fiction, explication and genetic interpretation.

«Modeling» of the given problem is the setting of its possible solutions. And the point is not either psychological or logical possibility *sensu stricto* — that is, that every set solution could be sufficient to build an independent theory. The point is that the solutions should be logically different between themselves. This method gives good results, especially when it comes to analysis of the traditional philosophical problems.

While investigating the fundamental problems — threatening with the danger of *petitonis principii* — the method of fiction construction may be very useful.

Let us assume, that we have to decide if we can adduce thesis *T'* in the proof of thesis *T''*. Let *T''* be true only, if there are no objects of type *P* in reality. So let us assume that there are objects of type *P*. With such fiction, will thesis *T'* be true? If not, then we cannot adduce thesis *T'* in the proof of thesis *T''*.

Searching in the philosophical tradition for ideas how to solve some problem, we often come across a flagrant irresolution of the traditional philosophical language. In such situations it is natural to try to explicate these irresolute in their meaning expressions. "It is necessary coming from the darkness into the semidarkness; so it would be possible to go further" (1947a). Unfortunately no explicatory reconstruction can be on principle accepted as definitively adequate — especially towards «primitive» intuitions, hidden behind treated this way expression. (Another thing is that formal constructions are also in the danger of inadequacy — in relation to the researched reality.)

Sometimes traditional philosophy language is not only irresolute in its meaning, but also it is expressed in complicated and unclear sentences. Sometimes it is possible to solve and detangle these expressions, if we put them through the genetic interpretation. For this interpretation such theses can be used, non–intuition of which comes from the fact that they are «an organic synthesis» of a few elementary conceptions. Separation of these simple elements of interpreted this way thesis, usually restores its original intuition.

6.3. Philosophy and theology

The object of philosopher's research — at least the philosopher of maximalistic ambitions concerning the range of these researches — should be the whole reality. Objective domain of the so–called detailed sciences is an empirical world; non–empirical reality — especially God and His attitude towards the world — is the domain of theology researches. These two domains exclude one another, so we cannot talk here about an important conflict between researching them branches. However, the domains of these both branches are the part of the range of philosophy researches; so here is the possibility of a conflict — and on two grounds: philosophy with detailed sciences and philosophy with theology.

Salamucha analyses the situation on the second «ground».

Let us concern — he says — some philosophical system and some theological system. Let us assume — which is obviously an idealization — that both systems are axiomatized. Philosophical axioms differ from theological axioms in the fact, that the second ones (anyhow — let us add — at least some of them) are accepted on the basis of Revelation, and the first ones — «on philosopher's own responsibility» (if the philosopher is responsible — let us add — they are selected in accordance with the motto of the methodical maximalism). Because of this, philosophical axiomatics differs from theological axiomatics, so the class of theses which are the consequences of the first one, is different from the class of theses which are the consequences of the second one. This happens, although in these sets there can be included adequately philosophical theses

and theological theses concerning the same objects. Of course the fact that the class of philosophical theses is different from the class of theological theses, does not exclude the fact, that some philosophical theses are identical with some theological theses, or the fact that among philosophical theses there may be a thesis which is the negation of some theological thesis. In the last situation, what can Catholic philosopher do?

6.4. Catholicism

Religion — especially Catholic religion — is a conglomeration of some knowledge (among others scientific), some belief and some ceremonies.

Catholicism of some Catholics is the formal–ceremonial Catholicism; others practise the individual–emotional Catholicism. There are some, who profess «rational» Catholicism: everything which is non–scientific — and even more, which is contradictory to science — should be from Catholicism removed; others agree to «irrational» Catholicism: because belief is supposed to be *ex definitione* something non–scientific. Both «stiff» formalism and «exuberant» individualism, both intellectualism and fideism — are some kind of distortion of the Catholic spirit.

Full Catholicism as some kind of outlook on life — that is from the subjective point of view — consists of both ceremonial and emotional, and also rational elements.

However, from the objective point of view, the Catholic doctrine is the essential part of Catholicism. This doctrine is of the authoritative nature.

Salamucha interprets it as *sui generis* system of axioms. On one hand, these axioms can be divided into theoretical (in this, metaphysical) and practical (first of all moral), on the other hand into dogmatic (scil. revealed by God and approved by the Church) and — let us say — directional (scil. not having the direct sanction of Revelation). As it seems, all theoretical axioms have, according to Salamucha, a dogmatic nature. The directional practical axioms belong to one of three groups: natural directives (that is natural law regulations), canonical directives (that is Church legal regulations) or — let us say in short — «indicative» directives (that is instructions included in various official proclamations of the Church authorities).

Only dogmas are the constant factors of Catholicism. However, their interpretation may vary. It means, that they concern relations between God and the world and a man, and the knowledge about the two last ones — conditioning proper understanding of dogmas — is getting enriched all the time. The knowledge about the structure of physical world and «the nature» of human psyche also interferes in the intension of natural law directives. These directives are not invariable; and so in the similar way that we assume, that natural regularities are constant, although our knowledge about them accumulated in scientific laws keeps changing, the same way the possibility of modification of natural directives does not force us at all to accept, that the natural moral «regularities»

are variable. The utmost factor of inconstancy lies in canonical and «indicative» directives, because they are relativized to the changing conditions of life — and as such they have to be continuously modified and completed. All this is the reason, that Catholicism — in spite of the fact that its doctrine is authoritative — is not just some stiff, dead system. Especially there is no such thing as ready, once and forever given Catholic ethics. Only the doctrinal skeleton of this ethics is absolute and constant. But this is enough to protect Catholic ethics from the danger of relativism. For even individual norms completing the system, based on the personal feeling of rightness, although sometimes difficult to catch, and often irresolute, a Catholic interprets as norms dictated to him by inner Voice of Conscience, that only sometimes he cannot understand.

Like every good axiomatics, the Catholic doctrine put in such way, aspirates to be internally consistent and independent. However, like every rich axiomatics — it is not complete, that is, it is not possible on its grounds to decide about the truth (or rightness) of all the sentences formulated in the doctrine's language. This however does not mean, either that for example the acts which do not come under the direct control of axiomatic moral directives of Catholicism, are on the grounds of Catholicism morally indifferent, or even more, that on its grounds Catholicism allows contradictory moral directives.

Catholic theology task is to develop doctrinal axiomatics into a *system*, that is to deduce from it these consequences, which are necessary, so a Catholic could have possibly complete (although never fully completed!) «theory of life».

If a Catholic philosopher, among theological theses finds a thesis contradictory to some thesis of his philosophical system, then — if he wants to remain a Catholic philosopher — he should remove this last thesis. This is the sense of the formula, saying that Catholic philosophy is such a philosophical system, towards which Catholic theology is a negative norm. The need of such negative norm for the philosophy comes from imperfection of its searching methods; if they were as precise as in mathematics or physics, such norm — in Salamucha's opinion — would be in philosophy as needless as in the mentioned sciences, and talking about Catholic philosophy would shock as much as talking about Catholic mathematics or physics.

7. Ontology

7.1. Objects and properties

Salamucha distincts two main kinds of existence: ideal (that is potential: logically, physically or morally) and real (that is actual — in it, physical or psychical).

The object exists ideally, when it does not exist really, but it is described by definition and this description is consistent — adequately — to the laws of logic or physics or to ethical norms. The object exists really, when it is a factor — or the Creator — of cosmos; it especially exists physically, when "it has all properties characteristic for every physical object" and it exists psychologically,

when "it has all properties of psychological object" (1934a: 337). It seems that the last two qualifications can be expressed (according to Leśniewski spirit) in the following way:

$\wedge x$ (x exists physically/psychically $\equiv$ x is a physical/psychical object).

The main difference between real (factual) objects and ideal (non–factual) objects is, that properties of the last ones are precisely set by their definitions. The ideal object has all and only these properties, which are mentioned in its definition, or they are «consequences» of these properties. Ideal objects are fully our products — at least in respect to definitional properties. NB. As such, they are not constant objects; definitions setting their structure after all can be modified. The structure of real objects for a change does not depend on any definitions: it is the definitions that have to be adjusted to this structure. Anyway, if real objects are variable, then the source of this variability does not lie in any operation of defining.

Among the properties, some scientists — also scholastics — distinguish essential properties (essences), attribute properties (attributes) and accidental properties (accidents).

For the "essence" Salamucha gives two definitions:

Df. 1. $\wedge P$ [P is an essence of a $\equiv \wedge x$ (x = a $\rightarrow Px$)].

Df. 2. $\wedge x \wedge P \wedge Z$ $\{x \in Z \rightarrow$ [P is an essence of $x \equiv \wedge y$ ($y \in Z \rightarrow Py$)]$\}$.

Adequately, definitions of "attributes" and "accidents" he reconstructs in the following way:

Df. 3. $\wedge x \wedge P' \wedge P''$ {P' is an essence of $x \rightarrow$ [P'' is an attribute of $x \equiv \wedge y$ ($P'y \rightarrow P''y$)]}.

Df. 4. $\wedge x \wedge P' \wedge P''$ {P' is an essence of $x \rightarrow$ [P'' is an accident of $x \equiv \vee y$ ($P'y \wedge \sim P''y$)]}.

The first definition of "essence" is not–operational, that is on its grounds it is not possible to distinguish essential and non–essential properties. It happens this way, because:

$\wedge P$ (P is an essence of $a \rightarrow Pa$)

and also:

$\wedge P$ [$Pa \rightarrow \wedge x$ ($x = a \rightarrow Px$)],

which is easy to prove. So every property of a would be an essence of a.

We can say the same about the second definition of "essence". Here we have:

$\wedge x \wedge P$ (P is an essence of $x \rightarrow Px$).

So:

$\wedge x \wedge P$ $\{\vee Z$ [$x \in Z \wedge \wedge y$ ($y \in Z \rightarrow Py$)]$\}$.

But it is also true that:

$\wedge y \wedge P$ $\{Px \rightarrow \vee Z$ [$x \in Z \wedge \wedge y$ ($y \in Z \rightarrow Py$)]$\}$.

Such set Z is a set of objects with an essential property P.

The second definition could be defended, if we demand that this set was the lowest natural type. However for such definition there is a danger of indirect vicious circle, because:

Df. 5. $\wedge Z$ {Z is the lowest natural type $\equiv \wedge Z' \wedge Z''$ [$(Z' \subset Z \wedge Z'' \subset Z) \rightarrow \sim (Z'$ differs essentially from Z'')]};
on the other hand:

Df. 6. $\wedge Z' \wedge Z''$ [Z' differs essentially from $Z'' \equiv \vee P' \vee P''$ {$(P' \neq P'') \wedge \wedge x$ [$(x \in Z' \rightarrow P'$ is an essence of $x) \wedge (x \in Z'' \rightarrow P''$ is an essence of $x)$]}].

If "attributes" and "accidents" are defined by "essence", they inherit mentioned faults.

In Salamucha's opinion, we can avoid these faults, if we refer to the genesis of the expressions defined. It can be searched for in the structure of axiomatic systems. In axiomatic system we distinguish axioms and definitions from the system theses, which are their consequences; then, we distinguish axioms, definitions and theses of the system from the non–system theses, formed in the system language (properly enriched). If we adequately name properties stated in the definitions and theses of the system with definitional properties and thetical properties, and the properties stated in the non–system theses we name the non–system properties, then the essence of the given object can be identified with the group of its definitional properties, its attributes — with the adequate thetical properties, and its accidents — with the non–system properties.

With such interpretation — and on the ground of contemporary knowledge about axiomatic systems — two observations occur. Firstly, it is natural to differ an essence from the other properties with reference to ideal objects; talking about an essence (and attributes and accidents) of a real object would make sense only, if the theories describing these objects were axiomatic systems. But it is not like that: in empirical theories definitions always are of provisional nature. Secondly, the problem whether some property is an essence or not, has been relativized towards the specified axiomatics; the system may be axiomatized in many different ways, and with different axioms systems, different properties may become definitional properties.

7.2. Time and space

One of the fundamental elements of description of real objects is to define them in the aspect of duration and location. Duration may be temporal or non–temporal; visual model of temporal duration is a straight line, and non–temporal duration — a point. From among temporal objects, some — physical (that is bodies) — are temporally finite, that is in time they have a beginning and ending; others — psychical (that is souls) are temporally infinite, but infinite «from one side»: they have a beginning, but they do not have an ending in time — they are, as Salamucha says, perpetual. Non–temporal objects — God belongs to them — are also infinite, and infinite «on both sides»: their duration does have not either beginning or ending — according to Salamucha, the eternity of God consists in exactly this kind of infinite non–temporal duration.

Similarly, also the location may be spatial or non–spatial. For spatial objects, that is bodies and souls, occurs at least, that:

$\wedge x \vee m \sim$ (x is located in m),
where the range of variable x is the set of bodies and souls, and m — the set of locations in space (that is the set of proper parts of space). For bodies we also have:

$\wedge x \vee m$ (x is located in m).

