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## Wittgenstein's "Great Debt" to Frege *Biographical Traces and Philosophical Themes*

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You write of a great debt of thanks to me. I know nothing of such a debt. Each of us has gained, I think, in our intellectual exchange.

Frege to Wittgenstein, April 9, 1918

Ludwig Wittgenstein is, no doubt, one of the most original and independent philosophers of the twentieth century. Yet even he developed his ideas not in complete isolation, but as influenced by, or in response to, other thinkers. His relation to Bertrand Russell, his early teacher and mentor in Cambridge, has been documented in detail.<sup>1</sup> Clearly Russell's views, especially those from before World War I, had a significant influence on Wittgenstein. Most important, Russell brought various philosophical questions and problems to the attention of the young Wittgenstein, and he encouraged him to work on them along Russellian lines. Later on, of course, Wittgenstein became more and more critical of Russell, distancing himself not only from Russell's particular views, but also from a Russellian approach to philosophy more generally.

Wittgenstein's relation to Gottlob Frege has also not gone unnoticed. So far it has, however, not attracted the same amount of general attention as that to Russell. Given Russell's prominence as a philosopher and as a public figure, given also the wealth of information we have about him, including about his ties to Wittgenstein, it is not hard to explain why. The relation to Frege has, then, typically been presented as subsidiary to that to Russell and not explored much in itself.<sup>2</sup> In addition, Wittgenstein's and Frege's positions have often been taken to be so far apart that Wittgenstein could only be understood as being a hostile critic of Frege, it seemed. His debt to Frege has thus been taken to be rather minimal, except in the negative sense of Wittgenstein finding various targets for his criticisms in Frege's work.<sup>3</sup> On the other hand, recently a number of interpreters have started to look in a new way at this side of Wittgenstein's background. To some degree this is happening because new source material on it has become available (especially Frege, 1989), more because Frege's views and their influence on twentieth-century

philosophy are undergoing a general reappraisal.<sup>4</sup> As a result, a different picture of Wittgenstein's relation to Frege is starting to emerge.

In this essay I want to contribute to this new line of research. More particularly, I want to discuss a variety of biographical traces and philosophical themes that connect Wittgenstein to Frege. My discussion will start with Frege's relatively direct impact on the young Wittgenstein; but I will also consider the more indirect influence Frege had on the middle and later Wittgenstein, an influence often ignored or denied in the literature. My goal cannot, of course, be to deal with every aspect of Wittgenstein's relation to Frege in detail; that would require a book-length treatment. What I will do, instead, is to develop a general framework or setting, a stage, so to speak, for more detailed and comprehensive research later. This will involve collecting all the information we have about Wittgenstein's personal relation to Frege (since they did, in fact, know each other personally), as well as various other bits and pieces concerning his continued engagement with and admiration for Frege's works (which actually went on until the very end of Wittgenstein's life). I will present these pieces as part of a condensed retelling of Wittgenstein's life. The overall conclusion will be that Wittgenstein's ties to Frege, both personal and philosophical, were stronger than is often assumed—so strong that it makes sense to speak of Wittgenstein's "great debt" to Frege, as he himself does.<sup>5</sup>

### I. Wittgenstein's Path into Philosophy and His First Encounter with Frege

As is well known, Wittgenstein (1889–1951) grew up in a very wealthy and cultured family in fin-de-siècle Vienna. His early intellectual influences included Schopenhauer's philosophy (recommended to him by his sister Hermine), the writings of the cultural critic Karl Kraus and the architect Adolf Loos, as well as the scientific and philosophical writings of Ludwig Boltzmann and Heinrich Hertz. Science and engineering became, then, what Wittgenstein decided to pursue as a student. To do so he first went to Berlin (1906–8) and then to Manchester (1908–11).

While Wittgenstein was in Manchester, a decisive shift of interests occurred, from engineering and science to mathematics and philosophy. Here is how Rush Rhees, later one of Wittgenstein's students, friends, and literary executors, describes this shift:

When [Wittgenstein] left the Technical University of Berlin he went to the College of Technology in Manchester (I think this was on the advice of his father), still to study engineering; and in particular certain problems in aero-engineering. This was in 1908, and he continued in Manchester until the end of 1911. . . . It has been suggested—by W. Mays ("Wittgenstein's Manchester Period," *Guardian*, 24 March 1961, p. 10)—that the mathematical problems in the designing of air screws led Wittgenstein's interests more and more into mathematics on its own account. Wittgenstein himself told me that while he was working in the Engineering Laboratory, he and two others doing research there began to meet for one evening each week to discuss questions about mathematics, or "the foundations of mathematics." (As they went on, they may have met more often—I do not

remember.) At one of these meetings Wittgenstein said he wished there were a book devoted to these questions, and one of the others said, "Oh there is, a book called *The Principles of Mathematics*, by Russell; it came out a few years ago." Wittgenstein told me that this was the first he had heard of Russell; and that this was what led him to write to Russell and to ask if he might come and see him. I believe it was from *The Principles of Mathematics* that Wittgenstein learned of Frege. Whether he then went to see Frege before he went to see Russell, or sometime after, is disputed—but I cannot see that it matters. (Rhees 1984a, pp. 213–14)<sup>6</sup>

Two facts of particular importance to us come to light in this report: first, it was Russell's work on the foundations of mathematics, in particular his book *The Principles of Mathematics*, that drew Wittgenstein into philosophy. Second, it was through Russell's writings, most likely the appendix to *Principles* called "The Logical and Arithmetical Doctrines of Frege," that Wittgenstein first became aware of Frege's work.<sup>7</sup>

What is the "dispute" Rhees refers to at the end of the preceding quotation? It concerns the question of when exactly Wittgenstein met Frege, in particular whether it was before he met Russell or afterward. The relevant background here is the following: in his obituary on Wittgenstein in the journal *Mind*, written shortly after Wittgenstein's death in 1951, Russell describes how the two first met:

When I made the acquaintance of Wittgenstein, he told me that he had been intending to become an engineer, and with that end in view had gone to Manchester. In the course of his studies in engineering he had become interested in mathematics, and in the course of his studies in mathematics he had become interested in the principles of mathematics. He asked people in Manchester (so he told me) whether there was such a subject, and whether anyone worked on it. They told him that there was such a subject and that he could find out more about it by coming to me at Cambridge, which he accordingly did. (Russell, 1951, p. 297)

A little later (after a somewhat theatrical anecdote about their first meeting in Cambridge), Russell goes on to say about Wittgenstein: "He made very rapid progress in mathematical logic, and soon he knew all that I had to teach. He did not, I think, know Frege personally at that time, but he read him and greatly admired him" (p. 298). What Russell states here about Wittgenstein's "great admiration" for Frege is confirmed by Rhees's and other reports (more on that below). What is in doubt, however, is Russell's claim that Wittgenstein "did not know Frege personally at that time" (i.e., 1911).

As Rhees indicates, Russell is contradicted on this point by various people. These include G. H. von Wright, another of Wittgenstein's later students, friends, and literary executors; von Wright describes what happened this way: "Having decided to give up his studies in engineering, Wittgenstein first went to Jena in Germany to discuss his plans with Frege. It was apparently Frege who advised Wittgenstein to go to Cambridge and study with Russell. He followed the advice" (von Wright, 1958, p. 5). Von Wright adds in a footnote: "This is how Wittgenstein related the matter to me. His account is confirmed by notes made by his sister Hermine. Russell seems, therefore, to be mistaken when in his memorial article in *Mind*, n.s. LX (1951) he says that Wittgenstein had not known

Frege before he came to Cambridge" But perhaps Rhees is correct that it "does not matter" who is right here, at least not very much.<sup>8</sup> What is clear is this: Either Wittgenstein went directly to Russell, after having read his *Principles*, or he first went to see Frege in Jena, so as to be sent by him to Russell in Cambridge. The year is 1911, in any case. We should note that Wittgenstein was twenty-two years old, Frege already sixty-three, while Russell was thirty-nine. Frege's "advice" to Wittgenstein to go to Cambridge may thus have been based on the fact that Russell was in his prime as a logician at this point, while Frege himself was already close to retirement.

Actually, even before Wittgenstein visited either Frege or Russell in 1911, there is evidence for another incident that deserves our attention. Namely, Wittgenstein seems to have been in more indirect contact with Russell two years earlier. The evidence for this contact is not completely definite, and it is only mentioned in passing in some of the literature.<sup>9</sup> But here is what seems to have happened: after discovering the foundations of mathematics as a discipline, Wittgenstein read Russell's *Principles of Mathematics* (published in 1903), and probably also at least parts of Frege's *Grundgesetze der Arithmetik* (1893/1903), while still in Manchester. What caught his special attention was the antinomy Russell had found in Frege's and similar systems. Russell describes this antinomy, in explicit connection with Frege's *Grundgesetze*, in his first appendix to *Principles* (see above). In a second appendix, called "The Doctrine of Types," he sketches a tentative solution; and at the end of it he adds cautiously: "What the complete solution of the difficulty may be, I have not succeeded in discovering; but as it affects the very foundations of reasoning, I earnestly commend the study of it to the attention of all students of logic" (Russell, 1903, p. 528).

