The final paper by Mr Mackie is on the 'paradox of confirmation'. His discussion and bibliography indicate clearly the attention philosophers have given to this problem, which is important because it exposes some of the general presuppositions involved in testing scientific claims.

The book concludes with a generous list of items for further reading.

D. W. THEOBALD

*University of Manchester Institute of Science and Technology*

ANGELELLI, Ignacio (1967) *Studies on Gottlob Frege and Traditional Philosophy.*


The aim of this book (which is apparently the author's doctoral dissertation) is to explore the connections, similarities, and differences between Frege's philosophy and various semantical, logical and ontological doctrines in Western philosophy, especially those arising in the Aristotelian tradition. The author makes few concessions to his readers. They are expected to be able to read not only English, but also German, French, Italian, Latin and Greek. (The habit of not translating quotations into the language of the main text is, of course, fairly common, and occasionally justified, but in general it is to be deplored). They are expected to be familiar not only with the main doctrines of Frege but also with a great deal of ancient and scholastic philosophy: almost always when a text is referred to (whether in Frege or elsewhere), the discussion assumes that the reader is either familiar with it or has it open before him. This is a book to be read only in a library. Further, the book is very difficult to read since, besides requiring great resources of scholarship, it frequently proceeds in a very unsystematic way (much of the book is made up of miscellaneous remarks comparing the ideas of this or that philosopher with those of Frege) and secondly because the author has indulged in the luxury of hundreds of footnotes at the end of chapters, with no very clear principle of division between what goes into footnotes and what goes into the main text, so that in reading the book one wastes an enormous amount of time turning to footnotes without being able to tell in advance which add something significant to the text, which are remotely relevant digressions, and which are merely page or paragraph references. What a pity the four persons who revised and corrected the English text (acknowledged on p. 261) were not asked to comment on the general style and layout, for a clearer and more readable version could be very useful.

Historically-minded readers of this journal armed with a suitable library and much patience, may well profit from joining the author's exploration of the similarities and differences between the views of Frege and other philosophers on such topics as: Ontology (e.g. the relation between Frege's object-function distinction and the traditional singular-universal and substance-accident distinctions); Predication Theory; Semantics (e.g. Frege's idea of different senses corresponding to the same object is compared with traditional discussions of different aspects of the same thing); Hierarchies of Levels (*Stufen*) of functions and predicates; Existence; Classes (e.g. could Frege in *Grundlagen* have regarded...
classes as agglomerations *qua* structured by a given concept?); and Number. The author concludes (p. 260) that Frege continues many other classical themes besides those connected with formal logic, 'thereby obtaining new insights in several important areas'. This much I suppose the book establishes, even though its expositions of both Fregean and non-Fregean ideas are often very unclear, and some of the comparative remarks seem to be inaccurate. To illustrate these criticisms, I shall follow the author's example and make a few 'miscellaneous remarks'.

The statement of Frege's programme on page 4 poses the problem: 'Do arithmetical propositions belong to the class of propositions which may be proved in a purely logical way, or to the class of truths which must be established by recourse to empirical facts?' However, Frege took very seriously (see *Grundlagen* sections 5 and 88, for example), the third, Kantian, alternative that they may be synthetic (i.e. not purely logical) yet *a priori*, and his rejection of this alternative (by contrast with his acceptance of Kant's views on Geometry—see *Grundlagen*, pp. 19–21, 101–2) is surely one of the two main features of his logicism, the other being the reduction of all arithmetical concepts to 'accepted logical notions'. Angelelli, however, claims (p. 251 n. 109 and p. 259) that the only acceptable way of understanding the significance of Frege's logicism is 'by contrast with a past philosophical tradition where numbers were not generally regarded as transcendentals'. Even the paragraph headed 'Frege's philosophical logicism' (p. 244) fails to bring out very clearly the above two main features namely (a) the reduction of arithmetical *proofs*, (b) the reduction of arithmetical *concepts*, to logic.

In section 2.25 it is suggested that since Frege had already acknowledged (e.g. *Begriffsschrift*, section 8) that the object referred to was not all that mattered in connection with a name but also the manner of presentation of the object, he should not have accepted the Leibnizian principle of substitutability *salva veritate* of names with the same referent; he would not then have had to offer his theory of indirect reference to deal with the apparent exceptions. But this suggestion shows a failure to recognise that in view of Frege's analysis of concepts as functions, the Leibnizian principle is just a special case of the general fact that a given function can only determine one value for a given argument: this is part of what 'function' means. Thus to abandon the principle would require a complete revision of Frege's whole theory. He might have tried to introduce a new sort of function, whose value depends not only on the argument but also on the way it is referred to (they might be called *qua*-functions, since they determine values for arguments *qua* so and so). He chose instead to economise on varieties of functions at the cost of complexity of linguistic rules. To suggest that he should have developed a different theory is not enough: we need to be told how the alternative would work out in detail, and what effects it would have on the rest of Frege's semantic theory.