According to Salamucha, the discussion about location of God does not have literal sense. In this case however, it is probably not possible to go beyond the statement of non–spatiality of this location.

Bodies and souls are variable objects — and therefore they have temporal and spatial characteristic; God is non–temporal and non–spatial, so also constant.

There are different temporal and spatial systems: absolute time (continuous, homogeneous and one–dimensional) and not–absolute times, relativized; Euclidean space (continuous, homogeneous and three–dimensional) and non–Euclidean spaces. All these systems are connected by neutrality of *ens*. Temporal and spatial objects influence other objects; neither time nor space, «in which» these influences happen, do not influence, so they are not empirical objects. Time and space are only theoretical constructions, and no such (as long as it is logically correct) construction is empirically falsified: all of them empirically (but not in an intuitional aspect!) have equal rights.

Let us name the universum of bodies the material world. In respect of time (and space), bodies are finite. And how is it with the material world? Here, a Catholic philosopher stands face to face with the negative norm, that is a dogma, according to which material world (excluding human bodies), is neither secular (scil. it had the beginning in time), nor perpetual (scil. it will have the ending in time).

In Salamucha's opinion, assuming that:

(a) material world is a finite system (closed) — and it is as such *ex definitione*,
next, that:

(b) in the whole material world the law of thermodynamics is obligatory,
and also, that:

(c) time is a «measure» of variability (comp. above),
this dogma finds the support in science.

7.3. Determination

In accordance with determinism:

$\wedge y \vee x$ (x determines y),
where x and y are some phenomena. Let us name the elements of domain of relation of y determination, the conditions of y. Determinism may be then expressed by saying, that everything is determined by its own conditions.

Indeterminism is a negation of determinism:

$\vee y \sim \vee x$ (x determines y).

Of course indeterminism is not antideterminism, if it was supposed to be the opinion, that:

$\wedge y \sim \vee x$ (x determines y).

Both determinism and indeterminism are only some postulates (working hypotheses), and they are even limited to natural occurrences, and more precisely — physical occurrences: the problem of miracles and free will goes beyond the domain of these hypotheses applicability. Behind the postulate of determinism acceptance hides the assumption of the rational structure of the world; and we assume, that the world is built rationally, because we cannot understand a different world.

With the pair of determinism–indeterminism, crosses the pair of mechanism–finality.

Mechanism says:

$\wedge x \wedge y$ (x determines $y \rightarrow x$ is not subsequent to y).

Another words: the conditions of the given occurrence are not subsequent to this occurrence. In accordance with finality it would be, that:

$\vee x \vee y$ [x determines $y \wedge \sim$ (x is not subsequent to y)],

so:

$\vee x \vee y$ (x determines $y \rightarrow x$ is subsequent to y).

These subsequent conditions finalists identify with aims that the sequences of occurrences determined by them «aim at».

So finality — again — is a negation of mechanism, and not antimechnism, according to which it would be, that:

$\wedge x \wedge y$ (x determines $y \rightarrow x$ is subsequent to y).

Both pairs of postulates considered — that is determinism–indeterminism and mechanism–finality — are logically independent.

It is easy to notice, that if the postulate of determinism was limited to the macro–objects domain, it would be possible to reconcile it with indeterminism — at the presence mainly accepted in accordance with micro–objects domain. Similarly — in Salamucha's opinion — after some modifications, finality description of some sequence of occurrences may be accepted as a complementary description — not an alternative one — in relation to mechanistic description. Let us assume that we have three–element set of phenomena $\{z_1, z_2, z_3\}$, where z_2 is set mechanistically by z_1, and z_3 is mechanistically set by z_2. So this set can be ordered by using the relation of being subsequent: $<z_1, z_2, z_3>$. Such ordering can be treated as an equivalent of the mechanistic description. It does not exclude the fact, that the same set can be ordered purposely by an ordering relation — the relation of preceding–with–respect–to–z_4 kind, where z_4 would be a «purposeful» element of the «intension» of this relation.

8. Epistemology

8.1. Sources of knowledge

His epistemological opinion Salamucha presented in lectures *Krytyka poznania* [*Criticism of cognition*]. In these lectures he gives the following definition of knowledge:

We know some object — this means, that — we can say at least one true statement about it; the more of these statements we can say about this object, the better we know it (1995: 194).

The task of epistemology is to critically analyze the human knowledge. Epistemology does not have to consider the problem of the so–called possibility of knowledge, especially if this problem is connected with the postulate of non–assumption (scil. of abstracting the whole hitherto existing knowledge). Salamucha treats this problem as pseudo–problem.

Cognitive problem put this way (1) cannot be solved. Any solution of any problem is a cognitive process; any cognitive process is in this case impossible, because it is questioned in the problem itself. [It is also] (2) nonsensible, in spite of contrary appearances. Any problem is sensible as much as sensible is its answer, affirmative and negative. And so, negative answer to this problem is nonsense. Negative answer cannot be true, because it is stated in it, that the knowledge of truth is impossible, so all together it is a senseless expression; and here is the cause of the fact mentioned above in point (1). Negative answer to the problem put this way, has a logical structure of the proposition which is the base of Epimenides' antinomy (1995: 194–195).

Salamucha distinguishes — following St. Thomas Aquinas — four sources (and at the same time criteria) of knowledge: external experience, internal experience, perception of inter–notional relations (*intellectus*) and perception of inter–propositional relations (*ratio*). The external experience (that is *impressio*) is a three–place function: (a) physical object, (b) the subject of impressions and (c) (temporal–spatial) relation between the subject and object; reasoning helps to eliminate elements (b) and (c) — and by doing so, it protects us from falling into the *attitude* of radical epistemological skepticism, which cannot be a scientific theory, because it will be contradictory in itself. The internal experience is a two–place function: (a) consciousness and (b) memory; here it is necessary to control especially element (b). The intellectual perception is a source of the main axioms of any reasoning:

Here we are protected from mistakes by the precise analysis of notions and axioms control made by *explicite* educing various logical consequences that arises from these axioms (1995: 200).

Correctness of reasoning («rational» perception) is stated by the adequate rules of formal logic.

8.2. Object of external experience

Indirect realists say, similarly as solipsists, that the intensions of consciousness are the direct object of our knowledge. Only after that, through the analysis of intension

of consciousness, basing mainly on the principle of causality, with the help of various complicated reasonings, they try to state the existence of the objects independent from our knowledge. Direct realists say, that we learn things directly, and psychical elements of knowledge we learn only by reflection (1995: 220–221).

Salamucha votes for the direct realism.

Any attempts of indirect realists are insipid — and if they seemingly lead to the intended aim, it only happens thanks to some logical twists. […] If methodically we limit ourselves to the bounds of our consciousness, then no proper reasonings will lead us beyond these bounds; the method itself has to be changed (1995: 221).

8.3. Truth

(Logical) truth is a property of statements.

We formulate different statements about different objects, and the state of affairs presented in these statements is either in agreement with the states of objects, which these statements concern — then these statements are true; or the state of affairs presented in these statements is not in agreement with the state of objects — then these statements are false (1995: 196).

So, when it concerns real objects, some statements about them are true, others — false. However, in relation to the statements about ideal objects, the question arises, if by any chance — since these are our own intellectual products — all of them are true? Well — according to Salamucha — it is not like that, because even the ideal objects have some properties independent from us: that at some point someone constructed them in some particular way, and that they are in some particular relations towards one another. This thought he expressed as follows: "Even in the domain of free human products, human freedom is limited by the internal rules of these products".

Statements of special kind are existential statements. The truth of the statements about the existence — that is an adequate consistency — of ideal objects (scil. potential), is fixable by reasoning. The truth of the statements about the existence of real objects (scil. actual), on the other hand, is fixable by experience "or on the ground of reasoning based on such set of assumptions, among which there is some existential thesis", stated by experience.

9. History of logic

For the culture development it is certainly harmful, if some historical periods of its growth are hidden in the darkness of forgetfulness. The harm is even more serious, if the directions tightly connected with these forgotten historical periods are still alive and they have a considerable influence on the present day formation. Until recently, the

whole philosophical and theological medieval thought was such a not very well–known part of history. Thanks to work of many leading researchers, among whom there are also Polish scientists (Fr. Prof. K[onstanty] Michalski, Prof. [Aleksander] Birkenmajer), today we are well–familiar with this medieval ground (1938a: 184).

Salamucha wrote these words, when he had already belonged for a few years to the group of experts on this subject.

To the relatively low degree, logical tools are applicable in the historical sciences. "An exception is of course the history of logic, which nowadays definitely cannot be practiced without the knowledge of logistic" (1937d: 48), that is mathematical logic. So Salamucha had the right qualifications to practise such history. He used them, while researching ancient and medieval logic.

9.1. Deduction

Salamucha made first of all a thorough analysis of Aristotle's and St. Thomas' opinion on deduction. This analysis allowed him to state, that these opinions are convergent in many points. It turned out, that by deduction both philosophers understand reasoning out of universal premises. Both of them do not clearly distinguish inference from proving. Both consider deduction the only scientific method, that is the only method which guarantees an absolute value of reasoning results (because they identify scientific knowledge with the absolutely certain knowledge).

Next, both Aristotle and St. Thomas, as a general form of deduction, accept one of the three figures:

$M\,P$	$P\,M$	$M\,P$
$S\,M$	$S\,M$	$M\,S$
——	——	——
$S\,P$	$S\,P$	$S\,P$

Both Aristotle and St. Thomas give the following conditions of the scientific deduction correctness:

(a) premises should be true, «first» (that is they should be axioms, not the conclusions of some other reasonings), certain (better known that conclusions) and they should be the logical sufficient conditions of conclusion;

(b) conclusions should be necessary, so also essential (that is stating the properties of the given object, following from the essence of this object) and universal (that is concerning all objects of the given kind);

(c) extensions of the subject and predicate in premises and conclusions should be equivalent, so the theses of deduction should be the identity definitions, and especially middle term should be definiens of major term (according to Aristotle) or minor term (according to St. Thomas).

Discrepancies occurrence in texts — especially in Aristotle's texts — formulating the conditions of the deduction correctness, Salamucha explains by using

«the auxiliary explicating hypothesis»: Aristotle tried to unify the following: (1) reasonings used in mathematics, in geometry to be precise, that is the deduction–a–priori reasonings (in which a criterion of truth is deducibility from axioms), (2) reasonings made accordingly to the so–called natural hierarchy of classes and (3) casual reasonings (natural), that is the deduction–a–posteriori reasonings (in which criterion of truth, is the agreement with the empirical theses). These reasonings are so different, that such unification — in Salamucha's opinion — is not possible to realize. For example condition (b) may be satisfied only within the range of the first two domains, and condition (c) may be satisfied only within the range of the extreme domains.

The main difference between Aristotle and St. Thomas occurs with reference to the way of justification of the «first» premises that is axioms, although both of them agree, that it cannot be a deductional justification.

According to Aristotle either intuitional justification can be involved, or dialectical justification: elenctical (by deduction of the given axiom from other theses accepted by his opponents), not direct (by reducing an opinion rejecting the given axiom to a nonsense) or systematic (by showing, that the difficulties put against the given axiom may be solved also on the ground of system which includes this axiom). Aristotle draws such justifications for the principles of contradiction and the principle of excluded middle. These principles may be elenctically justified (1) on the ground of the truth and falseness definitions or (2) by showing, that if scientific terms should be precisely specified in nominal definitions, then their designata should have all the properties set in these definitions, and therefore they have to posses these properties. In systematic justifications Aristotle removes the problem following from the variability of things by distinguishing the actual and potential existence, and the problem following from inconsistent evidence of senses — by acceptance, that scientific knowledge is a rational knowledge and not sensorial one. According to Salamucha only systematic argumentations are logically correct. Both elenctical argumentations, on the other hand, are burdened with *petitionis principii* mistake: in argumentation (1) we must refer to the law of double negation, and so finally we must refer to the principle of contradiction; in argumentation (2) the conclusion is valid only if it is assumed, that the principle of contradiction is true. Then again the not–direct justifications are burdened with *petitionis principii* mistake and *ignorantiam elenchi* mistake, because not the principle of contradiction is justified in them, but the thesis, which states that for some propositions it is not true, that they are true together with their negations.

In opposition to Aristotle, while justifying axioms, St. Thomas refers only to the intuition, which should be giving direct and unerring — in case of normal man — look at proper notional relations.

