

## Essay Review

G. FREGE, *Collected papers on mathematics, logic, and philosophy*. Edited by B. McGuinness. Translated by M. Black, V. H. Dudman, P. Geach, H. Kaal, E.-H. W. Kluge, B. McGuinness and R. H. Stoothoff. Oxford and New York: Blackwell, 1984. viii + 412pp. £28.50.

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### I

This volume is an English translation of I. Angelelli's edition of Frege's papers and short monographs;<sup>1</sup> only some letters, the remarks on an article by P. E. B. Jourdain (all now in the *Briefwechsel*<sup>2</sup>) and the appendix (which only contains secondary material) are not included. It brings together for the first time translations by Black, Dudman, Geach, Kluge and Stoothoff of the well-known key papers of Frege's middle and later period, which have appeared in a variety of different publications.<sup>3</sup>

In addition, Kaal has translated two papers already available in English<sup>4</sup> as well as several that had not been previously translated. The latter (about 140 pages) comprise all of Frege's early mathematical work, including his doctoral thesis and his *Habilitationsschrift*, as well as such interesting articles as the review of Cantor's 'Zur Lehre vom Transfiniten' (1892) and 'Ueber die Zahlen des Herrn H. Schubert' (1899).

- 1 G. Frege, *Kleine Schriften* (ed. I. Angelelli: Hildesheim, Olms; and Darmstadt, Wissenschaftliche Buchgesellschaft; 1967). In the review this work is referred to as 'Ang.'.
- 2 G. Frege, *Wissenschaftlicher Briefwechsel* (ed. G. Gabriel *et alii*: Hamburg, Meiner, 1976). Translated as *Philosophical and mathematical correspondence* (abridged for the English edition by B. McGuinness and translated by H. Kaal: Oxford, Blackwell, 1980).
- 3 References to the original date and place of these translations are either completely missing or not uniform. Precise bibliographical data about Frege's published work including all translations up to 1980 can be found in G. Gabriel's bibliography (updated by W. Mayer and A. Birk) in G. Frege, *Nachgelassene Schriften* (ed. H. Hermes *et alii*, 2nd edition, Hamburg, Meiner, 1983), 303–314. The translations reprinted in the present volume can be found at the following places: P. Geach and M. Black (eds.), *Translations from the philosophical writings of Gottlob Frege* (Oxford, Basil Blackwell, 1952; 2nd edition 1960, repr. 1966); G. Frege, 'On Herr Peano's Begriffsschrift and my own' (Dudman), *Australasian journal of philosophy*, 47 (1969), 1–14; G. Frege, 'The whole number' (Dudman), *Mind*, 79 (1970), 481–486; G. Frege, *On the foundations of geometry and formal theories of arithmetic* (Kluge) (New Haven and London, Yale University Press, 1971); G. Frege, *Logical investigations* (Geach and Stoothoff) (Oxford, Basil Blackwell, 1977), including Geach's earlier translation of 'Die Verneinung' from the Geach and Black volume and Stoothoff's translation of 'Gedankengefüge' from *Mind*, 72 (1963), 1–17.
- 4 This concerns 'Über das Trägheitsgesetz' ('On the law of inertia') (1891) and the review of Husserl's 'Philosophie der Arithmetik' (1894).

In translating this material Kaal has undertaken the important task of making available in English those writings that are not part of Frege's major philosophical achievement, but which are nevertheless indispensable for anyone who wants to understand its historical development.<sup>5</sup> Kaal's translations thus close the main gap that had existed in English editions of Frege. The only remaining desideratum is a complete translation of the *Grundgesetze der Arithmetik* (important parts of which have already been translated<sup>6</sup>) and a few pieces of the *Nachlaß*, which are published in the appendix to the second edition of *Nachgelassene Schriften*.

