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THE ONTOLOGY OF REFERENCE:
STUDIES IN LOGIC AND PHENOMENOLOGY

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SUMMARY

Ontology is sometimes conceived as having as its sole province the totality of object-entities, by which is meant entities such as molecules, cells, organisms, organizations, numbers, shapes, and so forth. When we attempt to extend ontology to the domain of meaning-entities (concepts, propositions, even whole theories), we find that the criteria for individuating and re-identifying objects cannot be carried over unproblematically to this area. We argue on this basis that there is an ontological dichotomy between meaning-entities on the one hand, and object-entities (individual objects, properties, relations, states of affairs, events and processes) on the other, and that it is illegitimate to impose standards appropriate to the latter in our investigations of the former. One principal means by which such imposition is effected is through the assumption that linguistic meanings are to be individuated through the *expressions* with which they are associated; the latter being conceived as belonging to the category of object-entities. We argue, however, that meanings, unlike expressions, are dependent on the contexts – both linguistic or extralinguistic – in which they are uttered and understood.

Our first application of the meaning/object dichotomy as an instrument of philosophy is to the interpretation of Frege's ontology, and in particular Frege's conception of a 'realm of sense' and a 'realm of reference'. The most serious difficulty in this ontology of 'realms' turns on those passages in the Frege corpus in which it is suggested that we have to deal with two mutually exclusive categories, something which conflicts with one crucial implication of Fregean semantics, namely that *every entity is a referent* (can be referred to by means of some suitably constructed categorematic expression). However it is strictly speaking not *referents* with which senses or meaning are contrasted ontologically, but *objects*. This is because meanings themselves can serve as referents. Much of Frege's work in the field of logic seems to suggest that he conceived logic as

a discipline which was concerned exclusively with relations between senses (more particularly between propositions or thoughts, the senses of complete assertoric sentences). Nevertheless, we find a series of isolated arguments in Frege's writings according to which 'logical laws are first laws in the realm of reference and only mediately relate to sense' ("Ausführungen über Sinn und Bedeutung", 1892-95, p. 134). The apparent contradiction can be resolved, we suggest, if account is taken of the fact that the crucial ontological dichotomy lies not between sense and *referents* but between sense and *objects*, and if it is recognized that those referents – principally truth-values and numbers – which constitute the immediate subject-matter of logic in Frege's eyes, ought themselves more properly to be conceived as *meaning-entities*.

We take for granted the conception of logic as the science that has as its subject-matter the superstructural features of the realm of meanings, so that logic is concerned exclusively with relations between meanings. We advance at the same time a structuralist platonism as concerns the entities of mathematics, viewing the latter interrelationships amongst abstract structures in the realm of meanings. We then argue that the appeal of platonism as a philosophy of mathematics rests in part on the fact that a platonism of meaning-entities is, for deep-seated reasons, a less objectionable assumption than a platonism of objects.

Mathematical rigour (like logical rigour) is possible because mathematics is exclusively a matter of relations between meanings. This thesis opens up the possibility of a view of mathematical *objects* as temporally determined entities, as entities whose ontological status depends – like that of, for example, the objects presented in works of literature – upon the existence of certain frameworks of conventions and upon the construction of certain linguistic structures (called 'formal theories') the understanding of which turns upon our regarding the propositions expressed as propositions *about* objects of a certain sort. Thus while objects are, from the point of view of mathematical rigour, strictly speaking superfluous, it is nevertheless a matter of 'practical necessity' (Lorenzen) that the mathematician (the set theorist, the number theorist) conceives himself as investigating a pre-established totality of objects, which he 'perceives' in a way which parallels both the 'perception' which the physicist has of the objects of his discipline and the quasi-perception of fictional objects achieved through readings of works of literature.

However the status of mathematical *objects* as temporally determined must not be misunderstood by analogy with that of spatio-temporal objects, which have a simple structure of temporal properties. For mathematical objects, like all intentional objects, have a peculiar *double structure* of *external properties* and *internal characteristics*. Consider, for example, the case of objects of fiction: Here the properties with which we are concerned include, for example: the property of having been created by Shakespeare, of having been psychoanalyzed by Ernest Jones, of being non-existent, and of having such and such a stock of internal characteristics. The latter then include, for example: being a prince of Denmark, having suicidal impulses, having two arms

and two legs, and so on. But the latter are not *properties*, since all objects which possess the property of being a prince of Denmark thereby exist, and Hamlet – we may assume – did not exist. When we read Shakespeare, for example as a literary critic, it is exclusively the stock of internal characteristics with which we are concerned. And in just the same way, when the set theorist is concerned with the sets projected by a particular set theory it is exclusively the internal characteristics of these sets which fall within the theory's purview. What distinguishes sets, and mathematical and abstract objects in general, from the purely intentional objects of fiction, is that the latter have temporal determinations not only among their external properties, but also among their internal characteristics (Hamlet, for example, is represented as existing as prince of Denmark at a determinate time). Mathematical objects, on the other hand, have no temporal characteristics. Hence, again, the appeal of platonism as a philosophy of mathematics.

The abstract objects of mathematics and the non-existent objects of fiction form not merely a peripheral extension of the universe of existent objects (the latter regarded as somehow well-understood). Rather, following certain suggestions of Frege, we propose a view of objects – especially abstract objects – as the results of certain types of *demarcation* – as for example the North Sea exists because of certain intersubjectively accepted demarcations built into naval charts. Such demarcations reflect demarcatory acts, which exist because of complex cognitive and social structures (enabling the creation of novels, maps, mathematical theories and the theories of natural science). On this basis the universe of existent and non-existent objects begins to take on the character of a massively complex stratified structure, lower strata of microphysical particles combining together to constitute progressively higher strata of animate and inanimate material bodies, cities, nation states, civilizations, works of art, linguistic structures, mathematical configurations, and so on.

