ABSTRACTS

R. CARNAP ON THE SIGNIFICANCE OF LOGICISM WITHIN THE PHILOSOPHY OF MATHEMATICS

ALEXANDRU BOBOC

The paper deals with Carnap's program regarding logic. This program refers not only to the fact that language becomes an issue for logical research, but also to the disclosure of syntax and semantics as fundamental methods in the case of modern reconstruction of logic.

Keywords: logicism, *Principia Mathematica*, Rudolf Carnap, logical syntax, meta-language

THE NEW LOGIC AND THE SCIENTIFIC THEORIES

IOAN BIRIȘ

For the scientific theories, the reform of traditional logic brings about the discussion on some complex issues regarding the logic of scientific experience, by means of an adequate type of concepts (relational, as well as structural) that are meant for modern and contemporary scientific knowledge, but also for the mathematical-structured methodology a. s. o., adding up the importance of the aspects that are linked to the definition of „scientific referents" and the notion of „scientific object". All these logical-scientifical issues highlight many difficulties for the methodology of research and for the philosophy of science as such; these difficulties and the attempts to solve them were meant to stir the debate and to open new perspectives.

Keywords: new logic, Frege, Carnap, scientific object, scientific theory

SIGNIFICANCE, NON-EXISTENCE, AND NON-REFERENTIAL TERMS

MIRCEA DUMITRU

In *Reference without Referents,* Mark Sainsbury aims to provide an account of reference that honors the common-sense view that sentences containing empty names like "Vulcan" and "Santa Claus" are entirely intelligible, and that many such sentences — "Vulcan does not exist", "Many children believe that Santa Claus will give them presents at Christmas", etc.— are literally true. Sainsbury's account endorses the Davidsonian program in the theory of meaning, and combines this with a commitment to Negative Free Logic, which holds that all simple sentences containing empty names are false. In this paper, I pose a number of problems for this account. In particular, I question the ability of Negative Free Logic to make appropriate sense of the truth of familiar sentences containing empty names, including negative existential claims like "Vulcan doesn't exist". In the last section of the paper I open up a new line of analysis of the phenomenon of a "defective" semantics sketching how one can make use of Kit Fine's new semantic framework, viz. semantic relationism.

Keywords: Millianism, Donald Davidson, empty names, free logic, Kit Fine, semantic relationism

THE LOGIC OF LOGICAL VALUES

IONEL NARIȚA

The paper analyses the values of sentences, i.e. tautology, contradiction and factuality, which are called *logical* values. Unlike truth values, logical values do not change according to context; instead, a logical sentence has the same logical value in all contexts. For example, the sentence *A* is a factual one nomatter the context, while sentence *B* is a tautology in all circumstances.

Keywords: tautology, contradiction, factuality, n-values logic of logical values, calculus of logical values

REMARKS ON THE EXCLUDED MIDDLE IN INTUITIONISTIC LOGIC

VICTOR EMANUEL GICA

The paper presents some remarks that are meant to shed light on the specificity of intuitionistic doctrine starting from its main objective, i.e. practicing an intuitive mathematics, which is pure as well as independent from language and logic. Intuitionism can be taken as a third main way that attempts to solve logical-mathematical paradoxes, offering a different perspective which is opposed both to logicist and formalist solutions. The critical attitude of intuitionism is founded and determining. The manner of contemporary intuitionism is neither a historical (*Aristotelian*), nor a systematical (*Kantian*) one, but resembles Cartesian doubt. Intuitionistic criticism does not cover such a large range as the Cartesian one does, but it is directly and effectively oriented against both logicism and formalism. Both anti-formalism and anti-logicism lead directly to constructivism, and logical or mathematical constructivism lays at the origin of intuitionism. In the case of logicism, the starting point is the problem of logical-mathematical paradoxes.