Apparently remarks such as these were all the "bait" it took to hook Wittgenstein on logic.<sup>10</sup> In other words, he started to see himself now, more and more, as the "student of logic" to which Russell's remark was addressed. Even more strikingly, he sat down at once, it seems, to attempt his own solution to Russell's antinomy. This new solution he then—already in 1909—sent to P. E. B. Jourdain, another logician active in Britain at this point, as well as a friend of Russell's.<sup>11</sup>

Unfortunately, the manuscript Wittgenstein sent to Jourdain does not, as far as we know, exist any more. On the other hand, a bit of evidence exists that Jourdain discussed Wittgenstein's proposal explicitly with Russell himself. Thus Jourdain writes in his notebook on April 20, 1909, shortly after a visit by Russell: "Russell said that the views I gave in a reply to Wittgenstein (who had 'solved' Russell's contradiction) agree with his own. These views are: The difficulty seems to me to be as follows. In certain cases (e.g., Burali-Forti's case, Russell's 'class' . . . Epimenides' remark) we get what seems to be meaningless *limiting cases* of statements which are not meaningless" (Grattan-Guinness, 1977, p. 114).<sup>12</sup> We can infer, then, that Jourdain sent Wittgenstein a negative response to his proposal, one with which Russell basically agreed. Perhaps as a consequence of this early rebuff, Wittgenstein, instead of embracing philosophy immediately, stayed in engineering a bit longer to do research on aircraft engines and propellers.

Wittgenstein was, nevertheless, hooked on doing philosophy now. While still involved in aeronautics research in Manchester, he kept working on a paper on the foundations of mathematics. This paper was either a descendant of the one he had sent to Jourdain or a new one; we do not know exactly. His sister Hermine

later gives the following vivid description of Wittgenstein's state of mind during this period:

At this time, or shortly after, philosophy, or rather reflections on philosophical problems, suddenly became such an obsession with him, and took hold of him so completely against his will, that he suffered terribly, feeling torn between conflicting vocations. This was the first of several transformations he was to undergo in his life, and it shook his whole being. He was working at the time on a piece of philosophical writing, and decided finally to show the plan of the work to a Professor Frege in Jena, who was concerned with similar problems. (H. Wittgenstein, 1984, p. 2)

And Wittgenstein soon acted on his "decision": he actually went to visit Frege in Jena. His sister goes on to describe their first meeting, at the end of the summer of 1911, as follows (thereby also contradicting Russell's report, quoted above):

During this time Ludwig was in a constant, indescribable, almost pathological state of agitation, and I was very much afraid that Frege, whom I knew to be an old man, would not have the patience or understanding to go into the matter in the way which the seriousness of the situation demanded. Consequently I was in a state of great worry and anxiety during Ludwig's trip to visit Frege, but it went much better than I had thought it would. Frege encouraged Ludwig in his philosophical quest and advised him to go to Cambridge to study under Professor Russell, and this he did. (p. 2)

Wittgenstein himself described this first meeting with Frege not only to his sister, but also later—often in vivid and memorable terms—to a number of students and friends. This indicates that he saw it as an important, influential event in his life. M. O. C. Drury, for example, reports one of these descriptions as follows:

Wittgenstein: I remember that when I first went to visit Frege I had a very clear idea in my mind as to what he would look like. I rang the bell and a man opened the door; I told him I had come to see Professor Frege. "I am Professor Frege," the man said. To which I could only reply, "impossible!" At this first meeting with Frege my own ideas were so unclear that he was able to wipe the floor with me. (Drury, 1984, p. 110)

It appears that Wittgenstein was, in particular, quite taken by Frege's "wiping the floor with him," as that aspect of their first meeting is repeated almost verbatim by several other people to whom he told the story.<sup>13</sup>

A brief aside on Frege in this connection: it is clear that Frege was an ingenious, pathbreaking logician and philosopher. As a person, however, he seems to have been much less admirable: bitter and withdrawn, lacking charisma and charm; he also held unsettlingly conservative, nationalistic, and anti-semitic political views, at least late in his life.<sup>14</sup> To illuminate another, less well known side of his personality, it is worth quoting from one more of the reports of Wittgenstein's first meeting with him. Here is how Peter Geach, one of Wittgenstein's last students, recounts the story:

Wittgenstein's story of his relations with Frege was as follows: "I wrote to Frege, putting forward some objections to his theories, and waited

anxiously for a reply. To my great pleasure, Frege wrote and asked me to come and see him.

When I arrived I saw a row of boys' school caps and heard the noise of boys playing in the garden. Frege, I learned later, had had a sad married life—his children had died young, and then his wife; he had an adopted son, to whom I believe he was a kind and good father.

I was shown into Frege's study. Frege was a small, neat man with a pointed beard, who bounced around the room when he talked. He absolutely wiped the floor with me, and I felt very depressed; but at the end he said 'You must come again,' so I cheered up." (Geach, 1961, pp. 129–30)

Wittgenstein himself was, of course, a rather eccentric human being, but he was not known to be a bad judge of character. Thus it is noteworthy how this report displays not only his affection for Frege as a philosopher, but also his sympathetic appreciation of him as a father and family man.<sup>15</sup>

## II. Student Years in Cambridge: Further Visits and Correspondence with Frege

On February 1, 1912, Wittgenstein was admitted as a student at Trinity College, Cambridge. From then until the beginning of World War I, in 1914, he worked there as a research student with Russell. The focus of Wittgenstein's work was on questions about logic and language. More particularly, he was starting to think through what a proper "theory of symbolism" would have to look like—a theory that not only made the basis of linguistic representation clear, but also led to an understanding of the special nature and status of logic. Wittgenstein's interactions with Russell were intense, as we know from Russell's various reports. As a result, he quickly became Russell's protégé. Russell even shocked Wittgenstein's sister Hermine, on a visit to Cambridge at the end of Ludwig's first year there, with the following remark: "We expect the next big step in philosophy to be taken by your brother" (H. Wittgenstein, 1984, p. 2).

Wittgenstein also stayed in touch with Frege during this period. In fact, he visited him several more times, both in Jena and in Brunshaupten (a small town in Mecklenburg where Frege sometimes spent his summer vacation), before the outbreak of the war. During these meetings they got to know and value each other more. In fact, Wittgenstein's sister Hermine continues her report (see above) as follows: "By the way, I have to mention that Ludwig, who had become such close friends with Professor Frege before the war . . . several times . . . spent a few days with him" (H. Wittgenstein, 1984, p. 5). Similarly, Geach's report of what Wittgenstein told him continues as follows:

I [Wittgenstein] had several discussions with him [Frege] after that [first meeting]. Frege would never talk about anything but logic and mathematics; if I started on some other subject, he would say something polite and then plunge back into logic and mathematics. He once showed me an obituary on a colleague who, it was said, never used a word without knowing what it meant; he expressed astonishment that a man should be praised for this. (Geach, 1961, p. 129)

I will come back later both to Frege's uncompromising seriousness and intensity in their discussions, as reported in Geach's report, and to the "close friendship" that developed between Frege and Wittgenstein, as noted by Hermine Wittgenstein. But let me first make a general observation as well as raise an initial question about their face-to-face meetings.

The observation concerns the number and dates of these meetings. Actually, when exactly Wittgenstein's and Frege's additional meetings took place, as well as how many of them there were, is not completely clear. We do have good evidence that, after their first meeting in 1911, Wittgenstein visited Frege at least two more times: in the fall of 1912 and in the fall of 1913.<sup>16</sup> But it may have been more often, as both Hermine Wittgenstein and Geach emphasize that there were "several" more meetings.

