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J. Hintikka, T. Czarnecki, K. Kijania-Placek, T. Placek, and A. Rojszczak†, eds.

*Philosophy and Logic: In Search of the Polish Tradition:
Essays in Honour of Jan Woleński on the Occasion of His 60th Birthday*

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REVIEW

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The volume, as well as this review, is a tribute to Jan Woleński, a leading world expert on the history of Polish logic and philosophy. Its main themes are truth, logic, semantics, and the history of logic and philosophy. Thus, it comes as no surprise that Alfred Tarski, the most respected representative of the Lvov-Warsaw school, receives prominent attention here. The volume encompasses seventeen papers contributed by highly distinguished logicians, philosophers and mathematicians. The papers are divided into three parts, each related to many of Woleński's publications.

Part I, entitled "Truth," opens with Paul Horwich's paper "A Minimalist Critique of Tarski on Truth." This paper is another defense of minimalism, Horwich's version of a deflationary theory of truth. Horwich raises several objections to Tarski's semantic theory of truth, concentrating particularly on Tarskian truth definitions, in order to show that minimalism is immune to those objections, and is thus preferable. He then goes on to suggest reasons for Tarski's adherence to sentences as truth-bearers. Two reasons for favoring Tarski's semantic theory over minimalism are also confronted. First, based on an outline of what Horwich conceives as a finer solution to the liar paradox, one which accords with minimalism, he argues that Tarski's solution gives no support for rejecting minimalism. Second, he attempts to show why minimalism is not inferior to the semantic theory when it comes to deriving generalizations about truth.

Tarski's conception of truth is assaulted again in Pavel Materna's "Is Strong Correspondence (Theory of Truth) Possible?" Materna adheres to the correspondence conception of truth which takes facts as truth-makers, but claims that Tarski's theory is incompatible with it. He suggests two readings of facts in the framework of possible world semantics and, following Woleński's terminology, examines the concepts of weak and strong correspondence in relation to those readings. The paper closes with remarks against deflationary theories and some comments in defense of the possible worlds approach.

Tarski's theory of truth becomes a target for criticism once more in Peter Simons's paper "Absolute Truth in a Changing World." Simons's scrutiny of the reasons behind Tarski's endorsement of his truth-bearers illustrates a depiction different than Horwich's. Simons stresses the platonic character of Tarski's truth-bearers, contrasting it with Stanisław Leśniewski's nominalism. He then argues that the former concept is irrelevant to natural language and to a realistic theory of truth. He suggests a nominalistic alternative and offers an explanation to the context-dependency factors related to the proposed truth-bearers which do not undermine the absoluteness of truth.

Ilkka Niiniluoto's paper "Content and Likeness Definitions of Truth-likeness" which appears in Part I, together with Hintikka, Kijania-Placek, Placek, and Sandu's papers in Part II, entitled "Logic and Semantics," constitute the more technical tribute of this volume. Niiniluoto readdresses his truthlikeness theory which concerns the question of specifying the closeness of a theory to the truth, this time focusing on minimally instead of maximally truthlike theory, to suggest an ordering based on his min-sum measure, respectively.

Jaakko Hintikka opens the second part on logic and semantics, with his paper "On the Epistemology of Game-Theoretical Semantics." Hintikka presents some of the revolutionary consequences of his celebrated game-theoretical approach. He begins with his independence friendly logic, arguing its preference over standard first-order logic. He then turns to the metatheory which employs Skolem functions, and to the related characterization of truth. Taking the latter as constituted by semantical games, he offers an outline and argues in favor of an epistemology modeled on playing semantical games against nature. Hintikka then addresses the relation between quantum theory and the proposed epistemology.

