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Kazimierz Trzęsicki, Polish Logicians' Contribution to the World Informatics

The position of Polish informatics, as well in research as in didactic, has its roots in achievements of Polish mathematicians of Warsaw School and logicians of Lvov-Warsaw School. Jan Łukasiewicz is considered in the world of computer science as the most famous Polish logician. The parenthesis-free notation, invented by him, is known as PN (Polish Notation) and RPN (Reverse Polish Notation). Łukasiewicz created many-valued logic as a separate subject. The idea of multi-valueness is applied to hardware design (many-valued or fuzzy switching, analog computer). Many-valued approach to vague notions and commonsense reasoning is the method of expert systems, databases and knowledge-based systems. Stanisław Jaśkowski's system of natural deduction is the base of systems of automatic deduction and theorem proving. He created a system of paraconsistent logic. Such logics are used in AI. Kazimierz Ajdukiewicz with his categorial grammar participated in the development of formal grammars, the field significant for programming languages. Andrzej Grzegorczyk had an important contribution to the development of the theory of recursiveness.

Kazimierz Trzęsicki, Leibniz's Ideas in Informatics

Leibniz may be considered as the first computer scientist. He made major contributions to engineering and information science. He invented the binary system, fundamental for virtually all modern computer architectures. He built a decimal based machine that executed all four arithmetical operations and outlined a binary computer. The concepts of *lingua characteristica* (formal language, programming language) and *calculus ratiocinator* (formal inference engine or computer program) are

the base of the modern logic and information science. Leibniz was groping towards hardware and software concepts worked out much later by Charles Babbage and Ada Lovelace. He anticipated the universal Turing machine.

Mariusz Grygianiec, Personal Identity through Time: Some Consequences of Essentialism

The paper is an attempt to formulate some consequences of the metaphysical doctrine of mereological essentialism (ME) and the assumption that persons persisting through time remain identical in the strict and philosophical sense (Chisholm, following Butler and Reid). Those consequences are *substantiality*, *non-constitutivity*, *constantiality*, *anti-identism* (non-bodility), and *simplicity* of persons. The author tries to show that although the above stance has a great theoretical appeal, it leads to the many further difficulties, which remain without reasonable answers.

Piotr Łukowski, Epistemic Role of the Logic of Falsehood

The idea of belief revision is strictly connected with the notion of contraction given by the set of postulates formulated by Alchourrón, Gärdenfors and Makinson. In the present paper expansion and contraction are defined by Tarski's consequence relation and Tarski-like elimination relation. The logic of falsehood (i.e. a logic dual in Wójcicki's sense to the given logic of truth) plays a key role for defining the elimination relation.

A decision of adding or refusing of some sentences is arbitrary and depends on our wish only. This decision cannot be logical and logic cannot justify it. In our approach logic is a tool for faultless and precise realization of extension or reducing of the set of our beliefs. Step forward extends the set of our beliefs and it is used when some new belief appears. Step backward reduces the set of our beliefs and it is used when we reject from some previously accepted belief. But why some „initial" sentences should be added or refused depends on extralogical reasons.

The logic for the back-reasoning uses the class of models adequate for the logic extending the set of our beliefs. However, the class is used in a specific i.e. dual form. That is why the step forward (expansion) and the step backward (contraction) constitute the one whole. Procedure of contraction satisfies the well known AGM postulates. We limit our considerations to first six conditions for contraction. Satisfaction of almost every postulate is a good sign that our approach is reasonable. The only exception we make for the controversial fifth postulate.

Dariusz Piętka, Question of Meaning in the Plato's Philosophy

Plato did not express any single and uniform theory of meaning. The paper presents different conceptions of meaning that can be attributed to Plato. The first presents meaning of names as imitating reality. Primary names are phonetic imitations of things, secondary names are built-up with the former ones. The second presents meaning as a representation in mind. There are two kinds of representations: individ-

ual and abstract. Individual representation is an imagination of empirical thing and the abstract representation is a picture of idea — a property. The third conception describes the notion of meaning as a denotation. Denotations of general names are ideas. Plato treats names in an extensional manner. If two names about different forms refer to the same thing, they are the same name. The fourth is the association conception of meaning. It is connected with the theory of anamnesis. This theory says that humans remember ideas, which they observed in the time between death and birth. In the last conception the meaning is interpreted as connotation: the meaning of a name is the feature of the object that is referred to by this name.

Jacek Rodzeń, Some Remarks on the so-called Pessimistic Meta-Induction

In the paper the idea of the well-known anti-realistic argument from the so-called pessimistic meta-induction is considered. It is ascertained — contrarily to the widespread belief — that Larry Laudan is not the author of the argument, however he has noticed many of its essential aspects, especially the problem of historical continuity between changing scientific theories. It seems that as the author of the argument should be regarded rather Hilary Putnam. A similar idea of pessimistic meta-induction was already anticipated in the work of Henri Poincaré. The paper finishes with conclusion, that scientific realism as a philosophical position has to take into account both the problem of the empirical success of scientific theories and the problem of continuity between them.

Anna Wójtowicz, Connection between grammar, ontology and semantics

In this article a certain „aesthetical" argument in favor of the situation ontology is presented. The connections between the claims concerning ontology, semantics and grammar are examined. The main thesis of the article is, that assuming the non-compositionality principle commits us to the acceptance of the primacy of situation.

Barbara Tomczyk, Diffusion of Borders in the Contemporary Discussion on Scientific Realism

An interesting phenomenon of diffusion of borders is observed within current discussion on realism. Philosophers retreat from unequivocal positions; as the result, clarity of this discussion is impaired. This concerns as well the internal realism as some other positions, represented e.g. by van Fraassen, Feyerabend and by the Edinburgh School. The paper aims at showing that combining realistic and antirealistic theses in one philosophical position seems to be inevitable. These theses are becoming so similar that they can be interpreted in realistic as well as antirealistic way, allowing their proponents to avoid inconsistencies. However, for the same reason discussion becomes somewhat pointless, and declaration „I am a scientific realist (or antirealist)" is no longer understandable.