What, in general, was it that Frege and Wittgenstein talked about during their meetings? From Geach's report we can infer that it was almost exclusively questions about "logic and mathematics." But what is meant by that? Clearly "logic" must be understood fairly broadly here, so as to include parts of what we would call "philosophy of logic" and "philosophy of language" today—especially what I called "a proper theory of symbolism" above. Thus, after one of his visits Wittgenstein sent the following report to Russell (in a letter from December 26, 1912): "I had a long discussion with Frege about our theory of symbolism of which, I think, he roughly understands the general outline. He said he would think the matter over" (Wittgenstein, 1961, p. 120). "Mathematics", on the other hand, must be understood primarily as "foundations of mathematics" or "principles of mathematics," in the sense these terms had assumed in Frege's and Russell's work. Besides Russell's antinomy, which we saw Wittgenstein address already in his contact with Jourdain, another prominent issue in that area is the following: How are we supposed to think about the nature of numbers? Geach's report of his conversations with Wittgenstein concludes, in fact, with a corresponding remark: "The last time I [Wittgenstein] saw Frege, as we were waiting at the station for my train, I said to him 'Don't you ever find any difficulty in your theory that numbers are objects?' He replied 'Sometimes I *seem* to see a difficulty—but then again I *don't* see it.'" (Geach, 1961, p. 130). Again, when exactly this last meeting between the two took place (in 1913 or later) is not completely clear.<sup>17</sup> What is relatively clear, though, is that Wittgenstein's conversations with Frege were continuous in content with his work with Russell in Cambridge, with respect to both "logic" (including "theory of symbolism") and "mathematics."

Wittgenstein's personal contact with Frege before World War I did not just take the form of a few visits, as discussed so far; nor did it end with his last such visit, which probably took place in the fall of 1913. There was also a prolonged, fairly substantive correspondence by mail between the two. This correspondence started in 1911, when Wittgenstein asked Frege for permission to visit him in Jena for the first time; and it continued at least until 1920, the year in which Wittgenstein, after having come back from prison camp in Italy, left philosophy to become an elementary school teacher in Lower Austria.<sup>18</sup> Unfortunately, only a small part of this correspondence is preserved, in particular for the period before World War I.

Actually, until a few years ago it looked as if all that was left of this correspondence were some brief summary notes taken by Heinrich Scholz.<sup>19</sup> Not only the content of these notes, but also their origins and some surrounding facts are of interest to us. In the mid-1930s, Scholz, a well-known logician at the time, began to

search for and then to collect Frege's scientific correspondence and his unpublished manuscripts, that is, his scientific *Nachlaß*. This *Nachlaß* was supposed to become part of an archive for the history of logic at the University of Münster, Germany. Scholz had significant success in his search. In particular, he was able to secure an earlier, substantive collection of letters to Frege, a collection made available to the historian of science Ludwig Darmstädter by Frege himself. Scholz succeeded also in obtaining from Bertrand Russell the originals of Frege's letters to Russell; similarly in some other cases, for example, those of Husserl, Hilbert, and Löwenheim.

Crucially for us, Scholz contacted Wittgenstein in this connection, too. In this case, however, he was less successful. Wittgenstein's response to Scholz was this: "While I do own a few cards and letters from Frege, they have a purely personal and no philosophical content. For a collection of Frege's writings they have no value at all [*keinerlei Wert*]; they do, however, have a sentimental value [*Erinnerungswert*] for me. The thought is repugnant to me to make them available for a public collection" (Scholz, 1976, p. 265, my translation). It is not insignificant that Wittgenstein found Frege's mail to him to have some personal, "sentimental value." At the same time, his judgment that the corresponding cards and letters have "no value at all" for a collection of Frege's scientific writings is rather questionable (in particular now that some of them have been rediscovered and, several years after Wittgenstein's death, been made available; more on that below).

Scholz must have been disappointed about Wittgenstein's negative response. In spite of it, he soon had the following in his possession: eight letters, three post-cards, and four cards from the front (*Feldpostkarten*) from Wittgenstein to Frege; four letters, one letter-card (*Briefkarte*), and one card from Wittgenstein's sister Hermine to Frege; and two letters and one card from Frege to Wittgenstein—twenty-four documents altogether, thus a significant part of the Frege-Wittgenstein correspondence. In the process of cataloging them, Scholz recorded the dates of these documents: all from 1913 to 1919 (although in some cases their date is conjectural). He also added brief annotations concerning their contents. The first five of these annotations read as follows:

- XLV/1 Wittgenstein to Frege, 22.10.1913: Wittgenstein asks Frege for "permission for a visit."
- XLV/2 Frege to Wittgenstein, date unknown: Frege answers XLV/1 and accuses Wittgenstein of putting "too much weight on reference [*Bezeichnung*]."
- XLV/3 Wittgenstein to Frege, 29.11.1913: Content of this letter: "Important arguments against Frege's theory of truth. In particular against the determination of reference [*Bedeutungsfestsetzung*] for functions."
- XLV/4 Wittgenstein to Frege, date unknown: This letter, in which Wittgenstein announces his visit (cf. XLV/1), is an answer to XLV/2 and concerns "the establishment of a set of basic concepts for logic and the desiderata for such a set."
- XLV/5 Frege to Wittgenstein, date unknown: The letter continues the verbal conversation (XLV/4). (Scholz, 1976, pp. 265–66, my translation)

These five are all of Scholz's entries for letters and cards written before World War I. The next entry, dated 25.8.1915, concerns the beginning of Frege's and Wittgenstein's exchange about what will become the *Tractatus Logico-Philosophicus*.

Scholz's short notes provide us with some interesting glances into Frege and Wittgenstein's correspondence. They confirm the occurrence, partly also the dates, of some of the meetings between Frege and Wittgenstein during that period. They also document, again, that Frege and Wittgenstein were engaged in debates over various "logical and mathematical" themes, in particular, questions about functions, reference, truth, and, more generally, "the basic concepts for logic." One would, of course, like to find out more about these debates—one would like to look at the letters and cards themselves. Unfortunately, this is not possible any more. Most of Scholz's archival collection was destroyed during World War II when the library of the University of Münster, where he had deposited it for safekeeping, went up in flames as the result of Allied bombings. All we are left with, then, are Scholz's notes, except in a few cases in which people elsewhere kept copies of letters and cards sent by Frege to them.<sup>20</sup>

Wittgenstein, it turns out, kept the mail he received from Frege. Moreover, several decades after his death, in the 1980s, it was rediscovered by accident in Vienna, as part of a larger collection of mail to Wittgenstein from various authors during 1914–31. This part or side of the Frege-Wittgenstein correspondence is now kept in the Brenner-Archiv in Innsbruck, Austria. In 1989 it was made available to the general public, as "Gottlob Frege: Briefe an Ludwig Wittgenstein."<sup>21</sup> It consists of twenty-one documents—six letters and fifteen cards from Frege to Wittgenstein. In this case the dates of the documents range from 1914 to 1920. They are, thus, from the time when Wittgenstein had enlisted in the Austrian army until the time when he was in an Italian prison camp after the end of the war.<sup>22</sup>

But before turning to this period—Wittgenstein's time as a soldier in World War I—we should look at two additional sources of information in connection with his relation to Frege before the war. The first consists of some letters exchanged between Frege and P. E. B. Jourdain, whom we have already encountered above, during 1913–14. Jourdain had earlier, probably again under Russell's influence, discussed Frege's ideas in some of his own publications. A correspondence between the two logicians ensued. This correspondence, unlike that between Frege and Wittgenstein, is fully preserved, and it contains two pieces that are of particular interest to us. In a letter from Jourdain to Frege, dated March 29, 1913, we can read:

Dear Prof. Frege,

In your last letter to me you spoke about working on the theory of irrational numbers. Do you mean that you are writing a third volume of the *Grundgesetze der Arithmetik*? Wittgenstein and I were rather disturbed to think that you might be doing so, because the theory of irrational numbers—unless you have got quite a new theory of them—would seem to require that the contradiction has been previously avoided; and the part dealing with irrational numbers on the new basis has been splendidly worked out by Russell and Whitehead in their *Principia Mathematica*. . . .

Yours very sincerely

Philip E. B. Jourdain

(Frege, 1980, pp. 76–77)

Two aspects of this passage (besides the surprising remark about Frege's supposed work on irrational numbers) are particularly noteworthy for us. First, Wittgenstein

is mentioned in it as a friend or close associate of Jourdain's. Apparently either their previous contact or Wittgenstein's subsequent association with Russell or both had led to further, amicable contacts between the two. Second, Jourdain refers to Wittgenstein in a way that assumes Frege would immediately know who he was.

Jourdain's next letter to Frege, dated January 15, 1914, is even more interesting:

Dear Prof. Frege,

Would you be kind enough to give me permission to translate part of your 'Grundgesetze' for 'The Monist'. I was thinking of the more popular parts (Bd. I, S. vi-xxvi, 1-8, 51-52; Bd. II, S. 69-80). If you will give me your permission, Wittgenstein has kindly offered to do the translation, & then I would send it on to you. . . .

Yours very sincerely

Philip E. B. Jourdain

(Frege, 1980, pp. 77-79)

Frege's prompt response, in a letter from January 28, 1914, is this:

Dear Mr. Jourdain,

I am very glad to give you permission to translate parts of my *Basic Laws* for the *Monist*. From your letter it seems to me that Wittgenstein is back in Cambridge. I had lengthy conversations with him before Christmas, and I would like to write to him so that something fruitful will come out of them, but I do not know where he is. . . .

