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Polish logical studies from an informal logic perspective

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ABSTRACT: The paper emphasizes significant resemblances between the Informal Logic Initiative and the Lvov-Warsaw School (LWS) – the Polish philosophical movement (1895-1939), the rise of which is associated with "the Golden Age of Science and Letters". The correspondence between informal logic and the logical studies of the LWS will be explored by discussing their subject-matter, goals, and methods. The project focused on applying logical studies of the LWS in analyzing and assessing arguments will be proposed.

KEYWORDS: informal logic, logical culture, Lvov-Warsaw School (LWS), pragmatic logic

1. INTRODUCTION

The aim of the paper is to propose the direction of systematic inquiry into the overlap between the Informal Logic Initiative and the logical studies of the Lvov-Warsaw School (LWS) – the Polish philosophical movement (1895-1939) established by Twardowski at the end of the 19th century in Lwów (Lvov) (see Woleński, 1989, Ch. 1; Lapointe et al., 2009). Mostly because of the developments of mathematical logic made by such thinkers as Lejewski, Leśniewski, Łukasiewicz, Mostowski, Sobociński, Tarski, and many others (see, e.g., Coniglione et al. (eds.), 1993; Kneale & Kneale, 1962; McCall, 1967; Woleński, 1995), the rise of the LWS is recognized as "the Golden Age of Science and Letters" (Simons, 2002).

Although analytic philosophers discuss in details the heritage of the LWS (see, e.g. Jadacki, 2009; Simons, 1992; Smith, 2006; Woleński, 1989), it is not sufficiently represented in world's philosophy. According to the *Stanford Encyclopedia of Philosophy* (Woleński, 2010), apart from the achievements in mathematical logic, the LWS is scarcely known outside Poland as the broader philosophical enterprise:

> As far as the matter concerns international importance, one thing is clear. The logical achievements of the LWS became the most famous. Doubtless, the Warsaw school of logic contributed very much to the development of logic in the 20th century. Other contributions are known but rather marginally. This is partially due to the fact that most philosophical writings of the LWS appeared in Polish. However, this factor does not explain everything. Many writings of the LWS were originally published in English, French or German. However, their influence was very moderate, considerably lesser than that of similar writings of philosophers from the leading countries (Woleński, 2010).

Similar observations are made by Simons, who notices that the LWS is not sufficiently recognized outside Poland. However, some intensive efforts towards its popularization are undertaken:

> So interest in the Poles remains scant and patchy outside Poland. However, Jan Woleński, Jacek Juliusz Jadacki and other Poles continue to write about the movement in the old country, and there are several scholars abroad who are doing good work, notably Arianna Betti in Amsterdam, and Anna Zielińska and Wioletta Miskiewicz in Paris. So the future is of historical studies on this Golden Age is, if not rosy, not wholly bleak (Simons, 2002).

Hence, the motivation of the paper is to show that the current international recognition of the Polish logical studies is disproportionate to the rich repertoire of methods of inquiry into language, reasoning, and argument proposed by the LWS. Because of the fact that some ideas of the school concern not only formal, but also informal analysis and evaluation of arguments, the main question is: what ideas present in the logical studies of the LWS are in line with the major research stands in informal logic? Amongst the achievements of the LWS which are significant for giving an answer to this question there are: the educational idea of improving critical thinking skills proposed by Ajdukiewicz and Czeżowski (Section 2), and the accounts of fallacies and superstitions conceived as pitfalls of non-critical thinking, as discussed by Kamiński and Bocheński (Section 3). These two components: the "positive" (i.e. rules of critical thinking) and the "negative" (i.e. fallacies as violations of these rules) were combined by Ajdukiewicz within the unified methodological framework for performing rules for carrying out knowledge-gaining procedures (Section 4). Concluding remarks (Section 5) justify the need of the systematic study of the correspondence between Polish logical studies and the Informal Logic Movement.