Salamucha completed reconstruction of Aristotle's and St. Thomas' opinions about deduction — by the analysis of Aristotelian modal syllogistics, trying to axiomatize it and also to base the proofs on the sentential calculus (in not published work *Teoria*

wynikania modalnego [*u*] *Arystotelesa* [*Theory of modal inference in Aristotle*]). These efforts showed that Aristotelian modal syllogistics is inconsistent, and its genesis is connected with Aristotle's belief in the existence of natural hierarchy of classes, which — in Salamucha's opinion — cannot be precisely described. The alternative interpretation of Aristotle's theory — as some many–valued calculus — Salamucha recognized as incompatible with intentions of Aristotle, who on the ground of modal syllogistics decidedly voted for keeping *tertii exclusi* principle.

9.2. Propositional calculus

> Until this very day we do not have the history of sentential logic at all, and because of that we do not have any proper picture of the whole formal logic history.

These words were written in 1934 by Jan Łukasiewicz (1934a: 179). One of the very important parts of this history is sentential logic by William Occam. Salamucha was the first historian, who studied the heritage of Occam from this angle.

It has turned out, that Occam knows and properly uses functors of implication, conjunction, alternative (logical sum), equivalence and negation — and the first three he even discusses in detail. Among others he correctly distinguishes formal implication from material implication and he realizes the difference between these implications and a common language conditional.

Salamucha also ascertained that Occam knew at least 27 theses of sentential logic.

From the historical point of view it is important that Occam is conscious of the fact that while doing the axiomatization of syllogistic, the theses of sentential logic are the proof premises. (NB. Occam accepts only the first three syllogistic figures; according to him, syllogisms of the fourth figure:

$$\begin{array}{l} P\,M \\ M\,S \\ \hline S\,P \end{array}$$

belong to the first figure, because to Occam the criterion for figures distinguishing is only the collocation of the middle term in premises: then *MP–SM* cannot be distinguished from *PM–MS*.)

Unfortunately, after Occam, the consciousness of sentential logic «being logically former» towards syllogistic, gradually disappears among logicians. Similarly it happens with the consciousness of distinction between the formal and material implication. The disappearance of the last one was probably caused by the fact, that even in Occam's work this distinction was overlapped by the distinction of the complete and incomplete (enthymematic) inference; formal implications (*sensu stricto*) have been therefore identified with the complete inference, and material implications — with formal enthymema.

9.3. Semantical antinomies

In the Middle Ages antinomies — usually various variants of the liar paradox — were called the insolubles (*insolubilia*). Salamucha made a thorough study of the ways, in which the liar paradox got to the medieval treatises; he reconstructed typical variants of this antinomy and put together the most popular ways of solving it. Although Eubulides is considered the author of the liar paradox, its first satisfying formulation — "I say falsehood" (*Ego dico falsum*) — comes from Alexander of Afrodisias. St. Thomas (or someone from his circle) — considering the antinomy some kind of the «error of the statement» — gave it the following form: "A liar tells the truth, saying that he lies". In William Occam work we find a variant without self–reflexibility: "Socrates says falsehood".

In the antiquity and the Middle Ages mainly three way of solving the antinomy were considered: by accepting it (1) as equivocation, (2) as falseness (the so–called «temporal» solution, leading to the elimination of self–reflexibility) or (3) as nonsense.

(1) The antinomial sentence «simply» (concerning the intension) is false, but «in some respect» (because it has been said) — it is not. This solution proposes Aristotle in *Sofistical refutations*, and he is followed by, among others, Albert the Great, John Duns Scotus and William Occam.

(2) The antinomial sentence is false, because it refers to a sentence that does not exist: previous (according to Theofrastus) or subsequent (also according to Albert the Great and John Duns Scotus).

(3) The antinomial sentence — if "falseness" concerns the whole — *de facto* is not a sentence at all, but it is nonsense. This solution can be found also in the work of Chrysippos, Alexander of Afrodisias, Alfarabi, Albert the Great and William Occam.

In *Nikomachean Ethics* Aristotle proposed also the fourth «solution»: to reject the antimony… because of the emotional reasons.

As far as the third solution is concerned, especially important are the comments made by Giles of Roma, John Duns Scotus and Peter of Ailla. In this context the first one reminds of the necessity of distinction of *suppositio simplex* and *suppositio materialis*. The second one considers the question whether the part of the sentence may mean the whole, and although he gives a positive answer to this question (as a generality, in his opinion, it may happen) — this way he formulates a problem analogical to the one, that the theory of types got engaged in much later. In the work of the third of the mentioned authors, the connections between the idea of using (ramified) theory of types and the elimination of the liar paradox are very clear. Peter of Ailla introduces *expressis verbis* the prohibition of using the self–reflexive signs, although this prohibition is restricted only to the psychical language (comp. below); on the grounds of the conventional languages this prohibition is not obligatory — because, according to Peter of Ailla, the principle of contradiction is also not obligatory here. Salamucha pointed out, that in this case Peter of Ailla was under the influence

of the illusion of "a complete free choice of conventional languages" (1960: 237), although he knew the destroying consequence of the negation of the principle of contradiction: $(p \wedge \sim p) \rightarrow q$.

9.4. Nominalism

Medieval nominalism was either (1) the opinion, that the term used in *suppositio persnalis* refers to some psychological act (psychological nominalism or conceptualism); also William Occam believed in it, or that it refers to some intellectual fiction (logical nominalism); or (2) the opinion, that something like *suppositio personalis* does not exist at all (this opinion may be called a «negative» nominalism; also John Buridan believed in it); or (3) the opinion that the relations are nothing separate form relatives (this would be some «reistic» nominalism); or finally (4) the opinion, that species and generic notions do not have any correlates in reality (metaphysical nominalism).

Also Peter of Ailla — and in a very radical way — declared for the theses of the psychological nominalism.

Salamucha considered Peter of Ailla the precursor of reism — and he reconstructed his prereistic attitude in the following way. Only individuals exist (also non–material) — that is the things — and also properties and occurrences exist, but only as much as they are concrete, that is they are vested in the things or they happen «on them». Therefore the expressions of «graphic» and «phonetic» languages are also the concrete signs or sounds. Both of these languages are conventional languages. According to Peter of Ailla, there is one–one relation between many various conventional languages and one natural psychical language: one — because it is common for all the people; natural — because in the natural way it projects the reality; psychical — because it includes all the concrete psychological acts. The meaning of the linguistic signs is the relation between psychological signs and things, or between conventional and psychical signs; as a relation the meaning is reducible to its arguments (comp. «reistic» nominalism), so it is a concrete.

10. Theodicy

10.1. Existence of God

There are three main types of proofs of the existence — more strictly speaking, the rational motives of the belief in the existence — of God: cosmological reasons, psychological reasons and reasons that may be called utilitarian. The so–called ontological proof (coming from St. Anselm) is to Salamucha a pseudo–proof: the real (actual) existence cannot be proved without some existential premise, stated through the experience.

Cosmological reasons were put together by St. Thomas in «five ways», that lead to God as, in turn, Immobile Mover (motorial reason: *ex motu*), First Cause (casual reason: *ex causalitate*), Incontingent Foundation («contingential» reason:

ex contingentia), Order Giver (finalistic reason: *ex finalitate*) and Maximum Perfection (perfective reason: *ex gradibus perfectionis*).

Psychological reasons may be found in the most suggestive form in St. Augustus' work: his «ways» lead to God as, in turn, Maximum Good (eudaemonistical reason), Voice of Consciousness (deontological reason), Righteous Judge («delusional» reason) and Good Shepherd («conversional» reason).

The best–known utilitarian reason is «Pascal's bet»: the rejection of God existence is the choice which is more dangerous for the chooser, than the acceptance of His existence.

Salamucha was closer engaged only in the cosmological reasons, especially in the motorial and finalistic reasons.

The most thoroughly he reconstructs the proof *ex motu*. This proof goes according to the following schema.

If at the same time:

(a) $\wedge x \{fx \rightarrow \vee t [(tRx) \wedge \sim (x = t)]\}$,

(b) $K(R)$

and

(c) $\vee y [y \in C'R \wedge \wedge u \{[u \in C'R \wedge \sim (u = y)] \rightarrow yRu\}]$,

then

(d) $\vee v [\sim fv \wedge \wedge u \{[u \in C'R \wedge \sim (u = v) \rightarrow vRu\}]$.

This schema, according to the meanings of the terms used in it, may be read in the following way.

If at the same time:

(a) for every x which is in motion there is another t, which moves x,

(b) motion relation is the lineary order relation

and

(c) within its field there is a first element,

then

(d) there is a first element of this relation, which is not in motion.

This first element, discussed in conclusion (d), is Immobile Mover that we are looking for.

Salamucha reconstructs the premises, to which St. Thomas referred, accepting thesis (a)–(c), and he proves, that the conclusion (d) logically results from the premises (a)–(c).

The departure of the proof *ex finalite* is the analysis of the intentional action. According to Salamucha person A acts purposely, when at the same time:

(a) A in time t_1 thinks of arising in (the later) time t_2 a phenomenon z,

(b) A thinks, that the arising of a phenomenon z depends on action of A,

and

(c) A within the duration t_1–t_2 sets in order the action of A in such way, so that in time t_2 an phenomenon z could arise.

As we can see — the necessary factors of purposefulness are some mental acts (thinking about something, considering, putting something in order), assuming

the existence of some intelligent being, for example a man. Because in the material world there are sequences of phenomena set in order intentionally without the human interference, the reason of their existence must be the existence of the superhuman Order Giver.

10.2. Freedom and pressure

In spite of the ordinary — common–sensual — convictions, neither the intellectual acts (mental), nor the emotional acts, nor the physical acts (external) are submitted to the «free» volitive acts. The acts of the free will are not so much the sources of the psychical energy, «discharging» in our activities, but they rather are something like switches, that move the already existing energy to some specified tracks. Putting it in the yet different way, the will is not so much some kind of the battery for our psychical energy, but it rather is its detonator.

Some objects — both real and ideal — are of this kind, that the given individual likes them, he aims at them; some on the contrary — are of such kind, that he does not like them, he avoids them. These are the subjective values of this individual; their class is generally this way or otherwise put in hierarchy. What objects belong to this class and how they are put in hierarchy, depends mainly on two factors: on the psychical structure — that is the character — of the given individual and on the situation, which this individual is in.

The will does not have a decisive influence on the man's character. What really decides about the psychical energy of the individual is the system of subjective values accepted by this individual. So "the will–power", is only — sometimes quite convenient in use — shortened–substitute expression.

There are objects that people should aim at — and there are objects, that they should avoid. These objects are the human objective values. The class of objective values is also — similarly to the class of subjective values — put in hierarchy in some particular way, and its elements are the function of the general structure of the man and the world. It would be ideal, if the class of subjective values of the individual was the same as the human objective values class — and if they were put in hierarchy in the same way. They are different in practice. Especially the value hierarchy of a child differs radically from the objective hierarchy. So one of the main duties of a educator should be bringing these two hierarchies close together. «The will–power» will be surely given to the ward not by the pedagogical training, but by «inculcating» in him the great — absolute — values. However, while doing so, the educator should not ignore the rest of the values.

> When one serves the great causes, the superhuman causes, then the only rational maxim of action should probably be the following principle: to discount the relative values; not to reject values, which are not a hundred–per–cent values (1932b: 531).

The spiritual freedom of the individuals — despite liberalism — may be and should be limited by the consideration of the good of the other individuals and

the community. The freedom of the whole communities may be, and sometimes should be limited too. It is allowed on the grounds of Catholicism, which — as Salamucha points out — does not *exclude* the common responsibility (comp. the original sin).

The society needs a well–regulated political organization, and the Catholics should aim at such. After all, the Catholic doctrine does not precisely set the border between the freedom and the pressure. However — despite totalism — the social pressure also has to have its limit: first of all because it slows down the creative efforts of the individual and it lowers the ethical level of the society; for only the acts of the free man may be submitted to the moral qualification.

10.3. Evil, pain and love

There are two kinds of evil: structural evil and functional evil. There are also two kinds of the functional evil: ontological evil and moral evil. The structural evil is some deviation from the normal structure of the given object. Functional ontological evil is some deviation from the normal activity of the given object. Functional moral evil is some «deviation» of one's rational activity from the activity ordered by some moral norm (obligatory to the acting person).

There are some dependencies between different types of evil. Firstly, the structual evil may be a reason of the ontological evil. Secondly, moral evil may be a reason of the structural evil.

How to agree the fact of the evil existence with the Catholic dogma of the omnipotence and all–kindness of the Creator?

When it concerns the structural evil, the answer is obvious. God *ex definitione* is Maximal Perfection; so everything different from God must be in some respect imperfect — it does not have everything. So, if the ontological evil is the consequence of the structural evil, then it has the similar excuse.

When it concerns the moral evil, it can be said, that a man is the source of it: a man acts evil, abusing the freedom given to him. "But why did God create free beings, so weak that they can abuse their freedom?" This question (1947a) Salamucha considers the insoluble puzzle of philosophy.