The conception of this stratified ontology rests upon a notion of object developed by inspiration from, on the one hand the invention of existential quantification by Bolzano and Frege, and on the other hand from the ontology presented by Ingarden in his *Der Streit um die Existenz der Welt*. Ingarden, alone amongst all the major figures of the Austro-German tradition of Frege, Brentano, Meinong, Husserl and Twardowski, succeeded in developing an alternative to the idealist paradigm of creation of an object – according to which it is only autonomous objects, including the real world itself, which can be 'created' – and thereby succeeded also in pointing the way towards an adequate ontological theory of both non-existent and existent objects and of both the lower and the higher strata in the universe of objects as a whole.

But even Ingarden was still too close to Husserl, Meinong and Brentano to derive as a consequence of his new paradigm of creation – which has much in common with the constructivist paradigm in the philosophy of mathematics advanced, for example by Kronecker, Weyl and Lorenzen – that the domain of objects as a whole is, while more inclusive than the domain of

existent objects, still subject to a quite parallel system of rigid criteria for admission: not every thought about or belief in or assumption of an object is thereby such as to have a referent (that is: to have some target admissible as an object), just as not every thought about or belief in an existent entity is valid, from an external point of view, as a thought about or belief in that which it would claim to be directed towards. Hence perhaps the most important task attempted in this work is the provision of such criteria, that is the provision of *necessary and sufficient conditions for objecthood*.

It is necessary, first of all, to delineate the category of object-entities (that is of objects in general, including not only individual objects but also properties, relations, states of affairs) from the category of meaning-entities. We have already seen that the status of the former as referents – whether for acts or for linguistic expressions – cannot serve to distinguish them from meaning-entities. But it is still possible to distinguish among referents those entities whose 'proper' position is in the referent or 'target' position for an act and those – in particular meanings – who belong rather to the medium of articulation *through which* determinate reference is achieved. This implies a distinction, recognized by Husserl as the distinction between '*eigentliche und uneigentliche oder bloss symbolische Vorstellung*' (between that which is properly intended and that which is improperly or merely symbolically intended) and by Russell as the distinction between knowledge by acquaintance and knowledge by description, between 'fulfilled' and '*empty*' *or generic* reference.

We can now state in summary form the first condition for objecthood: that entities are objects only if they are entities for which we can achieve *fulfilled* referential access.

The second condition concerns the distinction between those entities – such as landmarks or public functionaries – which are objects in their own right, but which yet do not constitute an additional stratum of reality. This is because discourse about landmarks and public functionaries, like discourse about, say, punctuality, reciprocity, the platoon commander's lack of a nap, the identity of the murderer, is merely a stylistic variant of discourse concerning object-entities of a more mundane sort. The criterion which determines whether we have to deal with an additional stratum of entities in their own right, or with mere linguistic simulacra of such entities is, as recognized by Dummett, the existence of a *field of predicates*, a special vocabulary within which proper names for the entities in question are embedded. We possess such a vocabulary in the case of numbers ('larger than', 'is prime', 'is composite', 'is perfect', 'is the square of'…), and also in the case of colours ('darker than', 'primary', 'secondary', 'monochrome'…), which implies that both numbers and colours constitute additional strata of self-subsistent objects.

The third condition – which embodies in its full force the recognition that objecthood is a purely 'external' matter for the attainment of which mere assumptions and beliefs are always

insufficient – serves to exclude those acts, such as the acts of 19th-century astronomers who were convinced of the existence of an intramercurial 'plant Vulcan', for which we have a suitably rich field of predicates and apparent referential or 'target' access, yet for which we have no *object* since a simple ontological mistake has taken place. It is thus necessary to make a distinction among acts between those which are 'veridical', in the sense that they are protected from the possibility that, with future increases in knowledge, it should be discovered that the purported object of the act was merely the product of a private or institutional error or illusion, and 'non-veridical' acts, for which this is not the case. What is crucial is that there are *non-existent objects*, acts of reference to which are yet secure cases of veridicality: Hamlet, for example, is such an object, since works of literature constitute 'veridical contexts'. Thus the third and final condition may be formulated thus: entities, or purported entities, are *objects* only if they are embedded within a veridical context.

The theory of objects (*Gegenstandslehre*) implied by these conditions is contrasted with the original theory of objects put forward by Meinong, here subjected to a thorough-going criticism. It is contrasted also with the 'Fregean' object-ontology, both as originally conceived by Frege, and as developed by Christian Thiel, whose interpretation of Frege is developed against the background of the constructivist theory of abstraction defended by Paul Lorenzen. We also exploit this more general ontological framework, with its dichotomy between meanings in general and objects in general, in order to provide an interpretation of Husserl's philosophical works, both of his early, pre-phenomenological period and of the period of the *Ideen*. In particular we attempt to show that Husserl's philosophy of logic and mathematics is not only much closer than has been generally supposed to the main (Frege-inspired) tradition, but also that it embodies certain crucial insights which have been lost to that tradition, insights which derive from the work of mathematicians and logicians such as Riemann, Schröder and Cantor who were influenced by the advances made by mathematical analysis in the 19th century, in contrast to thinkers such as Frege, Russell, Wittgenstein and Quine, for whom arithmetic was sometimes all too important.

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