2. THE IDEAL OF A CRITICAL THINKER IN THE LVOV-WARSAW SCHOOL

Although the researchers of the LWS do not use the term 'critical thinking', the school elaborated its own original ideal of the critical thinker. It may be identified by examining the core concern of the LWS which was to seek for applications of logic in natural language communication. This attitude is clearly explained by Tarski:

> [...] by perfecting and sharpening the tools of thought, [logic] makes man more critical – and thus makes less likely their being misled by all the pseudo-reasonings to which they are in various parts of the world incessantly exposed today (Tarski, 1995, p. xi).

The presence of the ideal of the critical thinker within the Polish logical studies is pointed out by Groarke in the entry on informal logic published in the *Stanford Encyclopedia of Philosophy*:

> In its origins and continued evolution, informal logic has often been allied with educational goals, with the aim of developing ways of analyzing everyday reasoning that can inform, and possibly be the foundation for, general education. In North

America and other English speaking countries, such ideals have been associated with the "Critical Thinking Movement," which aims to inform and improve public reasoning and debate by promoting models of education which emphasize the critical examination of beliefs and decisions, and the development of the skills that this requires. In this and other regards, informal logic has significant affinities with the "pragmatic logic" movement one finds within the Polish logical tradition (Groarke, 2011).

The specification of the key tendencies of the LWS which correspond to the subject-matter, goals and methods of informal logic may consist in exposing: (i) the broad notion of logic, (ii) the educational ideal of logical culture, (iii) the pragmatic account of language and argument, and (iv) the rule of conceptual precision.[1]

(i) The broad notion of logic. The crucial resemblance between the LWS and the Informal Logic Initiative lies in the claim that logic is not equivalent to formal logic. As Johnson points out, the tendency to tailor the concept of logic exclusively to formal deductive logic (FDL) is inadequate because it "cuts of logic from important parts of its historical development" (Johnson, 1996, p. 79). Within the LWS, the focus on formal models of language and reasoning did not entail the claim that logic is equivalent to formal logic. On the contrary, the representatives of the LWS employed the broad conception of logic that embraces not only formal logic, but also semiotics and methodology of science (see e.g., Ajdukiewicz, 1974, p. 2-4; Koszowy, 2010, pp. 32-33). The consequence of accepting this broad account is the claim that 'logical skills' encompass not only the skills of employing formal tools in language analysis, but also the skills of using semiotics to analyze natural language discourse, and using methodology of science in evaluating definitions, classifications, and questions occurring in the scientific inquiry (see the Appendix A in Johnson, 2009, pp. 38-39).

(ii) The ideal of logical culture. The handy umbrella term used by the representatives of the LWS to denote the knowledge and skills of logic is 'logical culture' (Ajdukiewicz, 1965). The main similarity between informal logic and the Polish analytical tradition lies in a coherent research and education program which is to be instrumental in educating people to express their thoughts clearly and precisely and reason correctly. The conception of logical culture joins two components: (1) advances in the logical studies (i.e. research in logic) are claimed to be applicable in (2) teaching critical thinking skills (Czeżowski, 2000, p. 68; Koszowy, 2010).

(iii) The pragmatic account of language and argument. The natural feature of informal logic is the pragmatic approach to arguments (e.g. Johnson, 1996, pp. 103-106; Walton, 2008, p. 2). The LWS employed the similar approach. A clear example of including pragmatic perspective into the philosophy of language and argument are Twardowski's views on symbolization in logic discussed in his paper ``Symbolomania and Pragmatophobia'' (Twardowski, 1927/1965). The point of departure of Twardowski's analyses is the critique of the view (defended, amongst

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[1] Another intriguing research task would be to examine the correspondence between the ideal of logical culture in the LWS with the pragma-dialectical model of critical discussion. However, this topic goes beyond the scope of the paper.

others by Łukasiewicz and Leśniewski) which holds that symbolization in formal logic is the exclusive source of precision and clarity of language. According to Twardowski, this radical view called 'symbolomania' focuses on pure symbols without taking into account their uses. Symbolomania is in line with another attitude labeled by Twardowski 'pragmatophobia' which tends to avoid any considerations concerning objects which are represented by symbols:

> [...] tendency to place symbols above things may result in bending things to comply with symbols, that is, making statements about things according to what follows from symbol-based assumptions and operations, regardless of what things tell us about themselves, or even contrary to what they tell us about themselves (Twardowski, 1927/1965, p. 5).