Both the structural evil, and the ontological and moral evil, may be a source of the pain. Sometimes the pain is so great, that it is easy to become pessimistic. One can fight it with the belief, that these crushing us «dark fragments» of the reality are only the parts of "the great, not–known to us whole, and in the whole maybe they would look different" (1947a).

Among Catholic ethical norms, the first place takes the command of the love of one's neighbors. How to understand it, standing face to face with the magnitude of evil and pain? Does not someone who loves his enemy sentence himself to self–annihilation?

There are such people, especially among the enemies of Catholicism and pseudo–pacifists, who would willingly accept such interpretation, counting

on the fact that the consequent believer of the love command — in the name of this love — will surrender to any aggressor without any fight. Salamucha categorically rejects such interpretation.

First we should distinguish — he says — the egoistic love (pointed at oneself) from the altruistic love (pointed beyond oneself). Surely, the love describing by Catholic doctrine is not an egoistic «one–dimensional» love: neither this individual narrow love nor the group love expanded over some group that we identify with. So it is the altruistic love. But the altruistic love may be «two–dimensional» or «multidimensional». The first one is the love of the same intensity towards all the people; the second one is the love of different intensities: higher towards the people closer to us, lower towards the people not so close to us. To love really «two–dimensionally» — and «triumphantly» — only the saints can. The ordinary people duty is the «multidimensional» love. It cannot be expected from people to love everyone in the same way — even the enemies, the important thing is, that they should not hate their enemies.

11. General position

Salamucha was a Catholic philosopher. He also thought, that Catholicism is first of all a belief, but connected with the knowledge. Catholic philosophy theses cannot be contradictory to Catholic theology theses, but the first ones are not only the consequences of the second ones. Salamucha consciously referred to the scholastic philosophy. He himself characterized it in the following way: "scholastic philosophy is pluralistic in opposition to the various monisms, it is realistic in opposition to various idealisms, it is objectivistic in opposition to Augustinian–Cartesian subjectivism"; "scholastic philosophy bases on the many hundreds years old tradition and noone should be surprised by the frequent references to Aristotle's and St. Thomas Aquinas' works"; "scholastic philosophy is maximalistic in respect of the range and the method", at the same time "the postulate of the maximally precise method is submitted to the maximalism of the range" — in opposition to "the logistic Vienna School, where the range is submitted to the postulate of the precise method" (1936b: 85). He also thought that one may refer to the scholastics, but through the modernization.

He was a pluralist, realist, objectivist and maximalist. The ontological pluralism he connected with the temporal–spatial antisubstantialism and determinism put in the postulative way. His epistemological realism was relational and presentative. As an axiologic objectivist, he declared for the correspondent and absolutory conception of truth.

Being a methodological maximalist, he thought, that metaphysics should be practiced, but with the use of the rational methods. No wonder then that he thought that the precision of notion plays the most important part. It is not an accident, that the motto of one of his first works (*O kategorii* προζ τι *u Arystotelesa* [*On the category* προζ τι *in Aristotle*]), borrowed from the beginning of the first chapter of *System of Logic* by John Stuart Mill, read:

For the mind, which is not previously well familiar with the meaning and the proper use of words, to try to study the philosophical methods, would be as though someone would try to become an astronomy observer without learning first how to set the focal length distance of the optical instruments, so everything is clearly seen (1879, t. I: 31–32).

Also no wonder, that in his opinion, the modern logic is necessary in philosophy. He hoped, that "the variety of passed judgments on the subject of the new logic [scil. mathematic] is in the scholastic camp a temporary occurrence" (1946e); and that "the best answer to the opponents' objections would be showing them some parts of philosophy built with the help of the new tools" (1946e). And so he gave such «answers» — by formalizing some parts of scholastics.

12. Sources

Salamucha referred to all–European scholastic tradition; it may be seen even from the fact, that his work is abundant in the written in a foreign language bibliography. But to this tradition he attached «Polish standards»: standards of the Polish analytical philosophy, and first of all — the standards of the Lvov–Warsaw School. In his work he referred *expressis verbis* to the leaders of this school; from the perspective of half–century he can be recognized as one of them.

The strongest influence on Salamucha had his direct teachers — Stanisław Kobyłecki and the leaders of the Lvov–Warsaw School: Łukasiewicz, Leśniewski, and also Władysław Tatarkiewicz and Tadeusz Kotarbiński.

In Salamucha's metaphysical opinions can be clearly seen the echoes of Kobyłecki's relationism; he also shared with him his epistemological direct realism, the general conception of opinions and antypsychological attitude. Also mainly under Kobyłecki's (the psychologist!) influence, he got interested in mathematical logic.

He followed Łukasiewicz, when it concerns general matters like argumentation for the benefit of philosophical neutrality of logic and defense and realization of the postulate of «making» the philosophy «logical» (that is to make it scientific). He also followed Łukasiewicz in the more detailed matters, like the demarcation the knowledge from the belief, classification of reasonings and use of the method of fiction. Also in Łukasiewicz's work he found the main impulse for studying the history of logic: that is Aristotle's syllogistics and scholastic logic (with the suggestion of congeniality of medieval propositional logic towards the stoical logic). (Łukasiewicz himself wrote about this impulse in his letter to Konstanty Michalski dated on the 7th of October, 1933 (Usowicz 1970: 127).)

"Leśniewski had probably more influence on Salamucha's way of thinking, than St. Thomas Aquinas" — remembered Hiż (1961: 33). It was Leśniewski, who Salamucha owned the thorough knowledge of basis of mathematics and the deep understanding of semantical antinomies that resulted in his work about the history of the liar paradox.

Kotarbiński found antecedents for his reism in Gottfried Wilhelm Leibniz work; Salamucha noticed them already in work of the medieval thinker Peter

of Ailla. And he did not hesitate to recommend the «reistic» *Elements* by Kotarbiński as a school–book in theological seminaries.

Important for Salamucha, distinction of maximalism and minimalism in philosophy came from Tatarkiewicz; what is more important, as the years passed by, at first a little rough linguistically works of Salamucha came closer to the masterly writer's style of Tatarkiewicz.

In the historical studies Salamucha had — apart from Tatarkiewicz — two masters: Michalski and Krokiewicz. From Michalski he adopted the postulate of methodological «teleologism» — that is expressing the history of philosophy from the perspective of the modern philosophical problems — and also he adopted many detailed solutions: among them the distinction between the psychological and logical nominalism and also the hypothesis, that Occam's followers were the precursors of the three–valued logic (unfortunately the manuscript of the work confirming this hypothesis, got burned in the Uprising).

Salamucha also used palaeographic ability of Krokiewicz; thanks to this, he could borrow information from the medieval manuscriptal heritage and remove gathered around the Middle Ages misunderstandings.

13. Influences

As it was mentioned above, Salamucha was the main architect of the Cracow Circle and he made a strong influence on its members: Drewnowski, Bocheński and Sobociński. All three of them write *expressis verbis* about it, and first of all Bocheński, who admits that thanks to Salamucha he finally turned his interests to the mathematical logic, its history and its use in philosophy (among other things in analysis of the analogical notions problem and the proofs of the existence of God and the soul immortality).

The influence of Salamucha's thought grew in Poland slowly — but systematically — and it reached the culminating point at the moment of his tragic death. Then he belonged to the group of the "first–class masters", between whom Hiż (1961) attained his logical and general logic epaulettes; then he also became a logic teacher of Grzegorczyk — and a very good teacher, as the student himself confirms.

Zygmunt Zawirski wrote in 1947 about Salamucha's death:

> It is an irreparable loss for the Polish science. It is not going to be easy for anybody to replace him (1947).

Zawirski was not yet completely conscious of the fact, that even the influence of Salamucha's ideas itself was going to be pulled back for some time, because of the coincidence of the unfriendly external circumstances: the circumstances all together not friendly for the Polish philosophy, and — especially for the good Polish philosophy.

Luckily the external situation slowly changed, and the talented continuators appeared. With his program of metaphysics and theology axiomatization already for some time had sympathized Kazimierz Kłósak (1952) and Stanisław Kamiński (1962). Now Korneliusz Policki (1975) joined them (and first of all) also the student of Józef Iwanicki and Kłósak — Edward Nieznański (1979; 1980). Similarly the historians started to refer to his logical–historical output: Olgierd Narbutt (in the domain of the history of the medieval logic in general) (1969), Tadeusz Włodarczyk (in the domain of the reconstruction of propositional logic in John Duns Scotus and William Occam work) (1971) and Mieczysław Markowski (in the domain of the history of the Polish medieval logic) (1975–1976).

This is what happened between Salamucha's countrymen.`

And abroad still before the war his work was known and respected by the German logician and theologian, Scholz. He wrote about Salamucha:

> We owe him the treatise *O pojęciu dedukcji u Arystotelesa i św. Tomasza z Akwinu*, which is — in my opinion — the best work, that has been written on this difficult subject (1938a: 267).

After the war another German logician Johannes Bendiek (1956) referred to the program of theodicy formalization (formalizing also the casual proof) and also Italian logician Francesca R. Barbó (1960; 1962). Between foreign symphatizers of Salamucha's program there also was a Dutch philosopher Fernand J. Vandamme (1982a), who emphasized:

> We want to — following Salamucha — express our hope that logic will help to better understand and explain the religion thought and activity.

His countryman — Hubertus G. Hubbelling — wrote at the beginning of the coedited book *Logic and religion* ((ed.) 1982) the following dedication:

> This book is especially dedicated to a great Polish logician and philosopher of religion Jan Salamucha, who was a pioneer in the field of logic and religion.

14. Assessement

Many times and in many ways Salamucha tried to convince his listeners and readers to *respect* philosophical tradition, but not to fetishize it. So the list of, first of all, critical remarks — doubts and reservations — for his attitude, agrees with Salamucha's attitude.

(1) Salamucha proposed to interpret the analogical terms as the expressions typically many–meaning. If such interpretation is accepted, then the term "just" is the analogous term on the grounds of theology only on the condition, that between theological theses there may be found not only the sentences of the type: "God is just", but also the sentences of the type: "Peter is just". However,

it seems that the sentences of the second type do not belong to theology; they are let us say — the consequences of some ethical theses. If so, then the expression "just" on the grounds of theology language is either one–meaning word, or «normally» many–meaning. And this would happen to every term. Therefore the theology language could never be the analogous language; the analogy could belong at the most to some «hybrid» discipline, including for example theology and ethics.

(2) "We have «sharp» classifications only in mathematics and logic; in the range of real objects the borders between groups specified will always be quite unsettled" — wrote Salamucha (1946d), making the classification of philosophical systems. No wonder, that also his classification of the reasonings is not fully satisfying. There are two main reasons of this.

Firstly, *totum divisionis* is not precisely enough stated in this classification. Two senses of the "argumentatio" overlap: the one, which is about the searching for adequately conclusions, axioms of the proof, checking results or explaining hypotheses, and the one, which is about giving these conclusions, axioms, results and hypotheses. In the first case the process of reasoning has the character of the unattainable with the use of the logical heuristics means and to talk about its one clear direction is groundless. In the second case, talking about any direction of the reasoning process does not have any literary sense, because there is not any process at all.

Secondly, Salamucha (similarly to what Łukasiewicz already did) wanted to select *fundamenta divisionis* in such way, that the crossing of divisions would give — as *membra divisionis* — conclusion, proving, checking and explanation. However, what we *de facto* receive as a result of this crossing, is not the real conclusion, proving, checking and explanation. Especially for example neither searching for the proof, nor searching for the explaining hypothesis is a process, that would mean passing «along» the sequence of the thesis put in order by the relation of inference, from the beginning of this sequence to the end of it. Checking, on the other hand, is studying the truth of the empirical consequences of some hypothesis, not the «drawing» of this hypothesis only; «undramatized» checking and explanatory sequences do not differ from each other in any way. Similarly the simple formulation of the deduction, as the reasoning leading to the conclusions as certain as the assumptions, does not agree with the stated by Salamucha qualification of the deductional reasoning as the one, in which the premises are certain, and the conclusion is uncertain (this inconsistency was pointed out to Salamucha by Kłósak).

Probably the consciousness of these difficulties was the reason, that the discussion on the problem of reasonings classification (comp. also Tadeusz Czeżowski's consideration) finally went away from Łukasiewicz's solutions (comp. also Kazimierz Ajdukiewicz's proposals).

(3) According to Salamucha, theological axiomatics has a different origin than philosophical axiomatics — and these axiomatics are the systems of different axioms. Apart from that, theological axiomatics is not only different from the

philosophical axiomatics, but also different are the classes of consequences of these axiomatics. This is the actual situation. Of course it is possible logically, firstly, that two intensionally identical sequences of propositions may be differently justified — the more they are «acquired». Secondly, the given statement may be — of course — the consequence of the different axiomatics, and every set of statements which can be axiomized, can be axiomized in many different ways.

