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The Square of Opposition and the Vuillemin's Classification of Philosophical Systems

PROGRESSIVES STRUCTURES IN DYNAMICS OF KNOWLEDGE

- K. Gan-Krzywoszyńska *Change, Development and Progress. Prof. Roman Suszko's Study in Dynamics of Scientific Theories*, in: J-Y. Béziau & A. Costa-Leite eds., *Dimensions of Logical Concepts*, Coleção CLE, vol. 55, 2009, Campinas, Brasil, pp. 231-236.

- K. Gan-Krzywoszyńska & P. Leśniewski *Logic*, a contribution to "The Language of Science." ISSN 1971-1352. Monza: Polimetrica, version on-line: http://www.polimetrica.eu/site/?p=78.

- K. Gan-Krzywoszyńska & P. Leśniewski *On Existence and some Ontologies*, « Ruch Filozoficzny », 2009, No 1, pp. 71-79.

- P. Leśniewski & Z. Tworak *Collective Epistemic Logic*, in: eds. A. Wiśniewski, J. Zygmunt, *Erotetic logic, deontic logic and other logical matters. Essays in Memory of Tadeusz Kubiński*, LOGIKA 17, Acta Universitatis Wratislaviensis, No 1890, Wrocław 1997, pp. 90-102.

- P. Leśniewski *On the Generalized Reducibility of Questions*, in: ed. J. Nida-Rümelin, *Rationality, Realism, Revision. Proceedings of the 3rd International Congress of the Society for Analytical Philosophy* (September 15-18, 1997, in Munich), PERSPECTIVES IN ANALYTICAL PHILOSOPHY, vol. 23, Walter de Gruyter, Berlin – New York 2000, pp. 119-126.

- P. Leśniewski *Values in Social Structures. An outline of a Formal Study*, in: ed. E. Czerwińska-Schupp, *Values and Norms in the Age of Globalization*, *O* Peter Lang, Frankfurt am Main-Berlin-Bern-Bruxelles-New York-Oxford-Wien 2007, pp. 369-381.

PROGRESSIVES STRUCTURES IN DYNAMICS OF KNOWLEDGE

- SEMANTIC EPISTEMOLOGY:
  Kazimierz Ajdukiewicz (1890 – 1963)
- DIACHRONIC LOGIC
  Roman Suszko (1919 – 1979)
- CLASSIFICATION OF PHILOSOPHICAL SYSTEMS
  Jules Vuillemin (1920 – 2001)

BELNAP
THE *HAUPTSATZ* OF EROTETIC SEMANTICS

- Ask a foolish question and you get a foolish answer.

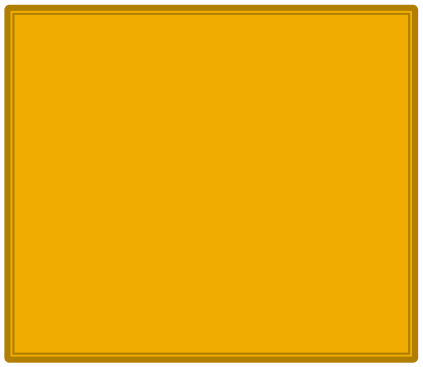
Nuel D. Belnap Jr. & Thomas B. Steel Jr.
The Logic of Questions and Answers
New Haven and London
Yale University Press 1976
[pp. 132-133]

THE EROTETIC 'SQUARE OF OPPOSITION' (BELNAP)

- *F*[*Q*]: '*Q* is a *foolish* question [in *M*]'
  $F[Q] := \forall A \in \mathrm{d}Q,\ M\ non \models A$
- *R*[*Q*]: '*Q* is a *risky* question [in *M*]'
  $R[Q] := \exists A \in \mathrm{d}Q,\ M\ non \models A$
  (or $R[Q] := \neg\forall A \in \mathrm{d}Q,\ M \models A$)
- *S*[*Q*]: '*Q* is a *safe* question [in *M*]'
  $S[Q] := \forall A \in \mathrm{d}Q,\ M \models A$
- *P*[*Q*]: '*Q* is a *allowable* question [in *M*]'
  $P[Q] := \exists A \in \mathrm{d}Q,\ M \models A$
  (or $P[Q] := \neg\forall A \in \mathrm{d}Q,\ M\ non \models A$)

