Abstracts

Filozofia Nauki 19/3, 161-165

2011

Filozofia Nauki
Rok XIX, 2011, Nr 3(75)

Abstracts

Karol Polcyn, Split Brains

Brain bisection raises the intriguing question about how many minds the split-brain patients have. Thomas Nagel and Derek Parfit, who have brought this question into consideration, come to similar conclusions in response to it. They both argue that the question has no answer, that there simply isn't any countable number of minds that the split-brain patients have. In addition, Parfit argues that the split-brain cases can be adequately described only if we adopt a certain particular view about the metaphysical nature of a person. The goal of this paper is to clarify both of those views and, in particular, to explain why Parfit's preference for one model of personhood does not determine how many persons survive brain bisection.

Keywords: Nagel, Parfit, split brains, unity of consciousness

Błażej Skrzypulec, Discernibility and Individuality

The article considers interrelations between three philosophical issues which are relevant for the validity of the identity of indiscernibles principle:

(I) different understandings of the „qualitative difference",

(II) features of space — assumptions regarding classical, commonsense and non-standard characteristics of space,

(III) objective or subjective context — assumptions concerning presence of the perceiving subject in thought experiments created to test the validity of the identity of indiscernibles principle.

Different sets of assumptions connected with those three issues are discussed and it is tested, by constructing counterexamples describing possible state of affairs, if they entail the necessary validity of the identity of indiscernibles principle. In conclusion the theses about sufficient and necessary conditions for the necessity of the identity of indiscernibles principle are stated. Particularly it is argued that:

1) If the Principle is necessarily true then space necessarily has standard characteristics.

2) If the Principle is necessarily true then objects differ „qualitatively" even if they differ only in possessing relational properties individualized by a reference to an individual object (like *being 5m from Empire State Building*)

3) Only in the subjective context the Principle can hold necessarily without presupposing also a non-qualitative numerical difference.

In addition some implication for the theories of individuation are pointed out. Especially it is stated that theories which postulate that object is composed only of general elements (like some versions of the bundle theory of object) can be valid only in subjective context.

Keywords: metaphysics, individuality, discernibility, material objects

Zbigniew Tworak, The Knower Paradox

The Knower Paradox is an element of the class of paradoxes of self-reference. It demonstrates that any theory **Σ** which (1) extends Robinson arithmetic **Q**, (2) includes a unary knowledge predicate *K*, and (3) contains certain elementary epistemic principles involving *K* is inconsistent. In this paper I present different versions of the Knower Paradox (both in the framework of the first-order arithmetic and in the modal logic). There are several solutions of the paradox. Some of them I discuss in detail, namely solution developed within modal logic, solution proposed by C. A. Anderson and solution proposed by P. Égré. The common defect of these proposals is that they developed a connection between the concepts of knowledge and provability. Finally, I suggest a solution using the basic ideas of the revision theory of definitions.

Keywords: Knower Paradox, knowledge, self-reference, arithmetic, provability logic

Krzysztof Wójtowicz, Ontological Reductions in Mathematics. Part III: On Reconstruction of Some Parts of Mathematics

This is the third part of the study concerning the problem of ontological reductions in mathematics. In this part, the problem of reconstruction of (parts of) mathematics in theories weaker than full ZFC is discussed. The tools from *reverse mathematics* are used, and the results are discussed from the point of view of various versions of realism (Gödel's realism, Quine's quasi-empiricism and Balaguer's *Full-Blooded Platonism*). Some problems concerning the possibility of discussing these problem outside the conceptual system of set theory are also addressed.

Keywords: philosophy of mathematics, ontological reduction, mathematical realism

Eugeniusz Żabski, An Attempt of the Ego's Axiomatic Conception

Psychologists use identity's and Ego's conceptions. The first conception is not clear, the second one from logical point of view is not correct. The aim of this article is to provide the definition of these two conceptions.

Let: 1. P(=) is psychological (logical) identity's indication

2. o, o_1, o_2,.. (e, e_1, e_2,..) are people's (Ego's) variables

3. j is the function's indication. The expressions: j(o) (j (o_i)), dla i>0, we read: person's Ego o (o_i).

The psychological identity's definition provided in the article is as follows:

(P_1) $\forall o\,(oPo)$,

(P_2) $\forall o_1 \forall o_2\,(o_1Po_2 \rightarrow o_2Po_1)$,

(P_3) $\forall o_1 \forall o_2 \forall o_3\,(o_1Po_2 \wedge o_2Po_3 \rightarrow o_1Po_3)$,

(P_4) $\forall o \forall o_1 \forall o_2 \forall o_3 \forall R\,[(oRo) \wedge (o_1Ro_2 \rightarrow o_2Ro_1) \wedge (o_1Ro_2 \wedge o_2Ro_3 \rightarrow o_1Ro_3) \wedge (o_1Po_2 \rightarrow o_1Ro_2)]$.

And the Ego is defined as follows:

(I) $\forall e\,(e = e)$,

(J_1) $\forall e \exists o\,[j(o) = e]$,

(J_2) $\forall e \exists o\,[j(o) = e]$,

(J_3) $\forall o_1 \forall o_2\,[j(o_1) = j(o_2) \equiv o_1Po_2]$,

(J_4) $\forall e \forall o\,(e \neq o)$,

(J_5) $\forall e \forall o \sim (ePo)$,

(J_6) $\forall e_1 \forall e_2 \sim (e_1Pe_2)$.