In her paper "Can Majority Be Supervalued?" Katarzyna Kijania-Placek applies Bas van Fraassen's supervaluations to partial models for studying the semantics of a first-order language that includes a binary majority quantifier. Kijania-Placek shows that although monotonicity

is not satisfied for all partial models, it is satisfied for a subclass of the latter, defined as a class of semipartial models. In his paper “On Belnap’s Branching Space-Times” Tomasz Placek compares the branching space-times theory of Nuel Belnap with the Kowalski-Placek theory. He proves that every model of the former is a model of the latter, and shows how notions of the Kowalski-Placek framework are translatable into Belnap’s. He concludes by proving that a particular realization of the Kowalski-Placek theory is a model of Belnap’s theory.

Gabriel Sandu’s paper “Partially Interpreted Henkin Quantifiers” opens with a survey on partial interpretations. He then suggests a definition of partially interpreted generalized quantifiers and a study of their logic. Combining the latter with the logic of partially interpreted predicates, he proves that in the resulting logic the interpolation, the compactness, and the Löwenheim-Skolem theorems hold. He then goes on to prove that the proposed logic also defines its own truth predicate.

In his paper “Tarski and Leśniewski on Languages with Meaning versus Languages without Use” Göran Sundholm elaborates on the distinction between what he conceives as the two grand traditions in logic. The first to be discussed is the “logic-in-use tradition” which conceives logic as a tool for foundational studies and the formal languages are interpreted accordingly. The so-called “metamathematical tradition,” on the other hand, conceives logic itself as the subject of foundational studies, thus employing uninterpreted formal languages. Sundholm identifies Leśniewski as one of the prominent figures in the logic-in-use tradition. He provides a telling picture of Tarski’s transition from initial acceptance to a mathematically oriented revolt against Leśniewski’s stance on formal languages. Among other things, the tense relationship between the two is revealed. Finally, Sundholm considers the possible reasons behind Tarski’s motivation for preferring metamathematics.

Part III, entitled “History of Logic and Philosophy,” opens with Tadeusz Czarnecki’s paper “Ajudkiewicz on Language Change and Truth.” Czarnecki offers a critical discussion of Kazimierz Adjukiewicz’s conception of progress in science within the framework of the latter’s thesis on radical conventionalism. This progress is spelled out in terms of change in the language of science resulting from the appearance of a contradiction. He shows how this change leads to different so-called “World-Pictures,” then presents and criticizes Adjukiewicz’s related pragmatic conception of truth and the evaluative criteria for World-Pictures.

Solomon Feferman provides a vivid picture of Tarski’s place in the Summer Institute for Symbolic Logic of 1957. In his paper “Alfred Tarski and a Watershed Meeting in Logic: Cornell, 1957,” Feferman

describes the importance underlying the Institute for the development of logic. He particularly shows how it enabled the establishment of fruitful connections between logicians from different areas in the field and how it served as a precedent for the numerous large-scale conferences that followed. He supplies a detailed description of the Institute's organization, stressing Tarski's involvement in it, as well as his involvement in conferences before and after the Cornell meeting. He conveys the special atmosphere of the Institute including rivalry within the group of participants that included a most remarkable list of eminent logicians. He reports on Tarski's influence on the participants, and discusses a noteworthy connection between Leon Henkin, Georg Kreisel, Abraham Robinson and Tarski. He also discusses the impact Tarski's work had on computer science.

In the next paper, "On Thinking about the Mental and the Physical," Herbert Hochberg argues against materialism and in favor of accepting phenomena and phenomenal states. Hochberg contends that the view of phenomenalist-idealism has a compelling argument against materialism, and shows its impact on the realistic conceptions of Bertrand Russell and George Edward Moore. On the other hand, Hochberg dismisses the argument offered by the materialist, of what he calls "the Armstrong-Smart-Place variety," against phenomenal entities. He raises several issues against David M. Armstrong's rejection of the mental, and against the latter's explanation of the objects of experience in terms of microphysical states.