Yours sincerely

G. Frege

(Frege, 1980, p. 81-84)

This exchange of letters reveals three things: First, Wittgenstein was interested and invested enough in Frege's *Grundgesetze* to offer to work on a translation of it. Second, Frege trusted Wittgenstein enough in connection with such a translation to give Jourdain permission to pursue the project. Third and most strikingly, the earlier conversations Frege had had with Wittgenstein were so important for him that he wanted to see that "something fruitful [would] come out of them."<sup>23</sup> Parts of Frege's *Grundgesetze* did, in fact, appear in the *Monist* in an English translation during the following years, but Wittgenstein seemed not to have been involved in the translation project in the end.<sup>24</sup> Then again, something fruitful did come out of his "lengthy conversations" with Frege, as we will see soon.

The second additional source of information concerning Wittgenstein's ties to Frege before the war consists of Wittgenstein's *Notebooks*, especially the part called "Notes on Logic" from 1913. In it we can observe the young Wittgenstein working hard to formulate his own insights—gained in dialogue with Russell, Frege, and their writings—about the "logical and mathematical" issues brought up above. Frege is mentioned explicitly five times in these notes. In each case Wittgenstein addresses and criticizes some particular Fregean view; he objects to (i) Frege's thesis that propositions are names, (ii) Frege's positing of truth values as objects, (iii) Frege's analysis of "is true" in connection with the content of propositions, (iv) Frege's appeal to laws of deduction to justify inferences, and (v) Frege's use of the assertion sign.<sup>25</sup> These objections are all significant—they lead to the core

of Wittgenstein's own thoughts about logic during this time. It would, thus, be worth analyzing each one of them in detail. Because my goal in this essay is Wittgenstein's relation to Frege in general, let me, instead, move ahead in his life.<sup>26</sup>

### III. World War I: Continuing Correspondence and Growing Friendship

We have arrived in the year 1914, one that brings more drastic change to Wittgenstein's life. With the beginning of World War I, he gives up his life as a student in Cambridge, enrolls in the Austrian army as a volunteer, and is soon engaged in active combat on the eastern front of the war. As Wittgenstein is confronted with the possibility of death almost every day, his thoughts turn increasingly to ethical and religious questions. This shift is reflected in his *Notebooks 1914-1916*.<sup>27</sup> At the same time, he keeps thinking and writing about logical issues, with the goal of publishing the results in a book. Correspondingly, the name of Frege comes up again several times in the *Notebooks*, similarly to the earlier "Notes on Logic." The particular contexts now are (i) the issue of sentences with and without sense; (ii) numbers, especially their definition and designation; and (iii) Frege's view that every assertion involves a certain content, an "assumption," that can be considered independently. Clearly the focus is, thus, again on "logic and mathematics." Also, each of those entries would, once more, be worth analyzing in detail.<sup>28</sup>

Since their rediscovery, Frege's letters and cards to Wittgenstein, as contained in the Brenner-Archiv, have provided a second source of information about the two men's relation during World War I. They are, as it turns out, a valuable, sometimes surprising, source, revealing a significant strengthening of Frege and Wittgenstein's ties, on both a personal and an intellectual level.

Many of these letters and cards contain simply good wishes and patriotic encouragement from Frege to the "heroic soldier" Wittgenstein. Along these lines, Frege conveys his hope for a quick victory of the German and Austrian armies, his hope for a subsequent lasting peace, and his hope that Wittgenstein may stay alive and in good spirits during these hard times. But Frege also comments repeatedly on his desire to continue their scientific conversations from before the war. Thus he writes in a card from November 28, 1915: "I am glad that you still find the time and energy for scientific work. . . . I hope we will see each other again, in good health, after the war" (Frege, 1989, p. 10).<sup>29</sup> In a card from October 28, 1916, he suggests: "Couldn't you try to find the time, every once in a while, to put down your thoughts on paper, even if in a disconnected and unordered form, and send them to me? I would then keep your letters and attempt to answer them. That way a scientific interchange between us could perhaps be established after all, as a small substitute for our verbal exchanges" (p. 13). And in a letter from December 12, 1918, he adds: "I hope it will be granted to me to get to know your views better in a verbal exchange. . . . I still remember fondly our walks in Jena and Brunshaupten" (p. 18). It is possible that such remarks were just meant to lift Wittgenstein's spirits while he was on the front. More likely, it seems to me, is that Frege genuinely valued his earlier intellectual exchanges with Wittgenstein.

In a number of Frege's letters and cards to Wittgenstein there is another aspect worth mentioning, namely, the way their "friendship" is emphasized more and

more by Frege.<sup>30</sup> This emphasis is remarkable, I think, and not just if we take into account the age difference between the two men: Frege is forty-nine years older than Wittgenstein. Then again, it is in consonance with Hermine Wittgenstein's observation that her brother Ludwig "became such close friends with Professor Frege" during this period (see above). It is also not unintelligible, especially if one pays attention to remarks such as the following by Frege: "In long conversations with you I have come to know a man who has, like me, searched for the truth" (Frege, 1989, p. 21). Probably Frege's and Wittgenstein's deepening friendship was based on several factors, including the following: Wittgenstein's eagerness and persistence to engage in the logical investigations Frege valued so highly; his willingness to seek out Frege for conversations about corresponding issues; probably also Wittgenstein's patriotic (as Frege saw it) choice to volunteer as a soldier and his subsequent bravery in the war; conversely, Wittgenstein's general admiration for Frege's work; the strong impression Frege's intensity and seriousness made on him during their conversations; and Wittgenstein's gratitude for Frege's encouragement of his own logical work. We can find more evidence for the first three of these factors, concerning Frege's side, in his letters and cards to Wittgenstein. On Wittgenstein's side further evidence can be found in the various reports by students and friends about his lasting admiration and affection for Frege, such as those by Geach, Drury, and Hermine Wittgenstein quoted above.<sup>31</sup>

The longest and philosophically most substantive of Frege's letters to Wittgenstein in the Brenner collection are the last four, from the period between June 1919 and April 1920. These letters concern Frege's reaction to the *Tractatus*, which Wittgenstein sent to Frege immediately after finishing it. We will turn to this reaction shortly (in a separate section). However, there is another, earlier letter that is perhaps even more remarkable, especially as far as their personal relationship goes. It is dated April 9, 1918, and consists of a response to a letter by Wittgenstein from March 25, 1918. It falls, thus, in the period in which Wittgenstein was trying hard to finish a draft of the *Tractatus*, the book that was supposed to contain all his philosophical insights. Let me quote Frege's letter in full, as it is surprising in a number of ways:

Dear Mr. Wittgenstein:

You cannot imagine how astonished I was on reading your friendly letter from 25.III.18. You write of a great debt of thanks [*grosse Dankeschuld*] to me. I know nothing of such a debt. Each of us has gained, I think, in our intellectual exchange. If I have furthered you more in your endeavors than I realized, I am glad; in particular because I know that these endeavors, in their lofty flight, rise high above the world of base selfishness. What you have gained in our exchange will, I hope, move humanity ahead a bit in the right direction. If the words I have exchanged with you thus live on in their effects, that is a comforting prospect for me. May you, dear friend, be granted to experience some of these effects. What remains for me is to accept, with heartfelt thanks, what, in a noble impulse, you have given me as a present [*was Sie mir in edelster Regung zgedacht haben*], as I assume it was meant by you that way.

With friendly greetings,  
Yours, G. Frege

PS: I haven't received a notification from Jena yet; however, the Niederösterreichische Escompte-Gesellschaft has notified me of the crediting [*Akkreditierung*] of the bank in Thüringen. (Frege, 1989, p. 16)

As revealed by this letter, Wittgenstein felt enormously grateful—he felt "a great debt of thanks"—to Frege in connection with his recent intellectual endeavors. That is to say, he appreciated their earlier meetings and their correspondence even more than did Frege. But not only that; it seems that Wittgenstein also sent Frege—who was not particularly well paid as a professor at Jena, as well as about to retire—a significant amount of money (see the postscript). It is possible that this money was part of the inheritance Wittgenstein was in the process of giving away more generally. In any case, Frege accepted it, while also gracefully stressing the mutual benefit of their intellectual exchanges.<sup>32</sup>

One more observation about the period 1914–18: The letter from Frege just quoted is from 1918, close to the end of World War I. The two years preceding it, 1916–18, were the time of the composition of Wittgenstein's *Tractatus*, or better of its compilation and construction out of earlier notes. Wittgenstein worked on his book both at the eastern front and back in Vienna, during a few short leaves from the front. These leaves also gave him a chance to try to arrange some further meetings with Frege, this time not in Germany, but in Austria. Thus both in the winter of 1916 and in the spring of 1917, he invited Frege to come and visit him in Vienna. In both cases Frege declined, as the trip would either have been too strenuous or otherwise impossible for him.<sup>33</sup> Frege was, we should note, almost seventy years old by then, as well as not in great health. In the fall of 1919 Wittgenstein, just back from the war and from prison camp, then planned to visit Frege again in Jena.<sup>34</sup> But apparently that visit also did not take place. The reason is not clear: maybe Frege, retired since the fall of 1918, was not in Jena much any more; or Wittgenstein simply changed his mind, for example, in connection with his new plans to become a schoolteacher—or perhaps he found Frege's recent reactions to the *Tractatus* less than encouraging.