On pages 54 ff. an attempt is made to explain Frege's view that the truth-values are the *bedeutungen* of sentences in terms of the ambiguity of the word 'Bedeutung'. Since the word can mean 'importance' and since truth-value is what is important about sentences we have a simple explanation of Frege's puzzling view. Or have we? Isn't the *Sinn*, the thought expressed by the sentence, equally important? Whether the ambiguity of 'bedeutung' affected Frege
subconsciously we shall presumably never know, but had he been consciously influenced by it he would surely have said so. In any case, the main reason for taking truth-values as references of sentences is that it enables Frege to give a uniform analysis of all complex signs, whether referring phrases, complete simple sentences, or compound sentences, in terms of arguments and functions. Could anything other than the truth-value of a sentence remain unaltered (a) through all replacements of a sentence with others expressing the same thought and (b) through all replacements of parts of the sentence with new parts having the same bedeutung (i.e. extensionally equivalent parts)? One might at first think that the notion of 'a possible state of affairs' could do the trick, but because of (a) and (b) the boundaries of such states of affairs would be fluctuating and indeterminate, and it would be hard to prevent them expanding so that all true sentences end up denoting the whole universe: an alternative which seems no more acceptable than Frege's own. Admittedly, Frege's own argument, in 'Sinn and Bedeutung' is far from clear: perhaps he did not at the time see clearly that the best justification for his claim that sentences denote truth-values was its indispensability for a major part of his semantical system!

On page 153 there is a discussion of the passage in Frege's Begriffsschrift (see section 9) where he says that unless a sentence contains a quantifier the distinction into function and argument 'has nothing to do with the conceptual content; it concerns only our way of looking at it'. Angelelli claims that Frege is saying that arranging a sentence in different ways according to what is argument and what is function does not make any difference to 'What counts for deduction' except when a name in that sentence is replaced by a universally quantified variable. However, it is clear from what Frege says later (section 11) that what he is getting at is that when quantifiers are used in a sentence their contribution to the meaning (or 'conceptual content') depends on a prior analysis into function (constant part) and argument (replaceable part). The content of 'Plato admires Socrates' does not require any particular subdivision into functions and arguments (at least three alternative possibilities are obvious) whereas 'Everyone admires Socrates' can only be understood in terms of the results of substituting different names in the function-sign '. . . admires Socrates': so the occurrence of the latter, unlike '. . . admires . . .' or 'everyone admires . . .' as a function-sign in the complete sentence is essential for its conceptual content (e.g. essential for what determines its truth or falsity). This is why in Frege's symbolic notation a variable is required to represent the structure of 'Everyone admires Socrates', but not to represent the structure of 'Plato admires Socrates'.

Another extreme illustration of Angelelli's inability to state Frege's views clearly is found on page 161 when we are told Frege asks his readers to think of 'entities given under quite different guises: a number may be hidden under Julius Caesar or a geometrical direction under England'. This is a reference to Frege's claim (Grundlagen, pp. 68 and 78) that to define equivalence relations such as 'same number', 'same direction' is not yet to identify the number, or the direction associated with any given class or line, or to say what things are numbers or directions.

Despite these faults, there are many interesting points, and the book should provide a useful bibliographical guide for anyone interested in its comparative
programme. It would be somewhat more useful if the short subject index (with a mere thirty-four entries) were enlarged. Curiously, although the book is written (mostly) in English, the bibliography of Frege's main works makes no reference to any English translation.

AARON SLOMAN  
University of Sussex


This is a re-issue, without changes, of a book which first appeared in 1962, but which has so far escaped review in this journal. It is a contribution to the growing literature in German on that variety of approaches to philosophy which have come to be lumped together under the label 'linguistic'. As such one welcomes it; and one welcomes its appeal for greater clarity in epistemology, and its emphasis on the continuity between traditional and recent philosophy. But at the same time there is a regret that it has not been better done, for to the reader who received his philosophical training at an English or American university nearly all of it will appear rather superficial.

On page 21, for example, the Positivists come in for some harsh words:

Sie nehmen die Sprache nicht so, wie sie ist, in ihrer Mannigfaltigkeit, in ihren vielfältigen Formen, in ihrem Usus, in ihrer Viedeutigkeit, die Genauigkeit nicht ausschliesst. Sie tun so, als ob die Bedeutung eines Satzes ein für allemal feststünde, unabhängig sei von seinem Zusammenhang. Sie tun so, als ob es gleichgültig wäre, wer einen Satz, wann und zu wem er ihn spricht und in welcher Betonung. Sie verkennen den Unterschied von geschriebener und gesprochener Sprache.

This is easy enough to say. It would be harder to state just which tenets of Positivism rely on these errors crucially, rather than merely verbally. Were the Vienna Circle really committed to the view that a philosopher can make a pronouncement about the meaningfulness of a sentence which will hold for every utterance of it, in spite of all the possible variations of context, intonation and so on? Would they not have replied that of course these features make a difference, but that there are limits to the difference they can make—in particular, they cannot make a meaningful assertion out of an utterance unless they provide it with empirical verification conditions? In this they may have been mistaken, but they were not just being dogmatic and arbitrary, as Jánoska will have it. An argument for their view is to be found, for instance, in Schlick's paper, 'Meaning and Verification'. It is based on certain assumptions about the way in which language is learnt, and these do not include any of the rather obvious mistakes which are listed in the passage I have quoted.

Another perplexing point is a sentence (p. 30) in which Carnap's distinction between Intension and Extension is compared to Jánoska's 'Bedeutung'/ 'Bezeichnung':

Während sich nämlich die Bedeutung (in unserem Sinne) vom Wort bzw. Satz nicht trennen lässt, also wesentlich zur Sprache gehört, ist die Intension ausersprachlich (Propositionen, Eigenschaften, Individualbegriffe).