THE EROTETIC 'SQUARE OF OPPOSITION' (BELNAP)

F[*Q*] *S*[*Q*]



R[*Q*] *P*[*Q*]

EROTETIC EXTENSIONS OF A LANGUAGE

- Two *erotetic* constants:
- "?" [question mark]
- "{}" [brackets]

- We can assume for example that *L* is a first-order language with identity supplemented with erotetic constants by means of which questions of the language *L* are formed.
- Moreover, we can assume that the set of questions of the language *L* fulfils for example the following conditions:
- (1) to each question of *L* there is assigned an at least two-element set of direct answers to this question;
- (2) the language *L* contains both *finite* questions (i.e. questions with finite sets of direct answers);
- (3) for each sentence *A* of *L* there is a question of *L* (called a *simple yes-no question*) whose set of direct answers consists of the sentence *A* and its negation $\neg A$, exclusively.

FOUR QUESTIONS

- (*Q-1*) ?{$\forall x\,(Sx \supset Px)$; $\neg\forall x\,(Sx \supset Px)$},
  [POSSIBLE READING:] "Is it the case that every *S* is *P*?"

- (*Q-2*) ?{$\forall x\,(Sx \supset \neg Px)$; $\neg\forall x\,(Sx \supset \neg Px)$},
  [POSSIBLE READING:] "Is it the case that no *S* is *P*?"

- (*Q-3*) ?{$\exists x\,(Sx \wedge Px)$; $\neg\exists x\,(Sx \wedge Px)$},
  [POSSIBLE READING:] "Is it the case that some *S* is P?"

- (*Q-4*) ?{$\exists x\,(Sx \wedge \neg Px)$; $\neg\exists x\,(Sx \wedge \neg Px)$},
  [POSSIBLE READING:] "Is it the case that some *S* is not *P*?"

BRENTANO'S EXISTENTIAL FORMS OF FOUR SENTENCES:

- (A-1) All *S* are *P*.
  (A-2) There is no *S* which is a non-*P*.
- (E-1) No *S* is *P*.
  (E-2) There is no *S* which is *P*.
- (I-1) Some *S* are *P*.
  (I-2) There is an *S* which is *P*.
- (O-1) Some *S* are not *P*.
  (O-2) There is an *S* which is a non-*P*.

GODFATHERS OF THE POZNAŃ METHODOLOGICAL SCHOOL ON THE SQUARE OF OPPOSITION

- Kazimierz Ajdukiewicz
- *Założenia logiki tradycyjnej*
- 'Presuppositions of Traditional Logic'
  Przegląd Filozoficzny, (29/1926), pp. 200-229
  [in Polish]

- Adam Wiegner
- *W sprawie założeń i charakteru logiki tradycyjnej*
- 'About the Presuppositions and Character of Traditional Logic'
  Kwartalnik Filozoficzny (15/1938), pp. 108-122
  [in Polish]

ONTOLOGY
AND THE 'NATURE' OF QUESTIONS (1)

- The kinds of question we ask are as many as the kinds of things which we know. They are in fact four:
- (Q-1) whether the connexion of an attribute with a thing is a fact,
- (Q-2) what is the reason of the connexion,
- (Q-3) whether a thing exists,
- (Q-4) what is the nature of the thing.

- Aristotle
  Posterior Analytics
  Translated by G. R. G. Mure

ONTOLOGY AND THE 'NATURE' OF QUESTIONS (2)

- The controversy about the "nature" of questions is not only a conceptual one.
- If the *radical reductionist view* is correct, no logic (in the very sense of "logic", as opposed to "logical theory") of questions is possible.
- If the *moderate reductionist view* is correct, logic of questions should be developed only within the framework of some other philosophical logic.
- But if we accept the *non-reductionist approach*, the problem of building (or discovering, as a platonist might say) of the logic of questions remains open.