#### IV. Wittgenstein's *Tractatus*: High Hopes and Deep Disappointments

Wittgenstein finished a complete draft of the *Tractatus* in the summer of 1918, probably in July and August, while on leave from the front in Vienna and Salzburg.<sup>35</sup> Shortly after that he informed Frege about it, who congratulated him promptly in response (actually several times, most emphatically in letters from September 12 and October 15, 1918).<sup>36</sup> Frege also wished Wittgenstein to be able to publish his work soon, and he expressed an interest in seeing a copy of the book himself, remarking, "I would be very pleased if you sent me a copy" (Frege, 1989, p. 18). Earlier, Frege had already sent him a very encouraging and inviting note in response to his announcement, in May 1918, that he was almost done with his work. Dated June 1, 1918, this note reads as follows:

Many thanks for your card from 10.V. I am glad that you have come to some conclusion concerning your work. I hope it will be possible for you to put down on paper everything you have come up with, so that it



doesn't get lost. Perhaps I, too, will gain from it while travelling in the difficult terrain in which I am toiling. I am, of course, always ready to learn more and to let myself be led back onto the right path if I have gotten lost. And the paths you have followed always promise some gain for me, even if I am not able to follow you in the essentials. Good luck for further vigorous work!

With warm regards,  
Yours, G. Frege  
(Frege, 1989, p. 17).

Frege's expressed willingness to follow Wittgenstein down "his paths" is noteworthy here. It shows, again, how seriously he took Wittgenstein as an interlocutor (although his qualification about "not being able to follow in the essentials" would prove prophetic). Later, in a letter from October 15, he also promised to reciprocate by sending Wittgenstein a new work of his own: his article "Der Gedanke," which had just come out.

In terms of his work on logic, things now looked good for Wittgenstein. Not only was he done with the book he had worked on for several years, under extremely difficult conditions, but a revival of his meetings and conversations with Frege, cherished by both of them, seemed imminent. On the other hand, Austria's and Germany's war efforts were proving futile. Soon Wittgenstein found himself captured and put into prison camp in Italy; first in Como, from early November 1918 on, then in Monte Cassino, until late August 1919. Nevertheless, in June 1919, while still in prison camp in Monte Cassino, he managed (with the help of his sister, several of his friends from Cambridge, and the Red Cross) to send the two copies of the *Tractatus* he had with him to the two people he wanted most to read it: Frege and Russell.<sup>37</sup> After that he eagerly awaited their response.

Before looking at Frege's response directly, let us briefly consider the following question in the background: What, in general, is the relation of the *Tractatus* to Frege's work? As we just saw, it was shortly before its completion in 1918 that Wittgenstein talked about the "great debt of thanks" he owed to Frege. Similarly, in the preface to the *Tractatus* Wittgenstein emphasizes: "[I] am indebted to Frege's great works and to the writings of my friend Mr. Bertrand Russell for much of the stimulation of my thought" (Wittgenstein, 1963, p. 3). Whether or not Wittgenstein intended to slight Russell here by calling only Frege's works "great," it is clear that he saw the *Tractatus* as closely related to both Frege's and Russell's works. It is also clear that he had high hopes of impressing both of them with it. Actually, Wittgenstein's philosophical aspirations were extremely high; as he writes in the preface to the work: "I . . . believe myself to have found, on all essential points, the final solution to the problems [of philosophy]" (p. 4). The "problems" here include, presumably, all the questions concerning "logic and mathematics," or concerning a "proper theory of symbolism," that had come up in his earlier conversations with both Frege and Russell; or at least those among these questions that he saw as left unanswered in Frege's and Russell's works.

A brief look at the *Tractatus* itself confirms the importance of Frege's ideas for the book. Apart from the preface, Frege's name is mentioned in eighteen of its entries. (In that respect he is second only to Russell, whose name comes up twenty-eight times.) The topics addressed in these entries, in their order of appearance, are the following: Frege's thesis that sentences are composite names (3.143), gen-

eral Fregean ideas about the compositionality of propositions (3.318), the notions of logical grammar and of a conceptual notation (3.325), the use of truth values (4.063), the need, or lack thereof, for functions and classes (4.1272), the notion of a formal concept (4.1273), the concept of truth and the sense of negation (4.431), Frege's judgment stroke (4.442), Frege's more particular views about compositionality (5.02), the role, or lack thereof, of laws of inference in logic (5.132), the rejection of logical objects and logical constants, both in Frege's and in Russell's sense (5.4), the undefinability of primitive signs of logic (5.24), Frege's use of definitions for that purpose (5.451), sentences without sense (5.4733), Frege's and Russell's treatment of generality (5.521), Frege's appeal to self-evidence for basic laws of logic (6.1271), and Frege's treatment of equations (6.232).

As this list shows, in the majority of cases in which Frege is mentioned by name in the *Tractatus*, Wittgenstein is critical of his views. But this is not always the case (e.g., 3.318), and sometimes he partly agrees, partly disagrees with Frege (e.g., 3.325, 4.431). In addition, there are a number of more indirect references to Frege in the *Tractatus*, some of which are clearly not critical at all. An interesting example occurs in 3.3: "Only propositions have sense; only in the nexus of a proposition [*im Satzzusammenhang*] does a name have meaning" (Wittgenstein, 1963, p. 14). The implicit reference here is to Frege's so-called context principle: "It is only in a proposition that words have any meaning" (Frege, 1950, p. 73; cf. also pp. x, 71, 116). As this example shows, Wittgenstein does adopt some theses, or themes, from Frege so as to build them into his own approach.<sup>38</sup> Other, more indirect, examples of Frege's positive influence on the *Tractatus* include the notions of logical form and of formal concept, the saying-showing distinction, and the discussion of sense versus nonsense in the *Tractatus*. With respect to these Wittgenstein is, arguably, building on Frege's distinction between concepts and objects, Frege's remarks on elucidation, and similar sources.<sup>39</sup> Still, often Wittgenstein does develop his own ideas in opposition to Frege's (similarly for Russell), as my earlier examples illustrated. Then again, in those cases, too, Fregean ideas are not insignificant for Wittgenstein, at least as starting points or foils.

After sending a copy of the *Tractatus* to Frege, Wittgenstein was, as indicated above, eagerly awaiting a response from Frege. Soon, however, his hopes in this connection were disappointed. Expressions of this disappointment can be found in his correspondence with Russell. Thus in a letter to him from August 19, 1919, Wittgenstein exclaims: "[Frege] wrote to me a week ago and I gather he doesn't understand a word of [the *Tractatus*]. So my only hope is to see you soon and explain all to you, for it is very hard not to be understood by a single soul!" (Wittgenstein, 1995, p. 124, emphasis in original). Similarly, in another letter to Russell, dated October 6, 1919, he writes in exasperation: "I am in correspondence with Frege. He doesn't understand a word of my work and I am already quite exhausted from all my explanations" (p. 131). Russell, of course, also did not understand Wittgenstein's ideas properly, as would become clear soon. Russell's more positive reaction to the *Tractatus* overall would, on the other hand, prove helpful in publishing the work later.

Wittgenstein's disappointment and exasperation about Frege, as reflected in his letters to Russell, were based on the four letters he received from Frege in 1919–20. The first of these is dated June 28, 1919—more than a year after Frege's quite



encouraging comment about "hoping to gain from" Wittgenstein's work and about being willing to "follow him in his paths." This letter, much longer than all the previous ones from Frege, starts as follows: "You have, I am sure, been waiting for a response from me for quite a while, as well as for a remark by me about your treatise which you have sent me" (Frege, 1989, p. 19). After that Frege goes on to make several "remarks" about the *Tractatus*, that is, he presents Wittgenstein with his immediate reaction to it. He continues to do so in letters from September 16, 1919, September 30, 1919, and April 3, 1920.

