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   "This paper discusses Jean van Heijenoort's (1967) and Jaakko and Merrill B. Hintikka's (1986, 1997) distinction between logic as a universal language and logic as a calculus, and its applicability to Edmund Husserl's phenomenology. Although it is argued that Husserl's phenomenology shares characteristics with both sides, his view of logic is closer to the model-theoretical, logic-as-calculus view. However, Husserl's philosophy as transcendental philosophy is closer to the universalist view. This paper suggests that Husserl's position shows that holding a model-theoretical view of logic does not necessarily imply a calculus view about the relations between language and the world. The situation calls for reflection about the distinction: It will be suggested that the applicability of the van Heijenoort and the Hintikka's distinction either has to be restricted to a particular philosopher's views about logic, in which case no implications about his or her more general philosophical views should be inferred from it, or the distinction turns into a question of whether our human predicament is inescapable or whether it is possible, presumably by means of model theory, to obtain neutral answers to philosophical questions. Thus the distinction ultimately turns into a question about the correct method for doing philosophy."

Reprinted in:
Jean van Heijenoort - *Selected essays* - Napoli, Bibliopolis, 1985, pp. 11-16


"Of these essays, 1 and 5 are being published elsewhere at the same time but have not been published before. Essays 2, 4 and 6-8 are published without any changes. For technical reasons, it has not been feasible to make them completely uniform typographically or to bring their references completely up to date. Essay 3, which is the mainstay of the argumentation of this volume, has been revised for republication. In particular, its sections 9 and 12 have been thoroughly rewritten."


Translated from: *Abriss der Geschichte der logik* (1931) by Kurt F. Leidecker.


"Our task will be to construct portions of a directly depicting language which will enable us to represent the most general structures of reality. We shall draw not on standard logical treatments of the contents of epistemic states as these are customarily conceived in terms of propositions. Rather, we shall turn to a no less venerable but nowadays somewhat neglected tradition of formal ontology: not sentences or propositions, but maps, diagrams or pictures, shall serve as the constituents of our mirror of reality."


See in particular: 3.04 *Die Charakteristik* pp. 186-205.


"One can distinguish two different approaches toward language in Leibniz's work. On one hand, he considers natural language insufficient and would like to replace it by a 'rational' language (lingua philosophica), while on the other hand, he is an empirical researcher of language who collects phenomena from the most diverse languages in order to compare them with other languages. The literature about Leibniz highlights only these two aspects of his work, and usually considers them to be incompatible. The relationship between Leibniz's remarks about 'characteristica universalis' and his theories about natural language is explored. Even though Leibniz did not produce an explicit theory about this relationship, a difference between these two is clearly implied in his remarks. Natural language and characteristica are to Leibniz, basically different in their existence, their function, and their performance. Nevertheless, they both form integral components of Leibniz's monad theory."


The first task is that of delineating the differences between Frege's conception of logic and the contemporary one. I shall start with the latter. Explicit elaborations of it are surprisingly uncommon. (In most writing on issues in philosophical logic, it is implicitly assumed; yet many textbooks gloss over it, for one pedagogical reason or another.) There are various versions; I will lay out the one formulated by Quine in his textbooks (1) as it seems to me the clearest.

On this conception, the subject matter of logic consists of logical properties of sentences and logical relations among sentences. Sentences have such properties and bear such relations to each other by dint of their having the logical forms they do. Hence, logical properties and relations are defined by way of the logical forms; logic deals with what is common to and can be abstracted from different sentences. Logical forms are not mysterious quasi-entities, à la Russell. Rather, they are simply schemata: representations of the composition of the sentences, constructed from the logical signs (quantifiers and truth-functional connectives, in the standard case) using schematic letters of various sorts (predicate, sentence, and function letters). Schemata do not state anything and so are neither true nor false, but they can be interpreted: a universe of discourse is assigned to the quantifiers, predicate letters are replaced by predicates or assigned extensions (of the appropriate r-ities) over the universe, sentence letters can be replaced by sentences or assigned truth-values. Under interpretation, a schema will receive a truth-value.