- Andrzej Wiśniewski,
  The Posing of Questions. Logical Foundations of Erotetic Inferences,
  [p. 42]

ONTOLOGY AND THE 'NATURE' OF QUESTIONS (3)

[EROTETIC] meta-ontological monism:

- There is only one ontological question.
- Example: W. V. Quine
- **(Q) What is there?**

EXAMPLES OF ONTOLOGICAL QUESTIONS: ALFRED NORTH WHITEHEAD

- "Descartes asked the fundamental metaphysical question,
- **what is it to be an actual entity?"**

- Alfred North Whitehead
- *Process and Reality. An Essay in Cosmology* [Corrected Edition edited by D. R. Griffin, D. W. Sherburne], The Free Press, New York 1985

EXAMPLES OF ONTOLOGICAL QUESTIONS: MICHAEL DUMMETT

- "The fundamental question that metaphysics strives to answer is
- **'What is there?'**, or, expressed more sententiously,
- **'Of what does reality consist?'**."

- Michael Dummett
- *Thought and Reality (Lines of Thought)*, Oxford University Press, New York 2006

BACK TO QUINE

- What reality is like is the business of scientists, in the broad sense painstakingly to surmise; and **what there is**, **what is real**, is a part of that question.

- The question how we know what there is is simply part of a question, (…), of the evidence for truth about the world. The last arbiter is so-called scientific method, however amorphous.

- *Word and Object*,
  The M. I. T. Press 1960
  [p. 22-23]

BACK TO VUILLEMIN: PHILOSOPHICAL SYSTEMS INSTEAD OF SCIENTIFIC THEORIES

- The problem of categorical sentences as elementary sentences (in the Vuillemin's sense) is of greatest importance to his project. Let us remind that classification of philosophical systems by Vuillemin (*V-classification*, for short) is based on four original assumptions.
- Firstly, the conviction that language moulds perception is deleted, since perception precedes language.
- Secondly, Vuillemin firmly claims that *Weltanschauung* is not a philosophy.
- Thirdly, the strong continuity between philosophy and common sense is rejected.
- Last but not least, Vuillemin did not argue for an unique scheme of philosophical truth: he just made forward a suggestion about careful and serious consideration to the question what all possibilities of philosophical truth are. There is no easy answer to the problem.

BACK TO VUILLEMIN: PHILOSOPHICAL SYSTEMS INSTEAD OF SCIENTIFIC THEORIES

- The *V*-classification is grounded on the fundamental forms of predication. There are five exclusive classes of predications, since the determination of the singular term occurs in respect either: (1) of the general term, or (2) of the singular term itself, or (3) of the material chain of the sentence, or (4) of its syntactical unit, or (5) of its semantic unit. The correlated classes of elementary sentences are: pure predication, substantial and accidental predications, circumstantial predication, judgment of method and judgment of appearances.

BACK TO VUILLEMIN: PHILOSOPHICAL SYSTEMS INSTEAD OF SCIENTIFIC THEORIES

- The five kinds of identification divide into two major series distinguished in terms of truth, this is: dogmatic series which consists of the first three forms of predications and subjective series, which consists of judgment of method and judgment of appearances.
- Every form of predication becomes an ontological principle and results in exactly one philosophical system (and/or even exactly one class of them): realism, conceptualism, nominalism (of things and of events, respectively), intuitionism, and skepticism.
- Systematic ontology requires that: (1) a minimal set of indefinable concepts and indemonstrable principles should be given form which all elements of the world may be derived; (2) this derivation should proceed according to legitimated rules, and (3) rival ontologies should be explained away as mere appearances

WHY VUILLEMIN?
WHY PHILOSOPHICAL SYSTEMS?
ANSWER: MACINTYRE

- For what the progress of analytic philosophy has succeeded in establishing that there are *no* grounds for belief in universal necessary principles – outside purely formal enquiries – except relative to some set of assumptions. Cartesian first principles, Kantian *a priori* truths and even the ghosts of these notions that haunted empiricism for so long have all been expelled from philosophy. The consequence is that analytic philosophy has become a discipline – or a subdiscipline? – whose competence has been restricted to the study of inferences.

- A. MacIntyre
  After Virtue. A Study in Moral Theory
  University of Notre Dame
  Notre Dame 2003 [p. 266-267]

Thank you for your attention.