
Submitted Summaries

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Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.

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Jacek Pańniczek, Ramsey's thesis. The indiscernibility of objects and properties in logic

Ramsey questions the distinction between subject and predicate in sentences. Since the distinction mirrors the ontological distinction object/property (particular/universal) he questions the latter distinction as well. There is a symmetry between the category of objects and the category of properties: an object can possess a number of properties and a property can be exemplified by a number of objects. Consequently, it may be claimed that the two categories are formally indiscernible. The paper develops Ramsey's thesis on the ground of logic. Different senses of indiscernibility are discussed and various systems of logic are examined with respect to these senses. Most systems do not distinguish objects from properties in at least one sense.

Wojciech Krysztofiak, The Logics of Derivational Trees

The paper presents the construction of a new class of logics, which are called logics of derivational trees. The presentation comprises three sections: (i) intuitive psychological motivations for these logics stemming from some results of developmental psycho-linguistics (Piaget, Chomsky), (ii) the construction of formal calculus with help of algorithmic tools, and (iii) the construction of set-theoretic semantic model for our logic.

They determine criteria of valid deriving and transforming structures which are usually described in the literature as derivational trees. These structures are used in linguistics or in computational sciences as tools of modelling deep sentential structures or information-bases. Furthermore cognitive anthropologists notice that most of our ordinary taxonomies arranging the experienced world in our *lebenswelt* possess

various tree-structures. It seems that our abilities of applying tree-structures (without explicit knowledge concerned with algebraic mechanisms of construing tree-structures) in various segments of our life are mental and behavioral manifestation of some special logical disposal belonging to the machinery of logical competence in general. It is interesting to put the hypothesis according to which the competence of construing and applying tree-structures is even more primitive than the competence of applying logical rules of natural deduction.

The presented calculus possesses some peculiar feature, namely its formal language is composed of expressions of three syntactic levels. In standard, formal languages all expressions may be divided as belonging to two levels: the level of formulas and the level of constituents of formulas. In the language of derivational trees there are distinguished the following levels: (i) the level of lexical expressions, (ii) the level of derivation-expressions, (iii) and finally the level of transformation-expressions. These last category fulfils the role of formulas. Proofs are appropriate sequences of derivation-expressions. However what is proved is not a derivation-expression but it is a transformation-expression. The peculiarity of our logic consists in that an expression which is proved, does not belong to the category of constituents of proofs.

Bożena Czernecka-Rej, Applicability of Many-valued Logics

The paper deals with the question of the applicability of systems of many-valued logics. Those systems are claimed to be applicable in many local fields, e.g.: future contingents, semantic paradoxes, vagueness, meaninglessness, sense without denotation, undecidable sentences, quantum mechanics, cybernetics, mathematical machine theory.

It is claimed that the many-valued logic does not need accepting any additional truth-values apart from classical 'true' and 'false'. In other words, it does not need rejecting the rule of bivalence. Intermediate values are most often understood as epistemic variants of classical truth-values, the assignment of classical truth-value to non-classical bearers, or as the lack of classical truth-value. Thus, the many-valued logic only apparently constitutes a threat for the classical logic.

Piotr Błaszczak, Eudoxos versus Dedekind

All through the XXth century it has been repeated that „there is an exact correspondence, almost coincidence between Euclid's definition of equal ratios and the modern theory of irrational numbers due to Dedekind". Since the idea was presented as early as in 1908 in Thomas Heath's translation of Euclid's *Elements* as a comment to Book V, def. 5, we call it in the paper Heath's thesis.

Heath's thesis finds different justifications so it is accepted yet in different versions. In the paper its historical and mathematical version is reconstructed. We next reconstruct Eudoxos' theory of proportions in an axiomatic fashion. Finally, we show that Heath's thesis both in the historical and mathematical version is false. To this

end a counterexample is given; it is based upon a specific interpretation of the uniform distribution theorem.

Anna Brożek, Zuzanna Kasprzyk, On performatives and generating

The conception of performative utterances proposed by John Langshaw Austin is unclear and provokes many fundamental questions. We compare this proposal with Jacek Juliusz Jadacki's conception of performatives, being much more precise one. We develop Jadacki's intuitions and propose to characterize performatives as expressions fulfilling a specific semantic function:

A type-expression W is a performative generating an intentional state of affairs S iff there is a convention K and circumstances C such that the convention K says: if somebody utters a token-expression W in circumstances C , so the state of affairs S will take place.

Subsequently, we analyze the problem of correctness of performative utterances and relations between different criteria of correctness of performative acts. On the basis of these analyses, the paradox of annulled marriage is formulated and the problem of performatives in law is sketched.

Tomasz A. Puczyłowski, The Gettier Problem and the Problem of Justification

The Gettier problem concerns the definition of knowledge as justified true belief. In the paper I argue that Gettier's cases are not cases of justified true belief because Gettier's examples rely on some problematic assumptions. The first is rather elementary definition of justification and the other is that justification is preserved by entailment, that is, (A) for all agents X , if X is justified in believing that p , and X realizes that the truth of p entails the truth of q , then X would also be justified in believing that q . For the simplistic conception of justification has some alarming consequences we pursue more adequate definition of justification which would satisfy the idea that a necessary condition of justification is to entail or to be entailed by a true proposition. We also show that the (A) is not necessary to provide an elegant counter-example to the definition of knowledge if the elementary definition of justification is adopted.