Keywords: logical-mathematical paradoxes, intuitionism, anti-formalism, anti-logicism, excluded middle

NON-CLASSICAL LOGIC NEGATIONS, METATEORETIC INTERPRETATIONS AND EXTENSIONS TO SOCIAL SCIENCES

GABRIEL ILIESCU

The aim of this paper is double: both positive and negative. The pozitive one concerns the interpretation of some previous results by axiomatic metateoretic contents. A final goal is also to bring into question the interdisciplinary relationship between logic and social and human sciences. The negative aim or, more explicitly, what I did not aim for, was to solve the metateoretic problems of axiomatic. Interpreting the conjunction by metateoretical contents, we know about the conjunction of completitude with consistency that follows from this and we can only draw conclusions not yet drawn it from premises. We also find out how we can reason with such a conjunction, more exactley, the inferences that contain this as a premise, and what are the conclusions of such metateoretical inferences. We also can know which are the classical and non-classical opposites of such conjunction. A double problematical aspect could be, at first, that the natural contents of thinking similar to the

symbolism are metateoretical. Then it is about the non-biunivoc correspondence between occurrences of some verifunctional symbols and natural language words, which decode these symbols.

Keywords: φ-function, ψ-function, truth function, premisses, conclusions, conjunction, incompatibility, completness, consistency, socio-human sciences

FITCH'S PARADOX IN TEMPORAL ARBITRARY PUBLIC ANNOUNCEMENT LOGIC

ALEXANDRU DRAGOMIR

This paper presents: (1) The logical system S5 (Fagin et al. 1995, van Ditmarsch et al. 2005, Blackburn et al. 2002), (2) Fitch's Paradox in a modal-epistemic logical framework (van Ditmarsch et al. 2012), (3) T. Hoshi's logical framework that permits expressing and evaluating propositions on what an agent can come to know after learning truths about the world or what other agents know, TAPAL – Temporal Arbitrary Public Announcement Logic (Hoshi 2009), and (4) T. Hoshi's reformulation of the Verificationist Thesis in TAPAL and his argument on why this version of the thesis is immune to Fitch's Paradox. The final section discusses the result, pointing out two possible problems with saving the reformulation of the Verificationist Thesis from paradox in TAPAL.

Keywords: Fitch's paradox, epistemic logic, knowability, epistemic temporal logic, verificationism

INTER-CATEGORIAL RELATIONS IN HEGEL'S *SCIENCE OF LOGIC*

DRAGOȘ POPESCU

The paper presents an interpretation of Hegelian objective logic from the point of view of inter-categorial relations, that are discussed upon within this first part of speculative logic. The author proves that the objective Logic, taken as independent from its continuation, the subjective one, is a categorial structure (but not a conceptual one) where Being and Essence are complementarily related. The categories of objective logic, if related to one another, make up structures of categorial structures (categorial matrixes) which the processes of subjective Logic develop further on as Concept, Judgment, and Syllogism.

Keywords: Hegel, *Science of logic*, quality, quantity, measure

THE CATEGORY OF BEING WITHIN HEGEL'S LOGIC

ȘTEFAN-DOMINIC GEORGESCU

The paper presents the logical role of being as a category within Hegel's logic. Being is the legitimate beginning of all science; it has a generative power and it determines the apparition of the structure of Hegel's logic. Being is the "pot" from where implicit logical determinations spring and

turn into explicit determination within the Absolute Idea. Finally, being is the reason for the speculative circularity of Hegel's logic.

ON THE RELATIONAL MEANING OF THE IDENTITY BETWEEN BEING, NOTHING AND BECOMING IN HEGEL'S PHILOSOPHY

CLAUDIU BACIU

The text argues that the identity of Being and Nothingness at the beginning of Hegels *Science of logic* cannot be understood from a substantialist point of view, i. e. by trying to understand it as an identity based upon a common content, as identity was traditionally conceived, but only in a functionalist way, i.e assuming that such an identity receives a meaning only from a superior point of view and thus it can be accepted only by seeing it from the perspective of the entire logical system. In this way, it is not this identity that supports the system (even if the system begins with it), but instead the entire system is that which gives to this identity its meaning. Thus, one can speak here of a relational identity, because the relation between Being and Nothingness prevails on these two related conceptual entities.

THE TIME CORRECTION PARADOX

VLAD ENACHE

We analyze *The Time Correction Paradox*: "Assuming that the past can be modified, then I will not succeed in correcting any unwanted past event N – because then I would have no reason to go back and correct it." Despite the common intuition that (past) time is essential to this paradox, we show that it works exactly the same for future events, not only past events. Moreover, we show that the Multiverse hypothesis fails to solve the paradox (even admitting causal links between future and past). We finally show that the paradox can be stated and analyzed without employing any Temporal or Modal Logic, but in plain Classical Logic.