## II

The terminology of the translations by the different authors has been made uniform in one or two respects, mainly by rendering 'Bedeutung' as 'meaning' and 'Satz' in many places as 'proposition'. I do not want to prolong the discussion about the adequacy of this translation of 'Bedeutung', an issue that has been raised again by the translators of the *Nachgelassene Schriften*<sup>7</sup> and the *Briefwechsel*. But I would like to make a few remarks on the topic. There are good reasons for thinking that 'meaning' is a more adequate translation of 'Bedeutung' than 'reference'.<sup>8</sup> However, in view of the fact that even 'meaning' does not have the full semantic spectrum which 'Bedeutung' has in German, one could consider this a problem of *interpretation* which need not necessarily lead a *translator* to change an established terminology. The interpretation of Frege's philosophy has reached such a high standard in the English-speaking world that no mere change in the translation of a central term is likely to push the interpretation of Frege's philosophy in a different direction. (One may even doubt whether this was possible for earlier translations, since all major Frege interpretations in English have been based on a thorough acquaintance with the German original.) The same is true of 'proposition' and 'sentence', although 'proposition' is certainly not adequate in some contexts, so that in the end the editor had to leave 'sentence' in some places and replace it by 'proposition' in others. This is not a bad practice in itself as long as different translations in comparable contexts are avoided.<sup>9</sup>

5 This positive judgement extends, of course, to McGuinness in so far as he participated in the translations. This can be concluded from the title page where he is cited as one of the translators, although in the text he is not mentioned as the translator of any specific paper other than the preface to 'Funktion und Begriff'.

6 Cf. Geach and Black *Translations* (footnote 3); and G. Frege, *The basic laws of arithmetic. Exposition of the system* (trans. and ed. by M. Furth, Berkeley etc., University of California Press, 1964).

7 G. Frege, *Posthumous writings* (trans. P. Long and R. White: Oxford, Basil Blackwell, 1979). For the original German edition, see footnote 3 above.

8 Concerning the meaning of 'Bedeutung' cf. G. Gabriel, 'Fregean connection: *Bedeutung*, value and truth-value', *Philosophical quarterly*, 34 (1984), 372–376, and the references therein.

9 This is not always the case in the present edition. E.g., on p. 308 (Ang. 295), it is said of 'propositions' that they express thoughts while on p. 354 (Ang. 345) the same is said of 'sentences'. In both cases Frege uses the word 'Satz' for something that is perceptible by means of the senses.

## III

Since I am not a native speaker of English, I shall not hazard an opinion about the quality of Kaal's translations. They do, however, appear to me to be quite good. Thus in what follows I shall concentrate on editorial matters, mentioning in advance that I have only read the text cursorily and cannot claim that what I have found is representative or even complete.

The edition simplifies quick reference by giving the page numbers of the original printings in the margin (and not only at the top of the page as in Angelelli's edition). This allows for a standardized quotation system for future work on Frege, German and English editions now being fully compatible. Another advantage over Angelelli is that the figures in Frege's doctoral dissertation have been inserted in the text and not (as in Frege's original) printed separately at the end, and that several misprints in Angelelli's edition of this text have been corrected. Furthermore, unlike Angelelli, this volume contains a detailed index of names and key terms from the non-mathematical writings. Finally, the printing is very good both in format and quality.

McGuinness's edition is not intended as a critical one with an apparatus explaining variants of translations etc. But even as an *editio minor* (as McGuinness qualifies his edition of the *Briefwechsel*) it should have obeyed some of the standard editorial principles, particularly since this could have easily been achieved by consulting Angelelli's edition more thoroughly.

First of all, bibliographical details of the original German titles are of little use unless these titles are also actually given. This is all the more important when the English title contains an editorial comment such as 'Lecture on . . .' where the original printing only contains the title of the lecture, preceded by a statement announcing it, as in the proceedings of the meetings of the *Jenaische Gesellschaft für Medizin und Naturwissenschaft*.<sup>10</sup> Another example is provided by the titles 'On the foundations of geometry: first series' and 'On the foundations of geometry: second series', where the German title is 'Über die Grundlagen der Geometrie' in both cases. The presence of the German titles would also have drawn attention to the fact that Geach translated 'Der Gedanke' by 'Thoughts'.<sup>11</sup> (The editor has accordingly changed the title of Dudman's translation of 'Le nombre entier' from 'The whole number' to 'Whole numbers'). The bibliographical data are abridged in comparison to Angelelli's edition, often in a way that is clearly misleading.<sup>12</sup> I fail to see the point of shortening bibliographical data when this saves less than two printed pages out of more than 400.