Keywords: ego, logical identity, psychological identity, axiomatic definition

Wojciech Sady, Discovery of the Electron and the Question of the Nature of Scientific Research

The historical development of scientific knowledge is examined in the context of research, and not, as tradition tells, in the context of justification. It is a story about experimental researches and theoretical investigations conducted in the years 1820-1902, which finally led to the discovery of electron, accompanied by methodological comments. Main results of the analysis are that knowledge is *scientific* if it has a *systemic* character, and experimental studies are *scientific* if they are *systematic*. „Systemic" means that studied objects or processes are assumed (a) to obey to the same laws, (b) if we know nothing about that the change of experimental situation can influence the given theoretical property of an object or process, than this property, determined in other successful applications of an accepted theory (i.e. the set of laws), should be attributed to objects or processes in new applications of the same theory. „Systematic" means that the same objects or processes are examined experimentally in a number of different, but interrelated, situations (so many as time,

money and available laboratory instruments allow). I also try to show that in the historical growth of scientific knowledge hypotheses, understood as „free creations of the imagination", do not play almost any role. Almost all theoretical discoveries are products of inferences that can be logically reconstructed and whose premises are (1) known and accepted laws of nature, (2) what is known about the studied objects on the basis of approved applications of these laws, (3) new experimental results. The moral of this is that theoretical discoveries appear if and only if the system of scientific knowledge is mature enough: it is impossible to draw conclusions, if you lack the necessary premises. A scientist cannot, by letting her imagination to run wild, to be ahead of her time, and if she tries to do that, she usually goes beyond the boundaries of science.

Keywords: scientific discovery, Max Planck

Paweł Polak, Mateusz Hohol, The Einstein's Theory of Relativity in the Context of Leon Chwistek's Methodological Considerations

Leon Chwistek (1884-1944) was a Professor of Mathematical Logic at the Lviv University, but also philosopher, theoretician of modern art and avant-garde painter. The present article deals with the reception of Albert Einstein's special theory of relativity (SR) according to Leon Chwistek. Firstly, Chwistek's life and philosophical views are presented. Particular attention is paid to the following issues: the theory of the multiplicity of realities, the problem of idealism in the context of philosophy of mathematics and philosophy of science, and also positivist background of Chwistek's philosophy. Secondly, the reception of the theory of relativity according to Chwistek is presented in detail. In order to explain this problem, the following steps are taken: Chwistek's books and articles are presented. The charge of idealism against Albert Einstein's and Hermann Minkowski's theories, as well as alterations to special theory of relativity proposed by Chwistek are reported and analyzed. Finally, Chwistek's mistakes are pointed out and recapitulated.

Keywords: Albert Einstein, Leon Chwistek, history of science, logical empiricism, Lviv-Warsaw School, positivism, philosophy of mathematics, philosophy of science, special theory of relativity

Daniel Chlastawa, Bertrand Russell and Universals

Bertrand Russell paid considerable attention to the problem of universals throughout his long life. One of main factors which contributed to Russell's rejection of Hegelian philosophy (which is commonly viewed as a beginning of analytic philosophy) was rejection of so-called internal relations theory, according to which relations reduce to properties of relata or of the whole composed of them. For Russell relations were examples of indispensable universals. Russell is also famous for developing the similarity argument for realism: if we want to get rid of universals by reducing them to sets of objects similar in a certain respect, we have to accept similarity as a genuine universal, for otherwise we are threatened by a vicious regress.

The paper contains a presentation of evolution of Russell's thought regarding universals and a defense of similarity argument against criticism of Michał Hempoliński, according to which causal explanations are sufficient to explain the similarity of objects. It is argued that such explanations are insufficient, as they do not apply to, for example, fundamental particles, like electrons, and the view that there are no fundamental (indivisible) particles is threatened by another vicious regress.

Keywords: Russell Bertrand, universals, ontology, platonism, argument from similarity

Renata Ziemińska, Self-Refutation and Ancient Skepticism

L. Castagnoli in his book *Ancient Self-Refutation* rightly observes that self-refutation is not falsification; it overturns the act of assertion but does not prove that the content of the act is false. He argues against the widely spread belief that Sextus Empiricus accepted the self-refutation of his own expressions. Castagnoli also claims that Sextus was effective in answering to the self-refutation charge. The achievement of the book is discovery that in passages where Sextus seems to embrace the self-refutation of his expressions (PH 1.14-15), he does not use the term *peritropé,* technical for self-refutation, but term *perigrafé*, which means self-bracketing. Self-bracketing is weakening one's own thesis but not overturning it. Castagnoli claims that Sextus embraces the self-bracketing of his expressions but never accepts their self-refutation. However, Castagnoli is not right that self-refutation is shameful mistake for everybody. The mature skeptic cannot even think that self-refutation is wrong, because it would be a dogmatic view. Sextus seems accept the self-refutation at the end of *Against Logicians* where he presents the argument against proof and the metaphor of the ladder (M 8.480-1). Regardless of Sextus declarations, we have reasons to think that he does not avoid self-refutation in pragmatic sense. Self-bracketing of his position is not a consistent dialectical strategy, as Castagnoli writes, but the end of rational discussion. Sextus avoids absolute self-refutation (we cannot falsify what he suggests) but he is unable to avoid pragmatic self-refutation (there is no way to assert his position without contradiction). It is the case, even if Sextus refuses asserting his position.

Keywords: peritropé, self-refutation argument, pragmatic self-refutation, self-cancellation, non-assertion, Sextus Empiricus, Luca Castagnoli