As Smith observes, Twardowski's motivation for the critique of symbolomania and pragmatophobia lies in his efforts to give an adequate account of cognitive processes:

> Mental processes ought, as it were, by guiding the successive stages in the process of production, to ensure that a meaning of an appropriate kind is capable of being bestowed upon its products and thereby also ensure that these products do not depart from the world of things (Smith, 1994, p. 186).

This approach illustrates an interesting balance in the LWS between the formal and the informal approaches to language and argument. On the one hand Twardowski appreciated the role of symbolization in modern science, and, on the other hand, he strongly stressed the need of applying semantic and pragmatic criteria of correctness of thinking and cognizing. This tendency is in accord with some accounts of informal logic (e.g. Walton, 2008, pp. 1-2), which tend to achieve the balance between the indispensability of formal tools in argument analysis and the necessity of employing the pragmatic perspective.

(iv) The rule of conceptual precision. One of the main goals of informal logic which is the clarification of meaning (Johnson, 1996, p. 55-57 and 68-69): the valuable attitude in analyzing and evaluating arguments is to be sensitive to questions of language and meaning. The same postulate lies in the very core of the methodological program of the LWS. Twardowski and his students believed that solid analysis of the uses of language is the point of departure for solving philosophical problems in the most reasonable way. For example, they claimed that one of the reasons of common misunderstandings in philosophical discussions lies in the fact that the statements in a discourse are usually not sufficiently clear because of the use of some ambiguous expressions. Thus, the key goal of the analysis of philosophical problems was to formulate a given term or statement as clearly as possible in order to avoid the obscure style in thinking and expressing thoughts. This ``rule of conceptual precision" was one of the "fundamental methodological rules scrupulously observed in the Lvov-Warsaw School" (Jadacki, 2009, p. 69).

3. FALLACIES AS PITFALLS OF NON-CRITICAL THINKING

The systematic study of the logical fallacies was organically connected with popularizing the ideal of logical culture in Poland. Apart from the "positive" goal of improving knowledge and skills of logical culture, the "negative" part of inquiry was to identify typical fallacies in speech communication and reasoning. The common tendency of the study of the fallacies in the LWS manifests itself in the optimistic claim that the study of the common mishaps of language use, reasoning and argumentation helps to become aware of the typical cognitive and linguistic mechanisms of arriving at error. Moreover, the tradition of the LWS tends to avoid the `naive' fallacy approach which consists in identifying fallacies by employing the catalogue of typical fallacies. Instead, it aims at proposing concrete rules for correct thinking and language use.

These tendencies may be observed in Kamiński's taxonomy of logical fallacies (Kamiński, 1962, pp. 29-39; Koszowy, 2012, pp. 34-40). Kamiński distinguishes four general types of logical fallacies, namely epistemological fallacies, semiotic fallacies, fallacies of reasoning (``logical fallacies in a strict sense''), and methodological fallacies of employing rules governing knowledge-gaining procedures. This systematization may be conceived as a unifying account which aims to grasp a variety of violations of the rules of proper cognition.

Another exemplification of the common tendencies in the study of the fallacies are Bocheński's analyses of *One hundred superstitions* (1994). Bocheński's account of superstitions has a pragmatic dimension, because his main motivation is to help people to recognize typical mechanisms commonly employed in the social sphere in order to convince someone to accept false beliefs. Moreover, superstitions are not only described exclusively from the *inferential* perspective (by detecting errors in reasoning), but also from the *dialogical* point of view (by identifying typical moves in the dialogue which are employed in order to spread superstitions in the social sphere), as well as within the *rhetorical* approach (by analysing utterances aimed at convincing someone to accept a superstition). Hence, Bocheński's studies of superstitions clearly refer to the broader (i.e. social, cognitive and communicative) context.