In addition, such abridgements follow no obvious principle, particularly with

10 These announcements also contain the exact dates of the talks, i.e. useful information that is lost in the English edition. Similarly, the subtitle to the separately published 'Funktion und Begriff', giving the date of the talk from which it resulted, is omitted. However, the preface, which is lacking in Geach's translation (Geach and Black *Translations* (footnote 3), 21), has been translated.

11 I assume that in *Logical investigations* (footnote 3) 'Der Gedanke' was translated by Geach alone. The earlier translation by A. M. and M. Quinon (*Mind*, 65 (1956), 289–311) was still entitled 'The thought'.

12 For example, Frege's talks to the *Jenaische Gesellschaft* are always quoted as 'Sitzungsberichte der Jenaischen Gesellschaft . . . Supplement'. However, the *Sitzungsberichte* do not have a supplement but are supplements to the *Jenaische Zeitschrift für Naturwissenschaft*.

respect to Frege's own references in his footnotes. Sometimes the publisher's name is omitted, sometimes not; sometimes titles are given in German, and sometimes they are translated into English. In the translation of 'Kritische Beleuchtung einiger Punkte in E. Schröders Vorlesungen über die Algebra der Logik' both the name and place of Schröder's publisher are omitted from Frege's original first footnote, although Frege gives detailed page references to Schröder's book throughout the text. (In addition, this footnote has now been attached to the first quotation instead of to the title.) Admittedly, Frege was not very careful in his references. Either of the two editorial strategies—to leave things as they were or to give them a standardized form—would thus have been appropriate. McGuinness chose neither of these strategies. For example, when Frege refers to an earlier paper by writing 'Man vergleiche meinen Aufsatz über Sinn und Bedeutung', this is sometimes literally translated as 'compare my essay on sense and meaning' (p. 200, Ang. 183) and sometimes as 'Cf. my paper, "Über Sinn und Bedeutung"' (p. 184, Ang. 169). This non-literal translation even occurs in a title (p. 210).

These problems could have been avoided by reprinting the bibliography of Frege's works from the *Nachgelassene Schriften* in an appendix and by referring to it by numbers. Going far beyond Angelelli's short bibliography, this contains all the information one needs. The editors of the *Posthumous writings* decided not to adopt it, perhaps because the posthumous writings seemed to them not to be the appropriate place for a bibliography of Frege's published works. It would nevertheless have fitted into the present volume. Another possibility would have been an updated version of the first part of Bynum's or Schirn's bibliography.<sup>13</sup>

#### IV

My major criticism, however, concerns the fact that the editor seems hardly to have bothered to compare the older translations that were not prepared for this volume with Angelelli's German edition. McGuinness has simply given further currency to the (editorial) mistakes in the available translations and allows the discrepancies between these editions to confuse further generations of students. This leads e.g. to the curiosity of three different multiplication signs in the translation where Angelelli uses only one: a dot above the line in Kaal's translations,<sup>14</sup> a dot on the line as in Geach's and Dudman's translations (e.g., pp. 138, 241) and a cross in Kluge's translations (e.g., p. 118). (This would perhaps make sense in a critical edition if it corresponded to different signs in the original German editions. But although the latter are not uniform, the multiplication cross does not occur in Frege, at least not at the place where it can be found in McGuinness's edition.) Another example is Peano's sign for implication, which comes in different shapes in the translations of Dudman and Kluge (cf. pp. 243 and 293) or the sign '§' for 'section' which is sometimes

13 T. W. and A. W. Bynum, 'A Frege bibliography, 1873–1966', in G. Frege, *Conceptual notation and related articles* (ed. T. W. Bynum: Oxford, Clarendon Press, 1972), 239–287. W. Mayer, 'Bibliographie' (based on earlier bibliographies by G. Gabriel), in M. Schirn (ed.), *Studien zu Frege III—Studies on Frege III* (Stuttgart-Bad Cannstatt: Frommann-Holzboog, 1976), 157–197.