What, then, is Frege's reaction to the *Tractatus* in these letters? Overall it is quite critical and negative. His most basic criticism is this: the book it is "hard to understand," its "sense is not clear enough," and it "needs to be explained more" (Frege, 1989, p. 19). In fact, Frege gets stuck already on the first few pages of the *Tractatus*:

Right at the beginning I come across the expression 'to be the case' [*der Fall sein*] and 'fact' [*Tatsache*] and I suspect that being the case and being a fact are the same. The world is everything that is the case and the world is the collection of facts. Is not every fact the case and is not that which is the case a fact? Is it not the same if I say, *A* is a fact, as if I say, *A* is the case? Why then this double expression? . . . Now comes a third expression: 'What is the case, a fact, is the existence of states of affairs [*Sachverhalte*].' I take this to mean that every fact is the existence of a state of affairs, so that another fact is the existence of another state of affairs. Couldn't one delete the words 'existence of' and say 'Every fact is a state of affairs, every other fact is another state of affairs?' Could one perhaps also say 'Every state of affairs is the existence of a fact'? . . . You see, from the very beginning I find myself entangled in doubt as to what to say, and so make no proper headway. (pp. 19–20)<sup>40</sup>

Later Frege reiterates his incomprehension of these notions and theses by asking: Is the statement "The world is everything that is the case" a definition; is it instead a statement of fact, that is, a "recognition judgment [*Wiedererkennungsurteil*]"; or does Wittgenstein think there is a third alternative (p. 26)? These are all very basic questions, and without answers to them Frege does not seem to be able to make it further into the book.

And there is more. Frege also criticizes Wittgenstein's general way of presenting his ideas. He observes that the *Tractatus* consists mainly of various claims presented without either a real justification or a proper motivation; he comments: "I would like to see a question asked at the beginning, a puzzle for which it is pleasing to find the solution. . . . I miss a proper introduction in which a goal is presented" (pp. 23–24). On a related theme, Frege finds Wittgenstein's remark in the preface concerning the general purpose of the book strange. In particular, to say, as Wittgenstein does, that "its purpose would be achieved if it gave pleasure to one person who read and understood it" (Wittgenstein, 1963, p. 3), blurs, in Frege's eyes, the distinction between "aesthetic achievement [*künstlerische Leistung*]" and "scientific achievement [*wissenschaftliche Leistung*]" in an unacceptable way (Frege, 1989, p. 21). Overall Wittgenstein must have been devastated. Not only did Frege display a disappointing lack of understanding for

the content of his work (even for its early parts on logic, not just the later parts on ethics and the mystical); he also did not appreciate its style, an aspect to which Wittgenstein had devoted so much attention and which he considered almost as crucial as its content.

As mentioned above, Frege responded to the receipt of the *Tractatus* not just by commenting on it, but also by sending Wittgenstein his own article "Der Gedanke." From a few asides in Frege's four letters of 1919–20, we can infer that Wittgenstein, in turn, sent Frege comments on that article. And he, too, was critical in his response, although it is hard to tell what exactly those criticisms were. Some of them must have had to do with Frege's own criticism of idealism in "Der Gedanke"; thus Frege writes: "I have just noticed, from an earlier letter of yours, that you recognize some deep, true core in idealism" (p. 26). Similarly earlier: "I would like to know which sources of idealism you think I haven't grasped" (p. 24). There is here, I would suggest, another noteworthy connection to the *Tractatus* in play. The "deep, true core in idealism" which Frege quotes Wittgenstein as recognizing probably has to do with what the *Tractatus* says about this issue, or about the related issue of "solipsism," namely:

- 5.62 This remark provides the key to the problem, how much truth there is in solipsism. For what a solipsist *means* is quite correct; only it cannot be *said*, but makes itself manifest. The world is *my* world: this is manifest in the fact that the limits of *language* (of that language which alone I understand) mean the limit of *my* world.
- 5.621 The world and life are one.
- 5.63 I am my world. (The microcosm.) (Wittgenstein, 1963, p. 57)

How exactly these Tractarian theses connect with Frege's criticism of idealism in "Der Gedanke" would, again, be very interesting to explore further. One also wishes, of course, that Wittgenstein's related responses to Frege, as collected by Scholz, had not been lost; they might have shed some light on this cryptic and difficult side of the *Tractatus*. Moreover, Wittgenstein's corresponding letters probably contained some interesting further comments on Frege's "Der Gedanke." (I will come back to this issue very briefly later.)

In retrospect, clearly neither Frege nor Wittgenstein reacted very positively to the other's work from this period, and neither of them concealed his negative reaction in their correspondence. This makes one wonder whether it was this clash of views that prevented Wittgenstein from visiting Frege in Jena once more after coming back from prison camp in August 1919. Similarly, one wonders whether it was this clash that caused the end of their correspondence in April 1920. We should not be too hasty here, though. Note, for example, that in his criticism of the *Tractatus* Frege is actually less harsh and polemical than in his criticism of almost every other thinker in his writings (from Husserl to Dedekind and Cantor, not to mention Kerry and Schubert).<sup>41</sup> In particular, his tone always remains respectful, and he does not dismiss Wittgenstein's ideas simply because he does not understand them. In the letter from September 16, 1919, Frege even goes out of his way to emphasize his continuing "hope for understanding." He adds: "I combine it with the hope that you will, at some point, stand up for [*eintreten für*] the insights I believe I have achieved in logic. Before that you would, however,

have to be won over to them. For that reason a further exchange of opinions with you is desirable for me" (Frege, 1989, p. 21). Later in the same letter Frege remarks that it is important to help each other "see with the eyes of the other." Finally, he emphasizes (as already quoted above): "In long conversations with you I have come to know you as a man who, like me, has searched for the truth, if sometimes on different paths" (p. 21). Thus, even while fundamentally failing to understand the *Tractatus*, Frege kept holding Wittgenstein in very high esteem. Wittgenstein, in turn, did not give up his admiration and affection for Frege either, as will become clear soon.

One final piece of information is worth considering in connection with Frege and the *Tractatus*, to round off our discussion. It involves Wittgenstein's attempts to publish his book. After finishing a complete manuscript, in the summer of 1918, Wittgenstein sent this manuscript to two Viennese publishing companies: first the company of Jehoda and Siegel, the publishers of Karl Kraus's works (this actually happened before he became a prisoner of war in November 1918); then to the company of Braunnüller, the publishers of Otto Weininger's works (in that case after coming back from prison camp to Vienna late in August 1919). But neither of these publishers was willing to accept the *Tractatus*, at least not in a form acceptable to Wittgenstein. (Braunnüller offered to publish it if Wittgenstein paid for the paper and the printing costs himself, which he steadfastly refused.) At this point Wittgenstein turned to Frege for help. In particular, he inquired if Frege was willing to approach the publisher of his own recent writings, including "Der Gedanke," in this connection: the journal *Philosophie des Deutschen Idealismus*.

Despite all his explicit criticisms of the *Tractatus*, as documented above, Frege's reaction to Wittgenstein's inquiry was not wholly negative. In fact, he offered to write a letter on his behalf to the philosopher Bruno Bauch, who was on the editorial board of the journal in question. Bauch was, in addition, a colleague of Frege's in Jena at this point, as well as someone with whom he had good collegial relations. The offer to write such a letter was thus promising. Moreover, Frege indicated to Wittgenstein that in it he would be willing to present him as a "thinker to be, by all means, taken seriously" (Frege, 1989, p. 23). At the same time, Frege made clear that he would not be able to say much in praise of the *Tractatus* itself, because he did not understand its content well enough. Finally, he cautioned Wittgenstein that his influence on the matter was limited. In the end the whole attempt came to nothing. It seemed to be the length and form of Wittgenstein's work that prevented the editors, not surprisingly, from including it in such a journal. And Wittgenstein was, needless to say, not willing to change those aspects, not even at Frege's urging.

Several more failed attempts at publishing the *Tractatus* followed. Thus, the Austrian journal *Brenner*, edited by Ludwig von Ficker (to whom Wittgenstein had also given a considerable amount of money recently, for distribution among contributors to the journal such as Trakl and Rilke), the Insel Verlag and the Reclam Verlag in Germany, as well as Cambridge University Press in England rejected it. When the *Tractatus* finally did get published, it was largely due to Russell's help. It first appeared in German, in 1921, in the *Annalen der Natur- und Kulturgeschichte*, edited by Wilhelm Ostwald; then in 1922, also in an English translation (by C. K. Ogden, with substantial help from Frank Ramsey) published by Routledge and Kegan Paul.<sup>42</sup>

### V. Wittgenstein's Middle Period: Continuing Engagement with Frege's Work

In August 1919 Wittgenstein came back to Vienna from prison camp in Italy. In December of the same year, he and Russell met in The Hague, Netherlands, to talk about the *Tractatus* and its publication. In the meantime, Frege had retired, in 1918, and in 1918–19 two of his last publications appeared, "Der Gedanke" and "Die Verneinung." (Frege's very last publication, a related article called "Gedankengefüge," would appear in 1923.) Frege and Wittgenstein were still in correspondence by then, until April 1920. At that point their correspondence stopped, at least as far as we can tell. It is also at that point that another of Wittgenstein's life-altering "transformations" occurred, as his sister Hermine called them: not only did he give up his whole inheritance, including a large amount of money; he also did not go back to Cambridge, but became an elementary school teacher in Lower Austria instead. For Wittgenstein the decision not to go back to Cambridge was a conscious choice to leave philosophy behind. His new career as a schoolteacher started in the fall of 1920, in the small Austrian village of Trattenbach.