(4) Considered by Salamucha differences between two statements in consideration of their intensions and their subject may be put in the following way. Let us have the following given propositions: (1) *Pa*, (2) *Pb*, (3) *Qa* and (4) *Qb*, where $P \neq Q$ and $a \neq$ B. Propositions (1) and (3) have the same subject, but different intension; propositions (1) and (4) — and (3) and (4) — as pairs have the same intension, but a different subject, propositions (1) and (4) — and (2) and (3) — as pairs have a different intension and a different subject. Proposition (3) may especially have (that is with the assumption, that the denotations of both predicate — understood literally — are complimentary) the following form: (3') *~Pa*.

A question arises, how to understand Salamucha's directive, that in the case, when Catholic philosopher finds in his philosophical system thesis of type (3'), which is the negation of some thesis equiformitive to thesis (1), which belongs to the accepted by him Catholic theological system, then he should remove thesis (3').

In accordance with the simplest occurring interpretation, he should simply include thesis (1) to his system. This would have to be followed by the modification of accepted by him philosophical axiomatics. However, thesis (1) is formulated in the theological language, so predicate '*P*' is the analogous predicate. Are there any theological and philosophical theses of the same intensions literally? If such theses do not exist, then the philosophical thesis (3') is only seemingly contradictory to the theological thesis (1).

There is one more problem. The opinion, that Catholic philosophy is such philosophical system, for which Catholic theology is a negative norm, probably cannot be interpreted — in spite of Salamucha's suggestions — in the way, that every system, in which no thesis is «effectively» contradictory to any thesis of the Catholic theology, is *ex definitione* Catholic philosophy. Some additional «pragmatic» factor is probably needed here — a factor of readiness to use this norm «with the conviction»; or maybe, as Tadeusz Kordyasz (1946) assumes, even this will not be enough.

(5) Conflict between the science and theology is, as Salamucha thought, excluded, because they have different subjective domains. The subject of the theological theses is God and his relationship with the man and extra–human world; the science works only on the counterdomain of this relationship. So Salamucha assumed, that saying something about — at least some — relations, we do not say anything about the relatives setting the field (or more precisely the domain) of such relations (they may be called the transcendental relations). However

at the same time he declares for using the scientific knowledge in the Catholic doctrine development, underlining that the knowledge about the physical and psychical world makes it easier to understand the doctrinal axioms and it is necessary for the correct development of doctrines into the system. This does not seem consequent.

(6) Noticed by Salamucha danger of the vicious circle, while defining the essential property, referring to the notions of the natural species, may be avoided, if the essence of the differences between the lowest species is accepted as the essence relativised to something (for example to some goal).

(7) From the fact, that it is true both about the bodies and the souls, that both the first ones and the second ones do not exist somewhere, and also it is true only about the bodies, that they are placed somewhere, it is allowed to draw the conclusion, that the last statement is false for the souls, with the assumption that no soul is a body. So it is not really clear what the souls' spatiality is, according to Salamucha.

(8) Cosmogenetical and anthropogenetical hypotheses in science — despite the conviction of some of their authors — are not, in Salamucha's opinion, the «eschatological» hypotheses. For example, when we say, that cosmos has come to existence out of the original nebulas or that the contemporary natural species have come into being on the way of the primitive species evolution, then justified are the questions, where did the original nebulas and original species come from. According to Salamucha — free from such problematic *regressus ad infinitum* is the theistic hypothesis. However, this requires the acceptance, that the question about Creator's genesis is the question either put in the wrong way or without any sense at all.

(9) In spite of Salamucha — as pointed out by Kazimierz Kowalski (1931) — the understanding of the deduction by Aristotle and St. Thomas (generality of reason), is different from the understanding proposed by Salamucha (certainty of reason).

(10) Not without a reason Aristotle "notices some difficulties" in the elenctical argumentation in support of the principle of contradiction. If this argumentation is put in the form proposed by Salamucha, then accepted as the departure definitions of truth and falseness either (a) show the confusion of the subjective language and the metalanguage (which inevitably leads to the vicious circle), or (b) they extend the subjective language with the functors '*V*' and '*F*' (which unavoidable gives the contradiction). In Salamucha's work — as it can be suspected — we deal with case (a).

(11) As Kazimierz Kowalski (1931) says, Aristotle — despite Salamucha's suggestion — was conscious, that his argumentation in support of the first principles, do not have a character of justification *sensu stricto* (because it is not possible to give one), but they are something of the kind of *un roman scientifique*.

(12) Salamucha accused Peter of Ailla that by limiting the prohibition of using of the self–reflexive signs only to the universal psychical language; he

disturbs the one–one relation of the setting in order, between this language and the conventional languages (graphical–phonetic). This accusation is not quite right, because Salamucha groundlessly takes as a good sign the declarations of Peter of Ailla about such one–one relation; such setting in order cannot happen — even *cum grano salis* — in the situation, where on one side we have just *one*, and on the other side many languages, and what is more, double languages (in the graphic and phonetic version).

(13) In Kłósak's opinion, Salamucha reconstructed the argumentation *ex motu* given by St. Thomas in the incorrect way. The premises of St. Thomas' reasoning were in fact to be as follows:

(a) for every x being in motion there is another t, that moves x (like in Salamucha's work);

(b) the movement relation is the linear order relation (like in Salamucha's work);

(c) there is a movement (this premise conforms with the assumption about the reality of the field of the movement relation, which Salamucha mentions, but does not include the set of the premises necessary for the reconstructed deduction);

(d) the fact of the movement existence is (that is — is to be) understandable (this meta–assumption of «rationality» in Salamucha's work does not appear at all).

(14) Stated by Salamucha interpretation of St. Thomas' reasoning Francesca Barbó considers materially not correct (and her opinion share Kamiński, Policki and Nieznański). Because Salamucha wrongly thought, that in agreement with St. Thomas the movement relation is compact in its own field, so it puts it in linear order.

(15) Another objection was put forward by Bocheński. According to Bocheński, St. Thomas does not prove the existence of the element which is *primum movens*, but *movens immobile*. So the conclusion of his reasoning should have the following form:

(*) $\bigvee v \{\bigwedge z \sim [zRv \wedge \sim (v = z)] \wedge \bigvee u [vRu \wedge \sim (u = v)]\}$.

But, as Nieznański indicated, on the grounds of Salamucha's calculus his conclusion and the conclusion (*) are equivalent.

(16) Salamucha interpreted the premise about the prohibition *regressus in infinitum* in a different way than it is understood in the accepted in general today conception of Bendiek. According to this conception this premise is not about the acceptance of the thesis of the limitation of the movement relation, but it is about the prohibition of going back to the being first (and not into the infinity!) in the sequence of the moved movers, so (with some interpretation) about the acceptance of the thesis of the existence of the minimal element of the relation: being–is the reason–for the existence. Salamucha interprets this thesis as the thesis of the existence of the first element of the movement relation field. However with the assumption that the movement relation field

is the denumerable set (and this is most likely what Salamucha thinks), this interpretation is equivalent to the thesis of this set finity.

(17) In agreement with Salamucha, the assumption, that the movement relation is in its field the linear order relation, may be weakened: it would be enough to accept, that this relation is asymmetric. The asymmetry would be, according to Salamucha, the property less obvious than its counter–reflexivity, transitiveness and compactness. This is difficult to agree with. With some interpretation it may be stated, that the formalized text talks about the counter–reflexivity of the movement relation. However it is difficult to find in this text the mention to transitiveness and compactness; it actually seems — this is what for example Barbó thinks — these properties do not belong to the (spatial) movement relation.

(18) St. Thomas' argumentation in support of the existence of the first element in the ordered field of the movement relation — put by Salamucha — is not sufficient, because in the proof of the auxiliary thesis

$\sim \wedge x \wedge y\ [xRy \rightarrow (fx \wedge fy)]$

the following axiom has been used:

For any two things x and y and any two time moments t_1 and t_2 it is, that if x moves y, t_1 is the duration of x, and t_2 is the duration of y, then t_1 is identical to t_2.

It does not seem that this axiom is obviously true.

(19) On the base of the experience it is already difficult to agree with the fact, that the (spatial) movement relation is the linear order, and even more difficult with the fact, that in the field of this relation the first element exists. The justification with the help of the obviousness of some axioms, from which the premises of the analyzed reasoning may be drawn, is also doubtful. It is difficult to find the assertion of some axioms, if there are some not clear notions — for example the notion of act and potency. The problem is additionally complicated by the fact that the interpretation of these notions sometimes strays away from St. Thomas' intention. It happens this way, in Bocheński's opinion, with the mentioned notions of the act and potency. For the variable S in the notions 'xA_Sy' ("x is in respect of S *in actu* towards y") and "xP_Sy" ("x is in respect S *in potentia* towards y") Salamucha puts the movement relation. Bocheński thinks that the variables being the indexes by the constants 'A' and 'P' should rather proceed the set of forms.

(20) Non–intuitional is proposed by Salamucha conception of the relation ordering intentionally and not satisfying is given by him definition of the intentional action, on which the first one is based on.

The condition (a) of the intentional action — that is the condition of the occurrence of the purpose — is not sufficient; the condition (c) on the other hand is in some respect not sufficient (the occurrence of the purpose does not depend on any activity), in some other respect it is «too strong» (it is not true that every purpose may be attained only through the activity of the specified person).

It seems that the first one would be more adequate, if it had a different shape. We should assume that:

A starts the action [so] the occurrence *z* would occur in moment t_2; when at the same time:

(a) *A* in duration (t_1, t_2) wants, so that the occurrence *z* appears in moment t_2,

(b) *A* thinks, that the occurrence *z* arising depends on the action (scil. the sequence of functions) ordered in this way *S*;

(c) *A* in duration (t_1, t_2) starts the action ordered in the way *S*.

Of course it does not remove the problems with the interpretation of the «mysterious» intensional functors "wants, so that", "thinks, that" and the problems with the interpretation of the relation of the dependence between the arising of the «wanted» occurrence and the action taken (is only a result? is always a result?). Also open remains the question, if the condition (b) is also fulfilled, when *A* is wrong when it concerns the occurrence of this dependence.

(21) The border that Salamucha set between the egoistic expanded (group) love and the altruistic «multidimensional» love is not clear. Is this only about the fact, that the second one is connected with the prohibition of hate towards the «strangers»?

15. «Architectonic style» in philosophy

How does, on the background of the detailed reservations and doubts, the general estimation of his «architectonic style» in philosophy look like?

First of all, we can see in him "a fervent supporter of tomism" (Sobociński) and also "in a modern manner educated logician" (Hiż), who was *spiritus movens* and the first realizer of "one of the most important in the history of new scholastics" initiative — the program of mathematical logic use in the modernization of neoscholastics (Tatarkiewicz). In this field his main achievements are: the first thorough logical analysis of one of the proofs of God existence (Daniela Gromska, Konstanty Michalski, Bocheński, Bendiek, Barbó) and modern (Bocheński) and "extremely humorous and clever" (Zawirski) interpretation of scholastic notion of analogy.

Secondly, he is considered an outstanding "expert in medieval logic" (Hiż) and its Aristotelian sources. In this field as his main achievements we usually mention: detection of the contradiction in Aristotle's theory of deduction, outlining the genesis of problems of antinomies in scholastics, reconstruction of William Occam propositional logic and settlement of the authenticity of his treatise about the insoluble (Czeżowski). Let us add to this also a successful joining in the stubbornly discussed in the 20th century Polish philosophy problem of the notion of the essence.

All this is enough to recognize Salamucha as one the most outstanding Polish philosophers of the 20th century, who knew how to connect his undoubtful logical competence with the philosophical erudition and theoretical «profundism». It is worth to point out, that at the same time he did not avoid the philosophy

popularization, but while popularizing — he did not shallow, but cleared its complications. He came from the good philosophical school and he considerably increased its output.