For example, the typical superstition discussed by Bocheński concerns the appeal to authority (Bocheński, 1994, pp. 24-26). The key part of Bocheński's theory of authority (Bocheński, 1974, Ch. 4) is the distinction between 'epistemic authority' and 'deontic authority'. This ambiguity of 'authority' is presented by Walton (1997, Ch. 3) as the distinction between cognitive (*de facto*) and administrative (*de iure*) authority (see also Budzyńska, 2010). In what follows I propose the reconstruction of Bocheński's analyses of the superstitions concerning authority by identifying them as fallacious argumentation schemes. According to Bocheński, a typical superstition concerning authority relies on claiming that every appeal to authority is against reason. This superstition may be reconstructed as follows.

Fallacious scheme: "authority is against reason"

> Every appeal to authority is against reason.
> One should always rely on reason.
> X is an authority in a given field.
> X says *p.*
> --
> *p* should not be accepted.

The second case of a superstition concerning authority is the belief which is based on confusing deontic authority with epistemic authority. It may be reconstructed as follows.

Fallacious scheme: "confusing epistemic and deontic authority"

> X is authorized to give directives.
> X says *p*.
> *p* belongs to assertives.
> --
> *p* should be accepted.

From the fact that X is a deontic authority one implies that the assertive (which belongs to the domain of the epistemic authority) is true. This case may be analysed as a clear instance of equivocation: 'authority' means either *deontic authority* which is authorized to formulate directives or *epistemic authority* which is authorized to formulate assertives.

4. FROM THE METHODOLOGY OF SCIENCE TO THE THEORY OF CRITICAL ARGUMENTATION

Another core concern of the LWS was to combine the 'positive' part of inquiry aimed at establishing the set of rules for critical thinking (as discussed in Section 2) with the 'negative' part of fallacies conceived as common pitfalls of non-critical thinking (presented in Section 3). This idea relies on proposing the model based on the rules of performing various knowledge-gaining procedures. In what follows I call these rules 'methodological', for rules for performing some typical knowledge-gaining procedures are investigated by the general methodology of science. Among these procedures the most significant are: reasoning, questioning, defining, classifying objects and formulating and testing hypotheses (Czeżowski, 2000, p. 68).

The methodological framework for the knowledge-gaining procedures may be found within the program of pragmatic logic proposed by Ajdukiewicz (1974). The term 'pragmatic logic' refers to a discipline aimed at applying logic (in a broad sense) in analyzing and evaluating knowledge gaining procedures. The program of pragmatic logic is also based on the idea that general (logical and methodological) rules of scientific investigation should be applied in everyday communication. The 'pragmatic dimension' of this approach relies on moving from the practice of

researchers towards formulating methodological standards (rules, norms) of performing various knowledge-gaining procedures:

> The standards of correctness of research procedures, as formulated in methodology, are not dictated by it to researchers in advance. Such standards are derived from practical activities of competent researchers, who approve of some procedures in research, they disapprove of others. [...] In other words, competent researchers develop, as a result of their practical activities, what might be termed a research conscience, but they do not always clearly realize the principles by which that 'conscience' of theirs is guided (Ajdukiewicz, 1974, p. 187).

Ajdukiewicz specifies this general idea by analyzing various cases of: (1) word use, (2) questioning, (3) reasoning and inference, and (4) methodological types of sciences such as deductive and inductive sciences. On the basis of this framework a unified set of methodological rules may be determined (see Koszowy, 2010, pp. 37-38). An example procedure which is investigated within this framework is defining. Two types of rules for defining may be distinguished: structural and pragmatic. Structural rules tell us what the proper structure of a given kind of definition should be. Amongst other tasks, they allow to identify definitions which are too broad, too narrow, or viciously circular. As examples of such structural rules the following may be mentioned (see, e.g. Czeżowski, 2000, pp. 68-69):

(1)   An explicit definition should not be circular: in the case of an explicit definition, the word defined (*definiendum*) must not be used in the *definiens*.
(2)   The extensions of the *definiendum* and *definiens* of a lexical definition must not be mutually exclusive.
(3)   A definition should not be too broad: the extension of the *definiens* of a lexical definition must not be superior to the extension of the definiendum.
(4)   A definition should not be too narrow: the extension of the *definiens* of a lexical definition must not be inferior to the extension of the *definiendum*.
(5)   A definition should not be negative if it can be affirmative.