Such a schematic conception is foreign to Frege (as well as to Russell). This comes out early in his work, in the contrast he makes between his Begriffsschrift and the formulas of Boole: "My intention was not to represent an abstract logic in formulas, but to express a content through written signs in a more precise and clear way than it is possible to do through words." (2) And it comes out later in his career in his reaction to Hilbert's Foundations of Geometry: "The word 'interpretation' is objectionable, for when properly expressed, a thought leaves no room for different interpretations. We have seen that ambiguity [Vieldeutigkeit] simply has to be rejected." (3) There are no parts of his logical formulas that await interpretation. There is no question of providing a universe of discourse. Quantifiers in Frege's system have fixed meaning: they range over all items of the appropriate logical type (objects, one place functions of objects, two place functions of objects, etc.). (p. 27)

On Frege's universalist conception, then, the concern of logic is the articulation and proof of logical laws, which are universal truths. Since they are universal, they are applicable to any subject matter, as application is carried out by instantiation. For Frege, the laws of logic are general, not in being about nothing in particular (about forms), but in using topic-universal vocabulary to state truths about everything. (p. 28)

My central aims in this paper have been to delineate Frege's universalist conception of logic and contrast it with a more familiar one, to show that this conception connects with many other points in Frege's philosophy, and to suggest that the conception is a well-motivated one, given the nature of Frege's project. Of course, today most of us would find the schematic conception (or some variant of it) far more natural, if not unavoidable. But I hope to have caused us to reflect on how much else has to shift in order to make it." (p. 41)

(1) Elementary Logic (Boston: Ginn, 1941) and Methods of Logic (New York: Holt, 1950).


"From my observations, several corollaries follow for the recent discussions concerning Frege in the literature. For instance, the truly interesting historical problem is not to find anticipations of Frege on sense and reference in earlier philosophers or, more generally, to study Frege's theory in its relation to his predecessors. The fascinating novelty which I for one would very much like to understand better is how Frege came upon his ideas about extensional logic, ideas which were radically different from the great
majority of traditional philosophers. Furthermore, the deep objects of comparison and contrast in
twentieth-century philosophy are not later theories of senses (or their partial dispensability as in Kripke)
or other theories of intensional contexts but those recent findings which challenge Frege's treatment of
first-order logic.

Among these targets of challenge, the most important ones are probably the paucity of Frege's ontology
(set of categories represented by his primitive symbols), the so-called Frege principle (1), and the Frege-Russell claim that ordinary-language words like the English "is" and the German "ist" are ambiguous
between the "is" of existence, identity, predication, and subsumption (2). In some ways, the true import of
Frege's tacit first-order semantics is best seen from the criticisms to which these three cornerstones of
Frege's semantics have been subjected." p. 722

(1) See here my paper "Theories of Truth and Learnable Languages" (forthcoming). [Stig Kanger and
Sven Öhman (eds.) - Philosophy and grammar: papers on the occasion of the Quincentennial of Uppsala
vol. 8 (1979), 433-468.


Synthese no. 59:27-49.


"Patzig has argued that Frege's use of the phrase 'lingua characterica' constitutes an insufferable pleonasm
that no-one with first-hand knowledge of Leibniz's writings would have committed. On this he bases an
argument to show that Frege's knowledge of Leibniz was weak and garnered from secondary sources. I
show that this claim ignores certain crucial Leibniz quotes by Frege which he could have found only in
the Gerhardt edition of Leibniz's mathematical works and his correspondence, and lay the foundation for
an analysis of the historical influence of Leibniz on the development of Frege's thought."


"This paper examines the question, whether and to what degree Leibniz's project of an ideal language --
of a "lingua characterica" which at the same time can also function as a "calculus ratiocinator" -- had an
influence on Frege's project of a "Begriffsschrift". It concludes that not only are there sufficient
conceptual similarities to warrant an hypothesis of historical connection, but that there are also historical
indications in Frege's own writings to that effect."


112:303-321.

Abstract: "This paper defends an interpretation of Husserl's theory of language, specifically as it appears
in the Logical Investigations, as an example of a larger body of theories dubbed 'language as calculus'.
Although this particular interpretation has been previously defended by other authors, such as Hintikka
and Kusch, this paper proposes to contribute to the discussion by arguing that what makes this
interpretation plausible are Husserl's distinction between the notions of meaning-intention and meaning-
fulfillment, his view that meaning is instantiated through meaning-intending acts of transcendental
consciousness, and his view that the content of meaning-intending acts is ideal meaning simpliciter.
As well, the paper argues that the phenomenological method of reduction itself presupposes the notion that
reality as such can be reached by subtracting the influence of the language of the natural attitude and its
ontological commitments and it, thus, presupposes the conception of language as a reinterpretable
calculus."


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Translated from German by Joseph J. Kockelmanns.


"This paper investigates the role of Edmund Husserl in the development of formal or model-theoretic semantics through glasses of the distinction of language as calculus vs. language as universal medium, introduced by Jaakko Hintikka and Martin Kusch. In particular, the paper raises the question of possible
Husserl's influence on the conception of language accepted in Polish philosophy, in particular by Lesniewski and Tarski.
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