Abstracts

MUZEUM HISTORII POLSKI

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Tomasz Bigaj, Quantum Dispositions and the Notion of Measurement

The dispositional account of quantum properties faces the following circularity problem: properties of a system are defined as dispositions (probabilistic or deterministic) to give rise to certain outcomes upon measurements, but measurements in turn are generally characterized with reference to the very same dispositions. I consider one way of escaping the difficulty with regard to probabilistic dispositions by applying a theorem due to Peter Mittelstaedt. The theorem enables us to give a probability-free characterization of quantum measurements, thus eliminating the need of referring back to probabilistic dispositions of the system. However, the circularity problem remains for deterministic dispositions. I give arguments why we should resist the temptation to interpret eigenstates as categorical properties, and I discuss possible alternative solutions to the problem.

Keywords: quantum measurement, dispositions, circularity, probability-free interpretation

Andrzej Biłat, The Semantic Paradigm of Ontology and the Principle of Universalism

The article concerns the paradigm of ontology based on the principle that there is a universal conceptual scheme determining the general structure of the world. The main goal of the article is to set this principle in the context of the history of philosophy, to clarify it, and to evaluate its credibility in the context of modern ethnolinguistics. It consists of six parts: 1.1. Aristotle's theory of categories and Wolff's metaontology, 1.2. Reid's linguistic universalism, 1.3. The semantic paradigm of ontology and analytic philosophy, 2.1. The linguistic categorizations of the world, 2.2. Criticism of some assumptions of Wierzbicka's program, 2.3. Discursive languages and the special principle of universalism.

Keywords: Aristotle, Christian Wolff, Thomas Reid, Anna Wierzbicka, *notiones generales*, ontological concepts, semantic universals, discursive languages

Jan Czerniawski, A New Formalization of Putnam's Proof that Time Does Not Flow

Virtually all known attempts to formalize, at least partially, Putnam's two-stage proof contained in his famous article *Time and Physical Geometry*, follow Stein's advice to interpret the relation R as "x is real to y". However, Putnam has explicitly rejected this interpretation, stating that it "misses the issue" he was addressing. The present attempt to formalize the proof regards reality as an absolute property, in accord with Putnam's intention. The formalization reveals both the strength and the weak point of his reasoning. On the one hand, it shows that the popular assumption that "all and only things that exist now are real" is incompatible with Special Relativity in its standard interpretation. What is more, its weaker version "all things that exist now are real" implies that future things must be real, which clearly contradicts the popular belief in time flow, i.e. in successive becoming of events. Effectiveness of the proof does not depend on the original choice of simultaneity-in-the-observer's-coordinate-system as R. What is more, its transitivity is not demanded, and after some reasonable strengthening of one of the assumptions, not even symmetry. Without this strengthening, it is still proved that Relativity is incompatible with the presentist conception of time flow and compatible at most with its Growing Block Universe version. Even taking into account the local character of Special Relativity does not help, since the formalization can be easily generalized to hold in the framework of General Relativity. On the other hand, the popular view is compatible with Relativity in the Lorentzian interpretation. Thus, what Putnam has really proved is not incompatibility of time flow with Relativity as such, but only with its standard interpretation.

Keywords: relativity, space-time, time flow, temporal becoming, presentism, eternalism, Growing Block Universe

Błażej Skrzypulec, Ontology between Science and Metaphysics

The article considers a claim that scientific theories can serve as models for philosophical conceptions. It is argued that a scientific theory is modelling a metaphysical conception iff the ontology connected with the metaphysical conception is included in the ontology connected with the scientific theory. However, metaphysical and scientific ontologies may be compared only after the application of interpretative procedures that constitute 'philosophical hermeneutics'. To justify this claim, it is argued that: (1) there are ontologies connected with metaphysical conceptions, (2) there are ontologies connected with scientific theories, (3) there exist logical relations between ontologies connected with metaphysical conceptions and those connected with scientific theories, (4) these ontologies are usually incomplete and need specification by using interpretative procedures.

The points (1) and (2) are justified by showing that ontological statements, i.e. statements which describe categories of objects and relations between them but disregard the extensions of terms naming the objects' categories, can be inferred from typical metaphysical and scientific statements. Accordingly, it is claimed that ontological statements connected with metaphysical conceptions and scientific theories are free from the semantic differences that prevent typical metaphysical and scientific statements from standing in logical relations to each other (assumption 3). Subsequently, a set of pragmatic decisions is described, needed to specify metaphysical and scientific ontologies up to the level that allows comparisons between them (assumption 4). Finally, the article presents the notion of modelling as a relation between scientific theories and metaphysical conceptions.

