

Preface ..... I

I. PHILOSOPHY OF MATHEMATICS

Timothy WILLIAMSON: Indefinite Extensibility ..... 1

Dummett’s account of the semantic paradoxes in terms of his theory of indefinitely extensible concepts is compared with Burge’s account in terms of indexicality. Dummett’s appeal to intuitionistic logic does not block the paradoxes but Burge’s attempt to avoid the Strengthened Liar is unconvincing. It is argued that in order to avoid the Strengthened Liar and other semantic paradoxes involving non-indexical expressions (constants), one must postulate that when we reflect on the paradoxes there are slight shifts in the meaning (not just reference) we ascribe to metalinguistic expressions (in particular ‘say’, and derivatively ‘true’ and ‘false’). Consideration of metaphor and gradual linguistic change suggests that such semantic shifts are consistent with language-learning and communication. On this account there is no threat to classical logic, bivalence or the fundamental principles governing ‘true’ and ‘false’.

Alex OLIVER: Hazy Totalities and Indefinitely Extensible Concepts: An Exercise in the Interpretation of Dummett’s Philosophy of Mathematics : ..... 25

Dummett argues that classical quantification is illegitimate when the domain is given as the objects which fall under an indefinitely extensible concept, since in such cases the objects are not the required definite totality. The chief problem in understanding this complex argument is the crucial but unexplained phrase ‘definite totality’ and the associated claim that it follows from the intuitive notion of set that the objects over which a classical quantifier ranges form a set. ‘Definite totality’ is best understood as disguised plural talk like Cantor’s ‘consistent multiplicity’, although this does not help in understanding how a totality could be anything other than definite. Moreover, contrary to his claims, Dummett’s own notion of set is not intuitive and he does not demystify the set-theoretic paradoxes. In

conclusion, it is argued that Dummett's context principle is responsible for the incoherent projection of the haziness of a conception of some objects onto reality.

Peter CLARK: Dummett's Argument for the Indefinite Extensibility of Set and Real Number ..... 51

The paper examines Dummett's argument for the indefinite extensibility of the concepts set, ordinal, real number, set of natural numbers, and natural number. In particular it investigates how the indefinite extensibility of the concept set affects our understanding of the notion of real number and whether the argument to the indefinite extensibility of the reals is cogent. It claims that Dummett is right to think of the universe of sets as an indefinitely extensible domain but questions the cogency of the further claim that this fact raises an issue as to what sets or real numbers there are.

Alan WEIR: Dummett on Impredicativity ..... 65

Gödel and others held that impredicative specification is illegitimate in a constructivist framework but legitimate elsewhere. Michael Dummett argues to the contrary that impredicativity, though not necessarily illicit, needs justification regardless of whether one assumes the context is realist or constructivist. In this paper I defend the Gödelian position arguing that Dummett seeks a reduction of impredicativity to predicativity which is neither possible nor necessary. The argument is illustrated by considering first highly predicative versions of the equinumerosity axiom for cardinal number and Axiom V for sets, on the one hand, then classically consistent disjunctivised versions of Axiom V which are impredicative but can prove the well-foundedness of the semantics of weaker such systems, on the other.

A.W. MOORE: More on 'The Philosophical Significance of Gödel's Theorem' ..... 103

In Michael Dummett's celebrated essay on Gödel's theorem he considers the threat posed by the theorem to the idea that meaning is use and argues that this threat can be annulled. In my essay I try to show that the threat is even less serious than Dummett makes it out to be. Dummett argues, in effect, that Gödel's theorem does not prevent us from "capturing" the truths of arithmetic; I argue that the idea that meaning is use does not require that we be able to "capture" these truths anyway. Towards the end of my essay I relate what I have been arguing first to Dummett's concept of indefinite extensibility and then to some of Wittgenstein's remarks on Gödel's theorem.

Michael POTTER: Classical Arithmetic is Part of Intuitionistic Arithmetic ..... 127  
 One of Michael Dummett’s most striking contributions to the philosophy of mathematics is an argument to show that the correct logic to apply in mathematical reasoning is not classical but intuitionistic. In this article I wish to cast doubt on Dummett’s conclusion by outlining an alternative, motivated by consideration of a well-known result of Kurt Gödel, to the standard view of the relationship between classical and intuitionistic arithmetic. I shall suggest that it is hard to find a perspective from which to arbitrate between the competing views.