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Appendix: Bibliography of the Polish logic from the second half of the 14th century to the first half of the 20th century

1. The old logic

1.1. The period of ontologism: XIVth/XVth century

[Of] **Grotków**, Jan (cir. 1300 – 1352): 1342 — *De clavibus intentionum*, mn. 1342? — **Hesse**, Benedykt (cir. 1389–1456): 1420a — *Quaestiones super „Isagogen" Porphyrii*, mn. 1420?; 1420b — *Quaestiones super praedicamenta Aristotelis*, mn. 1420?; 1420c — *Quaestiones super duos Libros „De interpretatione" Aristotelis*, mn. 1420? — **Isner**, Jan (cir. 1345 – 1411): 1375a — *Puncta super „Isagogen" Porphyrii*, mn. 1375?; 1375b — *Puncta super „Praedicamenta" Aristotelis*, mn. 1375?; 1375c — *Puncta super duos libros „De interpretatione" Aristotelis*, mn. 1375?; 1375d — *Puncta super duos libros „Analyticorum priorum"* Aristotelis, mn. 1375?; 1376e — *Puncta super duos libros „Analyticorum posteriorum" Aristotelis*, mn. 1375? — [Of] **Sienno**, Piotr (cir. 1382 – before 1460): 1416 — *Quaestiones super duodecim libros „Metaphysicae" Aristotelis*, mn. 1416? — [Of] **Słupcza**, Jan (1408–1488): 1433 — *Puncta super duodecim libros „Metaphysicae" Aristotelis,* mn. 1433? — **Wacięga**, Jan (1390?–1473): 1435a — *Commentum super „Analytica priora" Aristotelis*, mn. 1435; 1435b — *Commentum super duos libros „Analyticorum posteriorum" Aristotelis,* mn. 1435. — [Of] **Worczyn**, Paweł (cir. 1380 – cir. 1430): 1417 — *Quaestiones super tres libros „De anima" Aristotelis,* mn. 1417; 1424 — *Quaestiones disputatae super decem libros „Ethicorum Aristotelis,* mn. 1424. — [Of] **Zgorzelec**, Piotr (? – cir. 1420): 1423 — *Parvulus philosophiae naturalis,* mn. 1423? — [Of] **Ziębice**, Jan (cir. 1350 – 1416): 1398 — *Quaestiones disputatae super duos libros „Analyticorum priorum" Aristotelis,* mn. 1398?

1.2. The period of grammaticalism: XVth/XVIIth century

Falkener, Michał (cir. 1460 – 1534): 1494 — *Explanatio super duos libros „Analyticorum priorum" Aristotelis*, mn. 1494?; 1504 — *Congestum logicum*, K. 1504. — [Of] **Giełczew**, Mikołaj (?–1508): 1507 — *Expositio in passiones terminorum Marsilii,* K. 1507. — [Of] **Głogów**, Jan (cir. 1440 – 1507): 1499 — *Quaestiones super „Priora analytica" Aristotelis*, Lg. 1499; 1500 — *Exercitium super omnes tractatus „Parvorum Logicalium" Petri Hispani*, Lg. 1500; 1504 — *Exercitium veteris artis,* K. 1504; 1507 — *Exercitium novae logicae,* K. 1507. — [Of] **Stobnica**, Jan (cir. 1470 – 1530): 1504 — *Generalis doctrina de modis significandi grammaticalibus*, K. 1504?; 1505–1506 — *De praedicationibus abstractorum*, K. 1505–1506. — **Twaróg**, Michał (cir. 1450 – cir. 1520): 1507a — *Quaestiones veteris ac novae logicae,* K. 1507; 1507b — *Quaestiones in tractatus „Parvorum logicalium" Petri Hispani,* K. 1507.

1.3. The period of epistemologism: XVIth/XVIIth century

Bodocki, Wawrzyniec (1608–1663): 1640 — *Disputatio de natura, obiecto et fine logicae*, Rk. 1640. — **Burski**, Adam (cir. 1560 – 1611): 1604 — *Dialectica Ciceronis,* Z. 1604. — **Górski**, Jakub (1525–1585): 1563 — *Commentariorum artis dialecticae libii decem,* Lg: 1563. — **Holstein**, Mateusz (?–?): 1521 — *Enchiridion logicae ac dialecticae,* K. 1521. — **Keckermann**, Bartłomiej (1572?–1609?): 1599 — *Praecognitorum logicorum tractatus tres*, Hg. 1599?; 1600 — *Systema logicae compendiosa methodo adornatum*, Hr. 1600; 1605 — *Systema logicae tribus libris adornatum*,

G. 1605. — **Korona**, Marek (cir. 1590 – 1651): 1639 — *Directorium, albo raczej wprawowanie do pojęcia terminów elementów logicznych i filozoficznych*, L. 1639. — **Makowski**, Jan (the elder) (1588–1644): 1660 — *Opuscula philosophica,* A. 1660. — **Mikański**, Stefan (?–?): 1561 — *Dialecticae et rhetoricae praecepta*, K. 1561. — **Mościcki**, Mikołaj (cir. 1574 – 1632): 1606 — *Rudimenta logices seu institutiones logicae libri septem*, K. 1606; 1625 — *Elementa logices libri septem,* K. 1625. — **Pudłowski**, Stanisław (1597–1645): 1634 — [*Symbola logicae*], mn. 1634? — **Śmiglecki**, Marcin (1564–1618): 1618 — *Logica selectis disputationibus et questionibus ilustrata*, I. 1618. — **Wierzchoński**, Samuel (before 1600 – 1642?): 1620 — *In universam Aristotelis logicam quaestiones scholasticae*, Kn. 1620; 1627 — *Tractatum summularium,* Kn. 1627. — **Załuski**, Łukasz (cir. 1600 – 1673): 1640 — *Compendium totius philosophiae,* Wo. 1640.

1.4. The period of didacticism: XVIIth/XVIIIth century

Gengell, Jerzy (1657–1727): 1717 — *Gradus ad atheismum,* B. 1717. — **Iwański**, Mikołaj (?–?): 1741 — *Quaestio logica de natura logicae,* K. 1741. — **Konarski**, Hieronim (Stanisław) (1700–1773): 1741 — *De emendandis eloquentiae vitiis,* W. 1741. — **Kowalski**, Jan (1711–1789): 1747 — *Rozmowa o filozofii*, L. 1747; 1749 — (under the name of Antoni **Kulesza**) *Philosophia peripathetica*, L. 1749. — **Kozaczyński**, Michał (1699 – after 1749): 1745 — *Filozofia Arystotelesa podług mniemania perypatetyków na świat podana*, Kw. 1745. — **Krasnodębski**, Adam (1645–1702): 1678 — *Philosophia Aristotelis explicata*, W. 1678. — **Makowski**, Szymon (the younger) (cir. 1620 – 1683): 1679 — *Cursus philosophicus* t. 1, K. 1679. — **Miaskowski**, Adrian (1657–1737): 1720 — *Introductio in universam Aristotelis philosophiam seu dialectica*, P. 1720. — **Młodzianowski**, Tomasz (1622–1686): 1671— *Praelectiones metaphysicae et logicae*, G. 1671; 1682 — *Praelectiones philosophicae de metaphysica et logica*, Mz.–G. 1682. — **Morawski**, Jan (1631–1700): 1660 — *Totius philosophiae principia*, P. 1660. — **Ohm–Januszowski**, Ferdynand (1639–1712): 1692 — *Summa philosophica in tres partes divisa: logicam, physicam, metaphysicam*, K. 1692. — **Ostrowski**, Kazimierz (1669–1732): 1719 — *Singulares universae rationalis scientiae controversiae*, P. 1719? — **Podlesiecki**, Aleksander (1682–1762): 1731a — *Compendium philosophiae Aritotelicae*, P. 1731; 1731b —*Connotata antonomastica,* P. 1731; 1743 — *Placita recentiorum philosophorum*, Ln. 1743. — **Radliński**, Jakub (cir. 1700 – 1762): 1753 —*Fundamenta scientiarum,* K. 1753. — **Rudzki**, Jędrzej (1714–1766): 1747 — (under the name of Wojciech **Obrębski**) *Philosophia orthodoxa in logicis thesibus propugnata,* P. 1747; 1750 — *Aristotelica philosophia,* Ln. 1750. — **Schelgvigius**, Samuel (?–?): 1673 — *Idea logicae*, Tń. 1673. — **Sczaniecki**, Stefan (1655?–1736?): 1694 — *Fragmenta ex logica,* Ksz. 1694. — **Skorulski**, Antoni (1715–1780): 1755 — *Commentariorum philosophiae, logicae scilicet, metaphysicae, physicae generalis et particularis*, Wo. 1755. — **Stęplowski**, Kazimierz (1700–1772): 1753 — *Logica incipientium*, K. 1753. — **Tylkowski**, Wojciech (1624?–1695): 1669 — *Logica curiosa,* K. 1669; 1680 — *Logica curiosa*, O. 1680; 1692 — *Uczone rozmowy*, W. 1692. — **Zajączkowic**, Jan (cir. 1650 – 1717): 1695 — *Optimum elixir apoplexiae mundanae sapientia,* K. 1695.

2. The modern logic

2.1. The period of psychologism: 1757–1864

2.1.1. 1757–1782

Benisławski, Jan (1736–1806): 1744 — *Institutiones logicae, seu brevis tractatus de cultura ingenii*, Wo. 1774 pp. 38. — **Bohomolec**, Jan (1724–1795): 1763 — *Conclusiones ex universa logica et metaphysica. Ex logica*, W. 1763 pp. 22. — **Dobszewicz**, Benedykt (1722–1794): 1760 — *Placita recentiorum philosophorum explanata*, Wo. 1760 pp. 10; 1761 — *Praelectiones logicae*, Wo. 1761 pp. 576. — **Kleczewski**, Stanisław (1714–1799): 1772 — *Prima elementa philosophiae rationalis et experimentalis.* Pars 1–2, L. 1772 pp. 202 + 180. — **Konarski**, Hieronim (Stanisław): 1767 — *De arte bene cogitandi ad artem dicendi bene necessaria.* Pars 1–3, W. 1767 pp. 186 + 148 + 138.

— **Narbutt**, Kazimierz (1738–1807): 1769 — *Logika, czyli rozważania i rozsądzania rzeczy nauka*, Wo. 1769 pp. 150. — **Wiśniewski**, Antoni (1718–1774): 1757 — *Elementa philosophiae varsaviae.* T. 1 — *Complectens prolegomenam, logicam et ontologiam* (tb.), mn. 1757 pp. 378. — **Włodek**, Ignacy (1723–1780): 1780–1814 — *O naukach wyzwolonych w powszechności i szczególności księgi dwie*, Ra. 1780 pp. 416 (= ks. 1), Ww. 1814 pp. 290 (= fragments of ks. 2).

2.1.2. 1798–1806

Hoene–Wroński, Józef (1776–1853): 1803 — *Philosophie du langage*, [in:] *Philosophie absolue. Premiers travaux. Sept manuscrits inédits écrits de 1803–1806*, Ps. 1879 p. 13–47. — **Nikuta**, Marcin (1741–1812): 1798 — *Sciographie de l'art de penser*, W. 1798 pp. 140. — **Szaniawski**, Józef (1764–1843): 1805 — *Rady przyjacielskie młodemu czcicielowi nauk i filozofii*, W. 1805 pp. 278, XX.

2.1.3. 1812–1839

Czarnocki, Mikołaj (1777–1818): 1812 — *Logika* (tb), mn. 1812 pp. 34. — **Dowgird**, Anioł (1776–1835): 1817 — *Rozbiór dzieła pod tytułem „O filozofii", przez Feliksa Jarońskiego, z uwagami nad nim*, DW t. 6/1817 p. 67–111, 191–231, 283–331; 1821 — *O logice, metafizyce i filozofii moralnej*, Wo. 1821 pp. 318; 1828 — *Wykład przyrodzonych myślenie prawideł, czyli logika teoretyczna i praktyczna.* Cz. 1, Pk. 1828 pp. 426; 1839 — *Rzeczywistość poznań ludzkich,* WRNPN t. 5/1839 s. 5–81 (abridgement). — **Gołuchowski**, Józef (1797–1858): 1821 — *O logice, metafizyce i filozofii moralnej*. Cz. 1 — *Logika,* AHFMS t. 8/1962 p. 271–279. — **Jankowski**, Józef (1790–1847): 1819 — *Filozofia dawna w Uniwersytecie Krakowskim* (tb.), mn. 1819 pp. 276; 1822 —*Krótki rys logiki wraz z jej historią ułożony*, K. 1822 pp. 10, 218; 1829 —*Succincta logices in Polonorum scholio historia*, MCN t. 1/1829 p. 31–44; 1830 — *Nauka filozofii właściwej* (tb. of lectures?), mn. 1818–1847? — **Jaroński**, Feliks (1777–1827): 1812 — *O filozofii.* Cz. 1–3, K. 1812 pp. XXIX, CXXVII + 402 + 240. — **Kamiński**, Jan (1777–1855): 1830a — *Czy język nasz jest filozoficzny?*, H t. 1/1830 p. 71–108; 1830b — *Wywód filozoficzności naszego języka*, H. t. 2/1830 p. 108–164. — **Lach–Szyrma**, Krystyn (1791–1866): 1825 — *O związkach myśli*, PPKWU 1825 p. 15–34. — **Przeczytański**, Patrycy (1750–1817): 1816 — *Logika, czyli sztuka rozumowania*, W. 1816 pp. 188. — **Śniadecki**, Jan (1756–1830): 1818a — *O rozumowaniu rachunkowym*, DW t. 1/1818 p. 348–365; 1818b — *O logice i retoryce*, [in:] *Pisma rozmaite.* T. 3, Wo. 1818 p. 115–127; 1822 — *Filozofia umysłu ludzkiego. Treść nauki Arystotelesa i dawnych dialektyków o sylogizmie*, [w:] *Pisma rozmaite.* T. 4, Wo. 1822 p. 113–324. — **Śniadecki**, Jędrzej (1768–1838): 1818 — *Z logiki: Co jest rozum*, WE 1818 p. 37–40. — **Wiszniewski**, Michał (1794–1865): 1834 — *Bacona metoda tłumaczenia natury*, K. 1834 pp. XXIV, 192. — **Żochowski**, Feliks (1802–1868): 1833 — *O związku mowy z myślą*, TPWPU t. 2/1833 p. 110–115.