14 However, in 'Über das Trägheitsgesetz' even Kaal uses the cross as multiplication sign.

omitted, sometimes left in and sometimes replaced by the word 'section'. It can also be shown that the lack of unification in the treatment of Frege's own references is due to the different sources from which the translations are taken. Furthermore, whereas all other talks Frege gave to the *Jenaische Gesellschaft* (translated by Kaal), are headed as 'Lecture on ...', in the case of 'Ueber formale Theorien der Arithmetik' only the title is given, without any indication that it was a lecture. Obviously, it was simply adopted from Kluge.<sup>15</sup> So not even a harmonization of the way in which titles are presented has been undertaken.

These points do not affect the understanding of Frege's writings, but they demonstrate the carelessness of the editor about the text—which would perhaps be excusable if Frege were not so important and if the present edition were not going to be the standard English one. So it is not surprising that where older translations italicize what Frege does not emphasize and fail to italicize what Frege emphasizes, McGuinness simply reproduces these mistakes. Frege's famous dictum in 'Über Sinn und Bedeutung' will serve as an example: 'A proper name ... expresses its sense, means or designates its meaning' (p. 161, Ang. 147). Although a reader is well advised to underline 'expresses', 'means' and 'designates', no edition should anticipate this by means of italics if there is no explicit emphasis in Frege and certainly not without proper indication. McGuinness took these italics from Black's translation.<sup>16</sup> Obviously, when changing Black's 'stands for' and 'reference' into 'means' and 'meaning', respectively, he did not look at Angelelli's edition or the German original, otherwise he would have realized the discrepancy.<sup>17</sup> One can even find an interpretative *addition* in italics by Geach which is not indicated as such,<sup>18</sup> sentences in parentheses where there are no parentheses in Frege,<sup>19</sup> and beginnings of new paragraphs which are not to be found in Frege and which have been taken over from Geach's and Kluge's translations.<sup>20</sup>

As for quotation marks for expressions displayed on separate lines, the main editorial principle is again to leave things the way previous translators had put them, including their differences and mistakes. Since it is well-known that Frege was extremely careful in this matter, the best editorial strategy would have been to follow Frege (as Angelelli did). Admittedly, there are a few cases where Frege might be corrected, but what we find in the translations is *much* worse. For example, it is incorrect for obvious reasons to translate the passage from 'Funktion und Begriff':

15 *On the foundations* (footnote 3), 141.

16 Geach and Black *Translations* (footnote 3), 61.

17 Other examples of unindicated italics where Frege has no emphasis can be found at the following places: p. 352, line 8 (Ang. 343); p. 353, lines 16, 23 and 34 (Ang. 344); p. 354, line 5 (Ang. 345); p. 366, line 24 (Ang. 357); p. 368, lines 14 and 15 (Ang. 359); p. 369 line 3 (Ang. 359); p. 372, line 4 (Ang. 362). Words or passages emphasized by Frege which are not emphasized in the English edition are: p. 226, line 30 (Ang. 208): 'existence'; p. 227, lines 33–34 (Ang. 209): 'definite group of traits, distinguishable from all others'; p. 241, line 29 (Ang. 227): 'expressing'; p. 282, line 2 of footnote (Ang. 270): 'concepts'. All cases mentioned go back to the original translations, the majority to Geach.

18 P. 227, line 15 (Ang. 209): 'of *falling under*' is Geach's addition. It is not completely obvious that the interpretation suggested by this addition is correct.