Some connections between the Lvov-Warsaw school and Bolzano are presented by Wolfgang Künne in his paper "Bernard Bolzano's 'Wissenschaftslehre' and Polish Analytical Philosophy between 1894 and 1935." While stressing the importance of Bolzano to Kazimierz Twardowski, Künne reports on Twardowski's difference of opinion with Bolzano regarding representation and argues for a misinterpretation of the latter by the former. He draws an interesting comparison between Bolzano's theory of validity and Jan Łukasiewicz's conception of truth-value, and questions an accusation of inconsistency that Łukasiewicz directed against Bolzano. He discusses a paper about Bolzano by Maria Franklówna, and finally, examines a threefold comparison between Bolzano's conception of logical analyticity and the related conceptions of Willard Van Orman Quine and Ajdukiewicz.

Kevin Mulligan's paper "Dispositions, their Bases and Correlates—Meinong's Analysis" discusses the central notions of Alexius Meinong's theory of dispositions and its relation to the latter's theories of dependence and possibility. Based on this background, Mulligan elaborates

and defends Meinong's conception of the episodic nature of psychological entities. He shows how an account of personal identity could be implied from Meinong's theory and points to its relation to habit-forming episodes. Finally, he discusses the relation between dispositional sentences and truth-makers.

The paper "Reactions to the Discovery of the Incompleteness Phenomenon" by Roman Murawski concerns the diverse impact Kurt Gödel's theorems had on the mathematical and philosophical communities. Murawski begins by presenting the incompleteness theorems on the background of Hilbert's program. He supplies a detailed chronology of their composition, announcement and publication. He then goes on to consider a wide range of reactions to Gödel's results, including, among others, those of Paul Bernays, Rudolf Carnap, Hans Hahn, Jacques Herbrand, David Hilbert, John von Neumann, Emil Post, Russell, Ludwig Wittgenstein and Ernst Zermelo.

The paper "Truthmakers, Truthbearers and the Objectivity of Truth" by Artur Rojszczak and Barry Smith, revolves around the cognition of objective truth. Rojszczak and Smith consider this problem in a lengthy survey beginning with Bolzano and Franz Brentano, and culminating with Tarski. They begin with the concept of the objectivity of truth in the framework of Bolzano's Platonic theory of propositions. They present different approaches to truth-makers and truth-bearers, particularly stressing Brentano's conception of truth. They further discuss the cognition of objective truth with relation to Edmund Husserl's account of meanings as species. In the context of this volume it is worth noting that in addition to other pertinent philosophers, Rojszczak and Smith pay special attention to members of the Lvov-Warsaw School such as Tadeusz Kotarbiński, Leśniewski, Lukasiewicz, Maria Ossowska, Stanisław Ossowski and especially to Twardowski. Finally, they attempt to show how Tarski's semantic theory of truth could be considered as the highest stage of the suggested historical development of the concept of the objectivity of truth.

In the closing paper "The Extension of the Concept Abolished? Reflexions on a Fregean Dilemma," Christian Thiel speculates on Gottlob Frege's reaction to the Zermelo-Russell antinomy. Thiel discusses Frege's 1903 attempt to resolve the antinomy by suggesting a new criterion of equality in extension, and considers its undermining problems. He shows that Frege was aware, at the time, of the devastating implications his resolution had on the classical conception of the extension of a concept. The question of Frege's choice being the correct one is left as an open question by Thiel.

In conclusion, it should be stressed that the heterogeneity of the contributions in this collection is certainly adequate to represent the variety of Woleński's fields of interest. It offers a wide perspective on logic that includes issues in philosophical logic, philosophy of logic, mathematical logic, the history of modern logic and additional related areas such as the history and philosophy of science, epistemology and philosophy of language. Unfortunately, the heterogeneity also manifests itself in the fact that not all the papers are on the same level. In addition, many misprints and some bibliographical errors occur. Nevertheless, considering the impressive list of contributors and the remarkable array of investigations that stand in the forefront of contemporary research, this is, without a doubt, a very good and recommended volume.

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