2.1.4. 1842–1864

Boczyliński, Ignacy (1826–1883): 1864 — Teofil Borzęcki: „Treść logiki popularnej" (rev.), BW r. 24/1864 t. 3/95 z. 3 p. 500–504. — **Borzęcki**, Teofil (1800–1887): 1862 — *Treść logiki popularnej poprzedzona krótkim wykładem psychologii*, W. 1862 pp. IV, 247. — **Jezierski**, Feliks (1817–1901): 1842 — *Rzuty językowe*, PN r. 1/1842 t. 2 nr 14 p. 529–554; 1843a — *Ustęp z materiałów do filozofii mowy polskiej*, PN r. 2/1843 t. 2 nr 14 p. 180–188; 1843b — *Główne postępy mowoznawstwa*, PN r. 2/1843 t. 2 nr 16 p. 293–306, r. 3/1844 t. 1 nr 6 p. 187–192, nr 7 p. 205–214; 1843c — *Przygotowania do wiedzy mowy polskiej*, W. 1843 pp. 354; 1845a — *O dwóch pierwiastkach myślenia*, PN r. 4/1845 t. 1 nr 9 p. 299–311; 1845b — *Rzecz o pojęciach ludzkich, ich pochodzeniu i rozwijaniu się*, PN r. 4/1845 t. 4 nr 30 p. 955–971, nr 31 p. 981–1003, nr 32–33 p. 1026–1054, nr 35–36 p. 1118–1148; 1846 — *Myśl i twórczość*, PN r. 5/1846 t. 4 nr 30 p. 897–915, nr 33–34 p. 1039–1046, nr 35 (*Piękność w walce z historią*) p. 1049–1055, nr 36 (*Wpływ poezji na umysł i społeczeństwo*) p. 1082–1089; 1847 — *Nauczyciel ze stanowiska moralnego i naukowego*, W. 1847 pp. IX, 276. — **Kamiński**, Jan: 1845a — *Jaka różnica między sposobem a środkiem?*, R 1845 nr 3 p. 22–23;

1845b — *Wiedza, pamięć, przypomnienie.* R 1845 nr 33 p. 266–267; 1851 — *Dusza uważana jako myśl, słowo i znak*, L. 1851 pp. IV, 214. — **Kaszewski**, Kazimierz (1825–1910): 1861 — *Nauka logiki i jej korzyści*, TI 1861 nr 113 p. 201–203. — **Kremer**, Józef (1806–1875): 1849 — *Wykład systematyczny filozofii.* T. 1 — *Fenomenologia. Logika*, K. 1849 pp. XIV, 492. — **Kudasiewicz**, Adolf (1820–1865): 1856 — *Wyjątek z dzieła „Próbki filozofii mowy"*, BW r. 16/1856 t. 3/63 z. 2 p. 121–142, z. 3 p. 300–326; 1858 — *Próbki filozofii mowy*, W. 1858 pp. XI, 314. — **Plebański**, Józef (1831–1897): 1862 — *Lekcja wstępna metodologii nauk akademickich*, W. 1862 pp. 24. — **Struve**, Henryk (1840–1912): 1863a — *Wywód pojęcia filozofii*, W. 1863 pp. 50; 1863b — *Logika poprzedzona wstępem psychologicznym* (tb.), W. 1863 pp. 172, 428. — **Trentowski**, Bronisław (1808–1869): 1844 — *Myślini, czyli całokształt logiki narodowej*. T. 1–2, P. 1844, pp. XXXVIII, 482 + IV, 492. — **Tyszyński**, Aleksander (1811–1880): 1860 — *Trzy logiki, czyli jaką powinna być logika*, BW r. 20/1860 t. 4/80 z. 3 p. 469–498. — **Urbański**, Wojciech (1820–1889): 1862 — *Metoda badania i zdobycze fizyki nowoczesnej*, BO t. 1/1862 p. 271–300. — **Wiszniewski**, Michał: 1848 — *O rozumie ludzkim, jego siłach, przymiotach i sposobach kształcenia*, W. 1848 pp. IV, 258. — **Ziemięcka** (born **Gagatkiewicz**), Eleonora (1819–1869): 1845 — *Słówko o podstawie pewności filozoficznej*, Pi t. 1/1845 z. 3 p. 233–242. — **Żochowski**, Feliks: 1852 — *Mównia języka polskiego*, W. 1852 pp. 218, XVI.

2.2. The period of algebraicism: 1870–1939

2.2.1. 1870–1882

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2.2.2. 1884–1899

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2.2.3. 1900–1917

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nr 4 p. 6–8; 1934e — *L'évolution de la notion du temps*, S a. 28/1934 v. 55 nr 4/284 p. 249–261; 1934f — *Lévlution de l'idée du temps*, BIAPSL cl. 1–2 1934 nr 4–6 p. 125–127; 1935a — *Über das Verhältnis der mehrwertigen Logik zur Wahrscheinlichkeitsrechnung*, SP v. l/1935 p. 407–442; 1935b — Joachim Metallmann „Determinizm nauk przyrodniczych" (rev.), PF r. 38/1935 z. 1–2 p. 145–156; 1936a — *L'évolution de la notion du temps*, K. 1936 pp. XVIII, 358; 1936b — Eric Temple Bell „The search for truth" (rev.), KF t. 13/1936 z. 2 p. 166–171; 1936c — *W sprawie syntezy naukowej*, PF r. 39/1936 z. 4 p. 347–350, 352; 1936d — *Über die Anwendung der mehrwertigen Logik in der empirischen Wissenschaft*, Er b, 6/1936 H. 5–6 p. 430–435; 1936e — *Les rapport de la logique polyvalente avec le calcul des probabilités*, ACIPS p. 40–45; 1936f — *Bedeutung der mehrwertigen Logik für die Erkenntnis und ihr Zusammenhang mit der Wahrscheinlichkeitsrechnung*, A8CIP p. 175–180; 1937 — *Importance des recherches logiques et sémantiques pour les théories de la physique contemporaine*, T9CIP f. 6 p. 82–87; 1938a — *Doniosłość badań logicznych i semantycznych dla teorii fizyki współczesnej*, PF r. 41/1938 z. 1 p. 25–30; 1938b — *Logika teoretyczna* (mp. mimeographed), K. 1938 pp. 140. — **Zeidler**, Franciszek (1907–1972): 1939–1946 — Thomas Greenwood „Les fondements de la logique symbolique" (rev.), KF t. 16/1939–1946 z. 1 p. 91–95. — **Ziołowski**, Erazm (before 1870? – after 1920?): 1920 — *Zasadnicze wiadomości z nowszej psychologii i logiki przedstawione popularnie*, J. 1920 pp. 122, IV. — **Znamierowski**, Czesław: 1924 — *Podstawowe pojęcia teorii prawa.* Cz. 1 — *Układ prawny i norma prawna*, P. 1924 pp. 160; 1925a — *Kilka uwag o poglądzie prof. Wilkosza na sprawę nauk normatywnych*, PF r. 28/1925 z. 3–4 p. 252–255; 1925b — *Logika a teoria prawa. Replika p. Landemu z powodu recenzji o moich „Podstawowych pojęciach"*, CPE r. 23/1925 nr 1–12 p. 390–416; 1938 — Polydore Fabreguttes: „La logique judiciaire et l'art de juger" (rev.), RPES r. 18/1938 nr 3 p. 536–537. — **Znaniecki**, Florian: 1925 — *Przedmiot i zadania nauki* o *wiedzy*, NPPOR t. 5/1925 p. 1–78. — **Żółtowski**, Adam (1881–1958): 1936 — *Filozofia a logistyka*, PF r. 39/1936 z. 3 p. 242–247. — **Życzyński**, Henryk (1890–1943): 1921 — *O sądach szczegółowych*, MPe r. 30/1921 nr 12 p. 8–9. — **Żyliński**, Eustachy (1889–1954): 1918 — *O zasadach logiki i matematyki*, SPTNK pół. 1/1918 p. 31–32; 1921–1922 — *O przedmiocie i metodach matematyki współczesnej* (ar.), RF t. 6/1921–1922 nr 3–5 p. 71a–71b; 1925 — *Some remarks concerning the theory of deduction*, FM t. 7/1925 p. 203–209; 1927 — *O przedstawialności funkcyj jednych przez drugie*, PF r. 30/1927 z. 4 p. 290; 1935 — *Formalizm Hilberta.* Cz. 1 — *Formalizm* H_1, ANTL dz. 3 t. 7/1935 z. 4 p. 243–318.

3. Abbreviations

a. — annuaire/année; ar. — autoreport; B. — Band; ch. — chapter; cir. — circa; cl. — classe; col. — column; cz. — część/časť; č. — čislo; dz. — dział; f. — fasciculus; g. — год; H. — Heft; J. — Jahrbuch/Jahrgang; kn. — книга; ks. — księga; kw. — kwartał; mn. — manuscript; nr — number/numer; p. — page; pp. — pages; pół. — półrocze; r. — rocznik/rodnik/rok; rev. — review; sem. — semester/semestr; ser. — seria/serie; seš. — sešit; sup. — suplement/supplement; t. — tom/tomme; tb. — textbook; Tl. — Teil; v. — volumen/volume; w. — wydanie; wydz. — wydział; z. — zeszyt.

A. — Amsterdam; B. — Braniewo; Ba. — Bologna; Bd. — Belgrad; Be. — Baltimore; Bg. — Braunschweig; Bn. — Berlin; Bon. — Bonn; C. — Cieszyn; CH. — Chyrów; Cha. — Chicago; Fa. — Fulda; G. — Gdańsk; Ge. — Genéve; He. — Halle an der Saale; Hg. — Heidelberg; Hr. — Hannover; I. — Inglostadt; J. — Jasło; Ji. — Jaşi; K. — Kraków; Ka. — Kołomyja; Ke. — Kielce; Ken. — Kempten; Kn. — Köln; Kń. — Kazań; Ksz. — Kalisz; Kw. — Kijów; L — Lwów; Lg. — Leipzig; Lin. — Louvain; Lu. — Lublin; Lon. — London; Ls. — Lancaster; Ł. — Łódź; Ma. — Moskva; Mn. — München; Mo. — Milano; Mr. — Münster in Westfalen; Mz. — Mainz; Ni. — Napoli; NO. — New Orlean; O. — Oliwa; Oa. — Odessa; Oc. — Olomouc; Od. — Oxford; P. — Poznań; Pa. — Praha; Pg. — Petersburg; Pk. — Połock; Pn. — Pelplin; Pon. — Padeborn; Ps. — Paris; Ra. — Roma; Rk. — Rostock; Rz. — Rzeszów; S. — Sandomierz; Sj. — Stryj; Sr. — Sambor; T. — Tarnów; Ta. — Timişoara; Tń. — Toruń; To. — Torino; W. — Warszawa; Wg. — Würzburg; Wn. — Wien; Wo. — Wilno; Ww. — Wrocław; Z. — Zamość; Zch. — Zürich.