The pragmatic rules of defining concern the context in which definitions are used. They are applied to identify such errors of defining as *ignotum per ignotum,* or confusing various kinds of definitions. There exists a variety of pragmatic rules. As examples of such rules the following may be mentioned (see, e.g. Ajdukiewicz, 1974, Ch. 5):

(1)   Descriptive definitions should not be confused with normative ones.
(2)   Lexical definitions should not be confused with stipulative ones.
(3)   Real definitions should not be confused with persuasive ones.

(4)   In a real definition only essential (or relevant) attributes of the defined object should be included.

(5)   Among the essential (or relevant) attributes we should choose the constitutive ones (those which determine the whole), and disregard consecutive attributes (those which are dependent on and determined by the constitutive attributes).

In line with numerous methods of evaluating definitions in informal logic (see, e.g. Walton & Macagno, 2010), the rules extracted from the works of Czeżowski and Ajdukiewicz may be employed as a model of evaluating definitions in argumentation. In order to exemplify some applications of this model (see Koszowy, 2013, pp. 27-30), let us suppose that two parties debate whether any restrictions on the access to the Global Information Infrastructure (GII) are justified. Let us also suppose that both parties agree that the GII is the source of information. The party who is skeptical about any restrictions on the Internet, advances the following definition: the term 'knowledge' in its common use refers to the sum of information. After formulating this definition the party proceeds by advancing the argument: if 'knowledge' refers to the sum of information, so the more information we collect, the more knowledge we possess; and as we all know, the Internet allows us to gather various kinds of information, so it gives us an excellent opportunity to extend our knowledge of the world. Therefore the access to the GII should not be restricted. The case is solved if this definition of the term 'knowledge' is accepted. Nobody disagrees that we have the right to search for knowledge. So there is no reason to restrict the access to the GII if it gives us knowledge. In this case the methodological rule to distinguish between a lexical definition of the term as commonly understood in a given language and a stipulative definition which projects the meaning of a given term (rule 2 on the list of pragmatic rules) is violated.

5. CONCLUSION

The exposition of the resemblances between the ideal of logical culture in the LWS and the Informal Logic Initiative in North America may constitute the point of departure for building the framework for future inquiry. Amongst the ideas of the LWS which are promising candidates for three main pillars of the future research project there are: (i) the account of pragmatic foundations of entailment as a clear example of the ideal of the critical thinker in the LWS, (ii) the account of deontic (administrative, *de iure* authority, and (iii) the study of methodological rules as applied to identifying fallacies.

(i) The exemplification of bridging the gap between purely formal and purely descriptive approaches to language and argument are pragmatic foundations of entailment laid by Łuszczewska-Romahnowa (1962) and Ajdukiewicz (1974). Hence the model way of unifying of the normative and descriptive accounts of arguments within the Polish logical studies could be proposed.

(ii) The theory of authority proposed by Bocheński (1974) is clearly in line with current research strands in informal logic. For example, Walton's (1997) analyses of appeals to expert opinion may be compared with Bocheński's studies of

epistemic and deontic authority. Since Walton's approach focuses on the epistemic authority, an intriguing task would be to make use of Bocheński's analyses in building the model of appeals to deontic authority. Such a model could be based on the typical argumentation schemes for appeals to deontic authority (see Budzyńska, 2010) which could be accompanied by the set of critical questions used to evaluate such appeals. This project could be a clear instance of combining the achievements of informal logic with the Polish logical studies.

(iii) The next goal would to identify fallacies by means of methodological rules elaborated in pragmatic logic. The motivation for this inquiry lies in the core thesis defended by the members of the LWS which holds that the knowledge of typical fallacies allows the party in a dialogue or discussion to defend against typical pitfalls of critical thinking. This task could be accomplished by providing argumentation schemes for the fallacies and superstitions discussed by Kamiński and Bocheński.

The main advance of the proposed project lies in the fact that the three pillars of further inquiry have in fact a common virtue: instead of starting from abstract models and theories, they base on the actual language use and argumentative practice.

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