Eric P. TSUI-JAMES: Dummett, Brouwer and the Metaphysics of Mathematics ..... 143  
 Although Brouwer is well known for his Intuitionistic philosophy of mathematics, a constructivist philosophy which calls for restricted use of certain logical principles, there is much less awareness of the well-developed metaphysical basis which underlies those restrictions. In the first half of this paper I outline a basic interpretation of Brouwer’s metaphysics, and then in the second half consider the compatibility of that metaphysics with Dummett’s argument for a principled non-metaphysical approach to intuitionism. I conclude that once the variously misleading accretions of the central concepts – metaphysics and logic – are set aside, Dummett and Brouwer’s accounts can be seen to be at the very least compatible, if not complementary.

## II. PHILOSOPHY OF LANGUAGE

Charles TRAVIS: Sublunary Intuitionism ..... 169  
 In “Truth” Michael Dummett presents a case for intuitionist logic as the logic of ordinary discourse. The case depends on a supposed need to make two intuitions mesh: first, that it is senseless to suppose, of any statement, that it is neither true nor false; second, that there is no guarantee, for every statement, that either there is something in the world to make it true, or there is something to make it false. This paper argues, developing a notion of natural *isostheneia*, that Dummett’s first intuition is wrong as he reads it, and that, consequently, his case for intuitionist logic collapses.

John CAMPBELL: Sense and Consciousness ..... 195  
 On a classical conception, knowing the sense of a proposition is knowing its truth-condition, rather than simply knowing how to ver-

ify the proposition, or how to find its implications (whether deductive implications or implications for action). But knowing the truth-condition of a proposition is not unrelated to your use of particular methods for verifying the proposition, or finding its implications. Rather, your knowledge of the truth-condition of the proposition has to justify the use of particular methods for verifying it, or finding its implications. And your knowledge of the truth-condition of the proposition has to be what causes your use of particular methods for verifying it or finding its implications. So on a classical picture, we do not appeal to knowledge of sense only in explaining the informativeness of identities. We have to think of knowledge of sense as what causes, and justifies, your use of particular ways of verifying or finding the implications of a proposition. I argue that in the case of a perceptual demonstrative, like ‘that star’ or ‘that mountain’, it is conscious attention to the object that causes, and justifies, your use of particular ways of verifying or finding the implications of propositions involving the demonstrative. So conscious attention to the object is what constitutes your grasp of the sense of the demonstrative. This runs counter to the philosophical tradition since Locke, which takes it that the role of experience in understanding has to do solely with the verification of propositions. I argue that once we think of conscious attention as a pre-intentional acquaintance with the object itself, we can see how it is possible to think of understanding as consisting in knowledge of classical truth-conditions.

Klaus PUHL and Sonja RINOFNER-KREIDL: Is Every Mentalism a Kind of Psychologism? Michael Dummett’s Critique of Edmund Husserl and Gareth Evans . . . . . 213

First, we argue that Dummett, in his accusing Husserl of psychologism, does not pay sufficient attention to the phenomenological framework of Husserl’s philosophy. This framework must be taken into account for understanding why Husserl is not a psychologist in the theory of meaning. Second, it is shown that the thoughts required by Evans’ theory of understanding indexical utterances are not to be identified with mental events as understood by psychologism. We then emphasize what Husserl’s and Evans’ explanation of the mind share, and finally argue that Dummett’s anti-psychologism is based on a psychologistic view of consciousness which is not questioned by Dummett.

Crispin WRIGHT: Why Frege did not Deserve his *Granum Salis*. A Note on the Paradox of “The Concept Horse” and the Ascription of *Bedeutungen* to Predicates . . . . . 239  
 The „Paradox of the Concept Horse“ arises on the assumption of the

Reference Principle: that co-referential expressions should be cross-substitutable *salva veritate* in extensional contexts and *salva congruitate* in all. Accordingly no singular term can co-refer with an unsaturated expression. The paper outlines a number of desiderata for a satisfactory response to the problem and argues that recent treatments by Dummett and Wiggins fall short by their lights. It is then pointed out that a more consistent perception of the requirements of the Reference Principle leads not to the Paradox but to the result that Frege had no business extending the notion of *Bedeutung* to unsaturated expressions in the first place. Rather the relation between, e.g., predicates and the entities that comprise the range of higher-order logical variables must be logically unlike that between singular terms and their referents; the way is therefore opened for singular terms to refer to entities of the former kind after all. The Concept Horse *is* a concept (and a Fregean object too.)