It is natural to assume that these events mark the end of Wittgenstein's relation to Frege. In one sense this is obviously correct (especially after Frege's death in 1925): the two did not see each other in person any more, nor did their correspondence by mail continue. In another sense, however, Wittgenstein's relation to Frege did not break off at this point: he kept being engaged with Frege's writings and ideas. This engagement continued, in fact, until the very end of Wittgenstein's life in 1951.

My discussion of Wittgenstein's connection to Frege so far has been relatively comprehensive, that is, I have tried to utilize all the major pieces of evidence we have concerning it up to the year 1920. For the time after 1920 I must be more eclectic, both because of constraints on the length of this essay and because much more research is needed in this connection. My discussion will, nevertheless, be representative in at least this sense: it will touch on all the major remaining periods in Wittgenstein's life. In the rest of this section I will consider several incidents involving Frege's work from Wittgenstein's middle period (after the *Tractatus* into the 1930s); in the next section I will consider several more from his later period (through the 1940s until 1951), including some from the last two to three years of his life.

But first back once more, briefly, to the time before 1920. The earliest traces of Wittgenstein's ongoing engagement with Frege's works are from when he was still in prison camp in Monte Cassino. Thus, in a letter to Paul Engelmann, dated May 24, 1919, Wittgenstein asks his Viennese friend for the following favor: "Now a request: please send me, safely and quickly if you can, Frege's *Grundgesetze*" (Engelmann, 1967, p. 17). Note that this event occurred after Wittgenstein had finished a draft of the *Tractatus* and shortly before sending it off to Frege and Russell. Why did Wittgenstein want a copy of *Grundgesetze der Arithmetik* at this point? It could be that he merely wanted to check some references to Frege's work in the *Tractatus*. But the *Tractatus* is not a very scholarly work; the references in it are scarce and mostly implicit. More likely, then, is that Wittgenstein wanted to keep reading Frege, the logician he still admired very much. Additional evidence for this continuing

admiration can be found in a report from Franz Parak, another of Wittgenstein's friends during this period. In his report Parak writes about various conversations he had with Wittgenstein, some of them concerning philosophical issues, while they were both in Monte Cassino. Frege is mentioned in this connection as a person "whom [Wittgenstein] admired [so] much [*den er so verehrte*]."43

This pattern continues after 1920, after Wittgenstein became a schoolteacher in Trattenbach. In a letter from October 31, 1920, he writes again to Engelmann:

Would you do me the following great favor! Will you kindly send me the two volumes of Frege, *Grundgesetze der Arithmetik*. REGISTERED AND EXPRESS to the following address: Miss Anna Knaur, c/o Faber, Heinrichsthal, near Lettowitz, Moravia. This lady will not herself study logic, but will bring me the book unread. As she will leave on the 10th, the matter is very pressing. When you come for Christmas, you shall get the Frege back (Engelmann, 1967, pp. 39–40)

Apparently Wittgenstein had left his copy of *Grundgesetze* in Vienna, but he did not want to be without Frege's work during his time in Trattenbach.

Wittgenstein did not stay in Trattenbach for long, as the Austrian school board moved him around. His next station as an elementary school teacher was Puchberg, another small village in Lower Austria, where he started to teach in 1922. Soon after his arrival in Puchberg, Wittgenstein was contacted by Frank Ramsey, then a young and promising logician in Cambridge. Wittgenstein—who knew of Ramsey's involvement in Ogden's English translation of the *Tractatus*—agreed to several meetings with him (both in Puchberg and in Vienna, during some school vacations). The main topic of discussion in their meetings was the *Tractatus*. But not only that; as in Parak's case, Wittgenstein also impressed the greatness of Frege's works on Ramsey.<sup>44</sup>

At this point Wittgenstein seemed to have been particularly interested in Frege's criticism of formalist views in mathematics, as contained both in *Grundgesetze der Arithmetik* (in connection with Frege's discussion of various views about the real numbers) and in another, smaller text called "Die Zahlen des Herrn H. Schubert." Ramsey witnesses this interest, as well as the more general impact his discussions with Wittgenstein had on himself, in a letter to him from November 11, 1923:

[I] have been reading miscellaneous things, a little Relativity and a little Kant, and Frege. I do agree that Frege is wonderful; I enjoyed his critique of the theory of irrationals in the *Grundgesetze* enormously. I should like to read 'Über die Zahlen des Herrn H. Schubert' but haven't yet found a copy. (Wittgenstein, 1995, pp. 190–91)

In another letter from December 27, 1923, Ramsey writes: "I think Frege is more read now; two great mathematicians Hilbert and Weyl have been writing on the foundations of mathematics and pay compliments to Frege, appear in fact to have appreciated him to some extent. His unpopularity would naturally go as the generation he criticized dies" (p. 194, emphasis in the original). In this second passage Ramsey seems to be responding to complaints by Wittgenstein that Frege is not appreciated enough by their contemporaries. That is, thus, apparently another point emphasized by Wittgenstein in their conversations.

Wittgenstein's time as a schoolteacher ended, unsuccessfully and unhappily, in 1926. He moved back to Vienna at this point, where he stayed until 1929. During this period in Vienna he was involved in various activities: he worked as, among other things, a gardener, an architect, a sculptor, and a photographer. He was also, more and more, drawn back into philosophy. In particular, Moritz Schlick, the head of the Vienna Circle, succeeded in contacting him in 1927, after some failed attempts earlier. Schlick, like various other members of his circle, was very impressed by the *Tractatus* and wanted to meet its author. Schlick's initiative led to several meetings, from 1927 until 1932 (when Wittgenstein was already back in Cambridge, but still visiting Vienna regularly). In these meetings Wittgenstein discussed both his own book and some further texts with various members of the circle (Schlick, Carnap, Waismann, and others).<sup>45</sup> One of the further texts the group covered, quite likely on Wittgenstein's suggestion, was again Frege's *Grundgesetze der Arithmetik* (especially its second volume).<sup>46</sup>

Wittgenstein's discussions of *Grundgesetze* with the Vienna Circle were, it turns out, a continuation of his earlier discussions with Ramsey. One main topic in them was again Frege's criticism of formalist views about mathematics. But the discussions also extended further, to issues such as the following: the role of contradictions in mathematics, the use of the infinite, and the notion of a calculus. The explicit appeal to Frege's *Grundgesetze* in connection with these issues shows that Wittgenstein still found it, if not congenial, then at least a valuable and fruitful starting point for further investigations. At the same time, it becomes clear that he wanted to move beyond Frege in crucial ways at this point—in some sense even to defend formalist ideas, or some distant descendants of them, against his criticisms. A particular focal point for Wittgenstein's thoughts during this period was the comparison of the role of number words, or words more generally, with the use of pieces in a chess game. It seems, in fact, that further reflections on this parallel played a crucial role in Wittgenstein's move away from his earlier Tractarian views about language and toward his later conception of language games.<sup>47</sup> If this is true, Frege's writings are again tied to a central Wittgensteinian idea, now one from his middle and later periods.

This general thesis is confirmed if we move on to what is probably the best known and most influential of Wittgenstein's writings from his middle period: the *Blue Book* (1933–34). Frege's name does not occur often in this text, actually only once; but it does so at a crucial point. Wittgenstein writes:

Frege ridiculed the formalist conception of mathematics by saying that the formalists confused the unimportant thing, the sign, with the important, the meaning. Surely, one wishes to say, mathematics does not treat of dashes on a bit of paper. Frege's idea could be expressed thus: the propositions of mathematics, if they were just complexes of dashes, would be dead and utterly uninteresting, whereas they obviously have a kind of life. And the same, of course, could be said of any proposition: Without a sense, or without a thought, a proposition would be an utterly dead and trivial thing. And further it seems clear that no adding of inorganic signs can make the propositions live. And the conclusion which one draws from this is that what must be added to the dead sign in order to make a live proposition is something immaterial, with properties different from all mere signs.

But if we had to name anything which is the life of the sign, we should have to say that it is its *use*. (Wittgenstein, 1958, p. 4)

Clearly the reference to Frege and formalism here is continuous with Wittgenstein's conversations with Ramsey and the Vienna Circle. Also, the conclusion at the end points, once more, toward Wittgenstein's later language game conception.