Keywords: ontology, science, metaphysics, methodology

Adriana Schetz, Biological Externalism Approach to the Architecture of the Mind and the Nature of Perception

The paper presents an attempt to apply the term "biological externalism" to a couple of related positions regarding the general architecture of the mind and the nature of perception: (1) enactivism, also called by its founders, Varela, Thompson, and Rosch, neurophenomenology; (2) Thelen's theory, which emphasizes the role of body and action in cognitive processes; (3) radical enactivism of Noë, O'Regan, and Hurley, which eliminates the category of experience; (4) Clark's combination of computationism with connectionism. Such conceptions, due to their treatment of the category of embodiment cognition and epistemological externalism in regard to the content of perceptual representations, not only have the same conceptual roots, but also the same aim, namely revision and replacement, or transformation and reconstruction of traditional computationism, which is still the dominant force in cognitive science.

Keywords: biological externalism, enactivism, connectionism, computationism, computational connectionism, dynamical computationism, architecture of mind, mind, perception, cognition, embodied cognition, ecological conception, dynamical system, self, Buddhism

Krystyna Bielecka, Misrepresentation and the Concept of Function in Teleosemantics. Dretske versus Millikan

The paper analyzes the attempts to account for the nature of misrepresentation in terms of 'teleosemantic' functions as offered by Dretske and Millikan. In two first parts of the paper, Dretske's teleosemantics and the role his account of function plays in his teleosemantics are investigated. In the third part, Dretske's concept of function is compared to the one defended by Millikan (although her theory of representation is not taken into consideration here). On the one hand, Millikan's theory is similar to Dretske's but on the other hand, it is much better worked out and, as a consequence, it is less controversial than Dretske's. In the fourth part, my analysis is summarized.

Finally, the critical conclusions concerning Dretske's teleosemantics as well as the use of the concept of function in naturalizing representation are presented.

Keywords: representation, misrepresentation, Dretske, Millikan, teleosemantics, function, disjunction problem

Jerzy Dadaczyński, Arnold Dresden (1882-1954) and the Thesis of the Plurality of Mathematics

The plurality of mathematics was recognized in the 1960s. In the 1920s two competing versions of mathematics were available: the classical and the intuitionistic. Their supporters rejected opponents' mathematics as such, so that the thesis of the plurality of mathematics could not be accepted. Arnold Dresden was the exception. He rejected the idea of evaluating mathematics with respect to truth or falsehood. Instead, Dresden assigns to mathematical theories (and whole mathematics) a partially temporal degree of gradable applicability. This allows the 'coexistence' of plurality of mathematics.

Keywords: Arnold Dresden, plurality of mathematics, intuitionism, intuitionistic mathematics, applicability of mathematics

Kordula Świętorzecka, On the Modal Nature of St. Anselm's Argument. Remarks on Andrzej Biłat's Paper *Modal Logic vs Ontological Argument*

The paper examines the justification of two theses put forward in the article *Modal Logic vs Ontological Argument* by Andrzej Biłat: (1) the Anselmian ontological argument does not essentially engage modalities, and its force is not dependent on any specific logical modal laws (but only on classical logic); (2) the only source of modal force of the ontological proof is the Leibnizian theory of perfections. Biłat considers Hartshorne's version of the ontological proof and proposes his own formalization based on classical logic alone. We compare the presented theories and their formal background. We follow the proposed justification of Biłat's main opinion, point out its problematic (and not valid) fragments, and discuss its formal and material correctness. In conclusion, we consider the known possibilities of nontrivial application of modal logics to the analysis of St. Anselm's argument and some of its modern versions.

Keywords: ontological argument, philosophical modalities, St. Anselm

Andrzej Biłat, In Response to Kordula Świętorzecka's Comments

The article is a polemical response to Kordula Świętorzecka's paper *On the Modal Nature of St. Anselm's Argument. Remarks on Andrzej Biłat's Article* Modal Logic vs Ontological Argument (*O modalnej naturze argumentu św. Anzelma. Uwagi do artykułu* Logika modalna a dowód ontologiczny *Andrzeja Biłata*), in the same issue.

Keywords: ontological argument, modal logic

Kazimierz Ajdukiewicz's Lectures on Logical Semantics Given at Jan Kazimierz University in Lviv in the Academic Year 1930/1931

Ajdukiewicz's lectures, edited from extant stenographic records, are concerned with various types of semantic function. Lecture III explains the 'behavioural' and associative role of signs, introduces the notion of 'field of representation', and describes a special sort of representation based on isomorphism. Lectures IV and V discuss two theories of linguistic meaning: the 'expressivist' view, according to which an object is used as a linguistic expression if it is employed in order to convey information, and the 'associationistic' view, according to which a linguistic expression must be capable of evoking thoughts in the mind of the addressee. The criteria are regarded as both too broad and too narrow. Lectures VI-VIII present a more sophisticated semantic theory based on Husserl's distinction between 'presenting content' and intention. Ajdukiewicz points out that it does not take into account the compositional aspect of linguistic expressions.

Keywords: Kazimierz Ajdukiewicz, semantics, sign, representation, linguistic expression, associationism, Husserl