19 P. 192, line 19 (Ang. 177); p. 353, lines 34–35 (Ang. 344); p. 386, lines 4–5 and 20–23 (Ang. 375).

20 P. 184 (Ang. 169) (twice!); p. 275 (Ang. 264) (after the quotation from Hilbert).

‘der Begriff, / was um 1 vermehrt 10 ergibt’ (where the slash indicates a new line), as ‘the concept: / “what gives the result 10 when increased by 1”’. This translation is originally due to Geach and was then adopted by McGuinness (p. 148, Ang. 135). Black’s translation of ‘Über Sinn und Bedeutung’ (pp. 157–177, Ang. 143–162) omits all quotation marks from separate lines, thus eliminating the distinction Frege drew between lines *in* quotation marks (designating *sentences*) and lines *without* quotation marks (designating *thoughts*). Of course, one can usually tell from the context what is meant. But one of Frege’s central aims, and one he never abandoned, was to make important conceptual distinctions explicit in the language. This also holds, as far as possible, for natural languages. Simply to drop quotation marks for no good reason in the manner just described is to obscure Frege’s efforts in this direction. McGuinness’s edition is full of mistakes of this kind (note in particular Kluge’s translations of Frege’s writings on the foundations of geometry). The fact that on this point Geach’s translation of ‘Die Verneinung’, e.g., is correct and Stoothoff’s of ‘Gedankengefüge’ nearly correct is only due to the fact that this was already the case in earlier editions. The new editor is, for example, responsible for omitting some quotation marks from Dudman’s translation of ‘Ueber die Begriffsschrift des Herrn Peano und meine eigene’ (pp. 244–245, Ang. 230) where they had been correctly inserted.

All in all, I am afraid to say, this edition, with the exception of the new translations, is what in German would be called ‘schlampig’. The English-speaking section of the scientific community, where Frege first gained the attention he deserved, and which has made by far the most important contribution to interpreting his work, deserved a more thorough edition of his collected papers than this one, an edition comparable—at the very least—in editorial quality and reliability to Angelelli’s edition. One can only hope that in a second edition some of the criticisms mentioned will be taken into account.<sup>21</sup>

21 I also add a list of slips or misprints that I have noticed:

- P. vi, line 8: Replace ‘1897’ by ‘1896’ (year of the lecture, conforming to the year given on p. v for the lecture ‘On formal theories of arithmetic’).
- P. 1, last line but one: Replace ‘Neuenhann’ by ‘Neuenhahn’.
- P. 13, line 17: Replace ‘ $\xi_0$ ’ by ‘ $\xi'_0$ ’.
- P. 20, figure 7: Replace ‘ $I$ ’ by ‘ $J$ ’ (or ‘ $J$ ’ by ‘ $I$ ’ in the text).
- P. 37, figure 12: Replace upper ‘ $f$ ’ by ‘ $f'$ ’.
- P. 65, line 1: Insert equality sign between formulas.
- P. 66, line 11: Replace ‘ $r_p - 1$ ’ by ‘ $r_{p-1}$ ’.
- P. 74, line 5: Replace ‘ $a_i$ ’ by ‘ $a_i(n)$ ’.
- P. 142, lines 12, 14, and 20: Replace ‘ $x^3$ ’ by ‘ $x^2$ ’.
- P. 144, line 23: Replace ‘ $(1)^2$ ’ by ‘ $(-1)^2$ ’.
- P. 153, line 2: Shorten negation stroke.
- P. 155, lines 22–24: Add lines in formula.
- P. 183, last line: Insert symbol ‘ $\neq$ ’ after ‘symbol’.
- P. 204: Whole footnote must be put in square brackets.
- P. 217, footnote: Replace ‘ $C$ ’ by ‘ $\mathcal{C}$ ’ and ‘ $\epsilon$ ’ by ‘ $\varepsilon$ ’.
- P. 224, line 18: Replace ‘ $a$ ’ by ‘ $a$ ’.
- P. 229, last line: Replace ‘Métaphysque’ by ‘Métaphysique’.
- P. 234, last line: Replace ‘362’ by ‘361’.
- P. 336, line 32: Insert ‘[not]’ after ‘is’ (this is a mistake by Frege).
- P. 341, footnote 2: The full title of Thomae’s essay is ‘Gedankenlose Denker, eine Ferienplauderei’.

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P. 349, lines 34 and 38: Change some of the symbols in order to avoid similarity with arithmetical signs (cf. Ang. 332).

P. 398, lines 23–24: Sentence in parentheses should be footnote.

P. 400, line 14: Replace 'not (not A) and B' by 'not ((not A) and B)'.

P. 401, line 19: Replace '(not A)' by 'not A'.