A — Ateneum, W.; An — Angelicum, Ra.; Ana. — Analysis, Od.; A5CIF — Atti del V Congresso Internationale di Filosofia, Ni. 1924; ACIM — Atti del Congresso Internationale degli Matematici, Ba. 1928 (1930); A8CIP — Actes du VIII[e] Congrès International de Philosophie, Pa. 1936; ACIPS — Actes du Congrès International de Philosophie Scientifique, Ps. 1936; AGP — Archiv für Geschichte der Philosophie, Bn.; AHDLMA — Archives d'histoire doctrinale et littéraire du Moyen–Age, Ps.; AHFMS — Archiwum Historii Filozofii i Myśli Społecznej, W.; AHFMHNP — Archiwum Historii i Filozofii Medycyny oraz Historii Nauk Przyrodniczych, P.; AKBHFP — Archiwum Komisji do Badania Historii Filozofii w Polsce, K.; AN — Archiwum Naukowe. Wydawnictwo Towarzystwa dla Popierania Nauki Polskiej, L.; ASI — Actualités Scientifiques et Industrielles, Ps.; ASUJ — Annales Scientifiques de l'Université de Jassy, Ji; ATNL — Archiwum Towarzystwa Naukowego we Lwowie, L.; AWWMNKAA — Akademie der Wissenschaften in Wien. Mathematisch–naturwissenschaftliche Klasse. Akademischer Anzeiger, Wn.; BCIP — Bulletin du Congrès International de Philosophie, Ps. 1901; BIAPSL — Bulletin International de l'Académie Polonaise des Sciences et des Lettres, K.; BIASC — Bulletin International de l'Académie des Sciences de Cracovie, K.; BO — Biblioteka Ossolińskich, L.; BSEPT — Bulletin Scientifique de 1'Ecole Polytechnique de Timişoara, Ta.; BT — Bulletin Thomiste, Ra.; BW — Biblioteka Warszawska; W.; CL — Collectanea Logica, L.; ČM — Česká Mysl, Pa.; CPE — Czasopismo Prawnicze i Ekonomiczne, K.; CRCIP — Comptes–Rendus du Congrès International de Philosophie, Ps. 1900; CR2CMPS — Comptes–Rendus du II[e] Congrès des Mathématiciens des Pays Slaves, Pa. 1900; CRHSAC — Comptes–Rendus hebdomadaires des Séances de l'Académie des Sciences, Ps.; CT — Collectanea Theologica, L.; DM — Dzieje Myśli, W.; DMPT — Dodatek Miesięczny do czasopisma „Przegląd Tygodniowy", W.; DRPTM — Dodatek do RPTM, K.; DW — Dziennik Wileński, Wo.; E — Eos, L.; Ek — Ekonomista, W.; Er — Erkenntnis, Lg.; EM — L'Enseignement Mathématique, Ps.; EMK — Ergebnisse eines Mathematischen Kolloquiums, Wn; BP — Ekonomista Polski, L.; EW — Encyklopedia Wychowania, W.; EWy — Encyklopedia Wychowawcza, W.; EZFMSM — Les Entretiens de Zürich sur les Fondements et la Méthode des Sciences Mathématiques, Zch.; F — Filomata, L.; FFKPTK — Fragmenty filozoficzne. Księga Pamiątkowa ku uczczeniu 15–lecia pracy nauczycielskiej w Uniwersytecie Warszawskim Prof. Tadeusza Kotarbińskiego, W. 1934; FM — Fundamenta Mathematicae, W.; FoM — Fortschritte der Mathematik, Bn.; FME — Fiziko–Matematičeskij Ežegodnik, Ma.; FR — Filozofická Revue, Oc.; FTM — Festschrift Th. G. Masaryk zum 80. Geburtstage, 7 März 1930. Tell 1. Erginzungsband zur Zeitschrift „RG", Bon. 1930; GL — Gazeta Literacka, K.; H — Haliczanin, L.; I — Imago. Zeitschrift für psychoanalytische Psychologie, Wn.; IKU — Izvestija Fiziko–Matematičeskogo Obščestva pri Imperatorskom Kazanskom Universitete, Kii.; JP — Język Polski, Kw.; JPPF — Jahrbuch für Philosophie und phänomenologische Forschung, He.; JRSS — Journal of the Royal Statistical Society, Lon.; JSL — The Journal of Symbolic Logic, Be.; Ka — Kant–Studien, Lg.–Bn.; Ko — Kosmos, L.; Kr — Kraj, Pg.; Ks — Książka, W.; KF — Kwartalnik Filozoficzny, K.; KL — Krytyka Lekarska, W.; KN — Kwartalnik Naukowy, K.; KP — Kwartalnik Psychologiczny, P.; KPLP — Księga Pamiątkowa ku czci Leona Pinińskiego, L. 1936; KPPTFL — Księga Pamiątkowa Polskiego Towarzystwa Filozoficznego we Lwowie. 12 II 1904–12 II 1929, L. 1931[1932]; KP1PZM — Księga Pamiątkowa I Polskiego Zjazdu Matematycznego. L. 7–10 IX 1927, K. 1929; KPUK — Księga Pamiątkowa Uniwersytetu Lwowskiego ku uczczeniu pięćsetnej rocznicy fundacji jagiellońskiej Uniwersytetu Krakowskiego, L. 1900; KPUL — Księga Pamiątkowa ku uczczeniu 250 rocznicy założenia Uniwersytetu Lwowskiego przez króla Jana Kazimierza r. 1661, L. 1912; KPWH — Księga Pamiątkowa ku czci prof. Władysława Heinricha, K. 1927; KP11ZLPP — Księga Pamiątkowa XI Zjazdu Lekarzy i Przyrodników Polskich w Krakowie, 18–22 lipca 1911, K. 1913; KR — Kronika Rodzinna, W.; KS — Kwartalnik Statystyczny, W.; KT — Kwartalnik Teologiczny, W.; M — Muzeum, L.; Mi — Mind, Lon.; MA — Mathematische Annalen, Lg.–Bn.; MCN — Miscellanea Cracoviensia Nova, K.; MKLW — Myśl katolicka wobec logiki współczesnej. Studia Gnesnesia, v. 15, P. 1937; MMP — Monatshefte für Mathematik und Physik, Wn.; MP — Mathesis Polska, W.; MPe — Miesięcznik Pedagogiczny, C.; MZ —Mathematische Zeitschrift, Bn.; MŻ

— Myśl i Życie, W.; Na — Die Naturwissenschaften, Bg.; N — Niwa, W.; NO — Naučnoe Obozrenie, Pg.; NPPOR — Nauka Polska, Jej Potrzeby, Organizacja i Rozwój, W.; NT — Nowe Tory, W.; O. — Organon, W.; ONP — Ogólna nauka o prawie, Wo.; P — Prawda, W.; Pa — Parametr, W.–P.; Ph — Philosophia, Bd.; Pi — Pielgrzym, Pn.–W.; Pr — Prąd, W.; Ps — Psychometria, P.; PF — Przegląd Filozoficzny, W.; PFi — Prace Filologiczne, W.; PG — Philosophie der Gegenwart, Hg.; PH — Przegląd Humanistyczny, L.; PHi — Przegląd Historyczny, W.; P7ICP — Proceeding of the Seventh Internatlonal Congress of Philosophy, Od. 1930; PJGG — Philosophisches Jahrbuch der Görres–Gesselschaft, Pa.; PK — Przegląd Krytyczny, K.; PKl — Przegląd Klasyczny, L.; PKFPTPN — Prace Komisji Filozoficznej Poznańskiego Towarzystwa Przyjaciół Nauk, P.; PLK — Przegląd Literacki. Dodatek do „Kraju", Pg.; PM — Philosophische Monatshefte, Bn.; PMF — Prace Matematyczno–Fizyczny, W.; PN — Przegląd Naukowy, W.; PNL — Przewodnik Naukowy i Literacki. Dodatek do „Gazety Lwowskiej", L.; PP — Przegląd Powszechny, K.; PPe — Przegląd Pedagogiczny, W.; PPo — Przegląd Polski, K.; PPKWU — Posiedzenia Publiczne Królewsko–Warszawskiego Uniwersytetu, W.; PPT — Polski Przegląd Tomistyczny, L.; PS — Poradnik dla samouków, W.; PSA — Przegląd Sądowy i Administracyjny, L.; PSSPSS — Prace Seminarium ze Skarbowości, Prawa Skarbowego oraz ze Statystyki, Wo.; PŚ — Przewodnik Świetlicowy, L–W.; PT — Przegląd Teologiczny, L.; PTy — Przegląd Tygodniowy, W.; PTRSL — The Philosophical Transactions of the Royal Society of London, Lon.; PW — Przegląd Współczesny, K., W.; PWa — Przegląd Warszawski, W.; P1ZNPPP — Prace Pierwszego Zjazdu Neurologów, Psychiatrów i Psychologów Polskich, W. 1910; PZOEKU — Protokoly zasedanij Obščestva Estestvoispytatelej pri Imperatorskom Kazanskom Universitete, Kń.; P7ZZZTP — Pamiętnik 7 Zjazdu Związku Zakładów Teologicznych w Polsce, Wo. 1934; R — Rozmaitości. Pismo dodatkowe do „Gazety Lwowskiej", L.; RAUWHF — Rozprawy Akademii Umiejętności. Wydział Historyczno–Filozoficzny, K.; RP — Ruch Filozoficzny, L.; RFy — Ruch Filozoficky, Pa.; RG n. — Der russische Gedanke, Bon.; RM — Revue de Mathématiques, To.; RMM — Revue de Métaphysique et de Morale, Ps.; RO — Rocznik Orientalistyczny, K., L.; RP — Revue Philosophique de la France et de l'Étranger, Ps.; RPES — Ruch Prawniczy, Ekonomiczny i Socjologiczny, P.; RPN — Roczniki Prac Naukowych, W.; RPTM — Rocznik Polskiego Towarzystwa Matematycznego, K.; RyPTM — Rozprawy Polskiego Towarzystwa Matematycznego, K.; S — Scientia, Mo.; RSPT — Revue des Sciences Philosophiques et Théologiques, Ps.; SCPAUK — Sprawozdania z Czynności i Posiedzeń Akademii Umiejętności w Krakowie, SCPPAUK — Sprawozdania z Czynności i Posiedzeń Polskiej Akademii Umiejętności w Krakowie, K.; SFKPMS — Szkice filozoficzne. Księga Pamiątkowa ku czci prof. Maurycego Straszewskiego, K. 1910; SGFJL — Sprawozdanie Gimnazjum Franciszka Józefa we Lwowie, L.; S4GL — Sprawozdanie 4 Gimnazjum we Lwowie, L.; SGS — Sprawozdanie c.k. Gimnazjum Arcyksiężniczki Elżbiety w Samborze, Sr.; S1KMKS — Sprawozdanie z I Kongresu Matematyków Krajów Słowiańskich, W. 1930; SL — Studia Logica, W.; SLe — Sovremennaja Letopis', W.; SMTKP — Sbornik Mezinárodnich Tomistických Konferenci w Praze 1932, Oc. 1933; SP — Studia Philosophica, L., K.; — SłP — Słowo Polskie, L.; SPAUK — Sprawozdania z Posiedzeń Akademii Umiejętności w Krakowie, K.; SPTNK — Sprawozdania Polskiego Towarzystwa Naukowego w Kijowie, Kw.; SPTNW — Sprawozdania z Posiedzeń Towarzystwa Naukowego Warszawskiego, W.; SPTPN — Sprawozdania Poznańskiego Towarzystwa Przyjaciół Nauk, P.; SPZOEKU — Sobranie Protokolov Zasedanij Sekcji Fiziko–Matematičeskich Nauk Obščestva Estestvoispytatelej pri Imperatorskom Kanzanskom Universitete, Kń.; SR — Slawische Rundschau, Bn.; SS — Sprawy Szkolne, W.; STNL — Sprawozdania Towarzystwa Naukowego we Lwowie, L.; SV — Schola et Vita, Mo.; SWGK — Sprawozdanie Wyższego Gimnazjum w Kołomyi, K.; SWGR — Sprawozdanie dyrektora c.k. Wyższego Gimnazjum w Rzeszowie, Rz.; ŚŻ — Świat i Życie. Zarys encyklopedyczny wiedzy i kultury, L.–W.; T9CIP — Travaux du IX^{e} Congrès International de Philosophie. Congrès Descartes, Ps. 1937; TI — Tygodnik Ilustrowany, W.; TPWPU — Tygodnik Polski Wiadomości Przyjemnych i Użytecznych, W.; UKZEO — Upominek. Księga Zbiorowa na cześć Elizy Orzeszkowej, K.–Pg. 1893; V — Verbum, W.; VOFEM — Vestnik Opytnoj Fiziki i Élementarnoj Matematiki, Oa.; V3IKP — Verhandlungen des III Internazionalen Kongresses für Philosophie, Hg. 1908;

VWPS — Vierteljahrschrift für wissenschftliche Philosophie und Soziologie, Lg.; W — Wszechświat, W.; We — Wektor, W.; WB — Wiadomości Brukowe, Wo.; WBPGUW — Wissenschaftliche Bellage zum 16. Jahresberichte der [Philosophischen] Gesellschaft (an der Universität zu Wien], Lg. 1903; WDSz — Wychowanie w domu i szkole, W.; WEPI — Wielka Encyklopedia Powszechna Ilustrowana, W.; WF — Wiedza Filozoficzna, W.; WM — Wiadomości Matematyczne, W.; WRNPN2 — Wizerunki i Roztrząsania Naukowe. Poczet Nowy Drugi, Wo.; WWTUJ — Wydawnictwa Wydziału Teologicznego Uniwersytetu Jagiellońskiego, K.; WŻ — Wiedza i Życie, W.; Z — Zet, W.; ŽMNP — Žurnal Ministerstwa Narodnogo Prosveščenija, Pg.

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