The years from 1929 to the mid-1930s—partly still in conversation with Schlick's circle in Vienna, partly back in Cambridge, where the conversations were with Ramsey, Sraffa (a new friend), and others—form a period in which Wittgenstein kept thinking intensely both about mathematics and about language. A further important question occupying him then was: Which general method or methods are appropriate for philosophical inquiry? He was more and more convinced that the method used in the *Tractatus* was fundamentally inadequate. In addition, Wittgenstein was led to reflect more generally on the most important influences on his own thoughts so far. A result of those reflections is the following interesting entry in his notebooks from the early 1930s (probably 1931):

I don't believe I have ever invented a line of thinking. I have always taken one from someone else. I have simply straightaway seized on it with enthusiasm for my work of clarification. That is how Boltzmann, Hertz, Schopenhauer, Frege, Russell, Kraus, Loos, Weininger, Spengler and Sraffa have influenced me. (Wittgenstein, 1980, p. 19)

Clearly Wittgenstein is too depreciating of his own originality in the first half of this passage. The second half, on the other hand, is a further piece of evidence for his continuing awareness and acknowledgment of Frege's strong influence on him—Frege is presented as one of a few thinkers whose work he “seized on with enthusiasm.”

A second notebook entry from the early 1930s points toward a more particular aspect of Frege's influence. Wittgenstein writes: “The style of my sentences is extraordinarily strongly influenced by Frege. And if I wanted to, I could establish this influence where at first sight no one would see it” (Wittgenstein, 1970, §712).<sup>48</sup> This remark is at first quite surprising because Wittgenstein's style—both in the *Tractatus* and in his middle and later works—is not clearly or obviously similar to Frege's. Moreover we saw above that Frege was rather dissatisfied with the way Wittgenstein presented his ideas in the *Tractatus*. The key here is, I would suggest, not to interpret “style” too narrowly. What is probably included for Wittgenstein under that heading are attributes such as the following: seriousness, commitment, and intensity of tone; the way in which philosophical questions are addressed head-on; and the importance of precise, suggestive images and metaphors, as well as of illuminating comparisons. All of these attributes can be found both in Frege's and in Wittgenstein's works, if not exactly in the same way. And if we compare, say, Russell's writings we find a much looser, sometimes almost frivolous, discussion of philosophy in them that stands in real contrast to Frege's and Wittgenstein's works. Finally, what may be included under “style” as well are aspects of philosophical method in some general sense, such as these: Frege's technique of taking problematic philosophical positions (including formalism) really and seriously at their word, so as to think them through until their absurdity becomes apparent; and his ability of looking at logical and philosophical is-

sue with new eyes, of putting aside all preconceived ideas and starting afresh in connection with them. Such aspects, too, can be found both in Frege's and in Wittgenstein's works.<sup>49</sup>

## VI. Wittgenstein's Later Years: Readings and Respect until the End

It would be worthwhile, I think, to examine further Wittgenstein's notebooks, lectures, and conversations with friends from his transitional period (including the late 1930s, as well as the early 1940s) with respect to their relation to Frege's work. But let me jump ahead to his later work now, in particular to *Philosophical Investigations* (finished 1945–49), its most mature presentation.

In the *Investigations*, too, Frege's name comes up several times—four times, to be precise. In three cases Wittgenstein is clearly critical of Frege, in the first two of those in connection with issues we have encountered before: (i) he criticizes Frege's use of the assertion sign (§22); (ii) he remarks on Frege's claim that every assertion contains an “assumption” (n. 11); and (iii) he addresses Frege's requirement that concepts have sharp boundaries (§71). The fourth appeal to Frege, in §49, is not critical:

For naming and describing do not stand on the same level: naming is a preparation for description. Naming is so far not a move in the language-game—any more than putting a piece in its place on the board is a move in chess. We may say: *nothing* has so far been done, when a thing has been named. It has not even *got* a name except in the language-game. This is what Frege meant too, when he said that a word had meaning only as part of a sentence. (Wittgenstein, 1953, p. 24)

Interestingly, Wittgenstein's explicit agreement with Frege in this passage is, just as in the *Tractatus*, with Frege's context principle.<sup>50</sup>

Wittgenstein's appeal to the context principle has, in fact, more deep-seated and systematic roots than the brief, unexplained reference to it in *Investigations* §49 may suggest. Thus further, similar references occur throughout Wittgenstein's writings, from the *Tractatus* to some of his very last notebooks. To recognize them as such let us recall, first, Frege's original formulation of the principle:

[I]t is only in a proposition that words have any meaning. (1884).

Wittgenstein echoes it—in what sounds like variations on a theme—as follows:

Only in the context of the sentence does a name have meaning. (1918)  
A name has meaning, a sentence has sense, in the calculus to which it belongs. (1932–34)  
Only in the practice of a language can a word have meaning. (1943–44)  
Only in the stream of life do words have their meaning. (1948–49)<sup>51</sup>

Clearly many of Wittgenstein's philosophical views change significantly, even dramatically, from the *Tractatus* to his last writings. Similarly, his appeals to the context principle—the ways in which it is formulated and absorbed into Wittgenstein's own approach—change.<sup>52</sup> That being so, it is striking that he finds

something at the core of this principle not only important, but also congenial, from early to late.

Wittgenstein's *Philosophical Investigations* (essentially finished in 1949) was his last major work. It is, however, not the last piece of evidence for us to consider. There are three more such pieces, all three involving not Wittgenstein's writings, but his interactions with students and friends. First, in the summer of 1949, Wittgenstein went on a trip to the United States, at the invitation of Norman Malcolm. In July and August of that year he was in Ithaca, New York, where he had various conversations with Malcolm and his colleagues at Cornell University. More particularly, Malcolm and the others engaged Wittgenstein in several reading groups. Participants in these groups, besides Wittgenstein and Malcolm, were Max Black, Oets Bouwsma, Stuart Brown, Willis Doney, and John Nelson. Later both Malcolm and Bouwsma reported on various aspects of these meetings.<sup>53</sup> Both tell us that Wittgenstein did not just want to talk about his own work with them, but also about some other texts—including some of Frege's writings. In this case it was especially Frege's article "Über Sinn und Bedeutung" he wanted to discuss. Finally, both Malcolm and Bouwsma relate that Wittgenstein's attitude toward this text was not, as one might expect, that toward an antiquated, long-refuted work. Rather he still, or again, was very much engaged in its content; he still found it worthwhile, even necessary, to actively separate what was in his view right in it from what was wrong.

Thus even very late in his life, Wittgenstein wanted his students to read Frege's works, and not just as an example of someone who was definitely or completely refuted. A second episode, from 1950, points in the same direction. In the fall of this year, Wittgenstein went on another trip, this time to Norway. He was accompanied by Ben Richards, another of his students and then his close friend. Earlier in 1950 one of Frege's works, *Die Grundlagen der Arithmetik*, had finally come out in an English translation, by J. L. Austin (Frege, 1950). Wittgenstein and Richards took this translation with them to Norway; it, like "Über Sinn und Bedeutung" in Ithaca, was to serve as the basis of joint readings and discussions for them. Again Wittgenstein wanted to treat it, we may suppose, not just as one text among many others from the history of philosophy, but as a text that still had real relevance. However, their trip had to be cut short, as first Richards fell ill and then Wittgenstein became unwell himself. In fact, Wittgenstein's health was deteriorating rapidly from this point on, as he was suffering from cancer.<sup>54</sup>

The last episode I want to mention is from the years 1950–51. It brings us back to G. H. von Wright and Peter Geach. The background here is this: Geach had just been offered his first academic job, and Wittgenstein, one of whose last students Geach had been, took an active interest in how he was doing. Geach, it turns out, had picked Frege's philosophy as the topic for his very first philosophical lectures. On this choice, as well as on the success of Geach's lectures, Wittgenstein remarks in a letter to von Wright dated February 12, 1950: "I am very glad indeed to hear that Geache's [*sic*] lectures are good. Frege was just the right food for him!" (Wittgenstein, 1993, p. 475). Geach himself, in a later reflection on this period, comments more generally: "Shortly before Wittgenstein's death I often talked to him about Frege; he was pleased at my taking Frege seriously, and gave me much help and advice. I am grateful to learn, from a recently published letter of his to von Wright, that he welcomed my appointment to give

a course of lectures on Frege in the Moral Science Faculty at Cambridge" (Geach, 1991, p. 14).

Geach's interest in Frege's writings actually went further than his lectures. He and Max Black had also embarked on a project, parallel to J. L. Austin's, of translating a number of these writings into English for the first time. Their work would soon result in the collection *Translations from the Philosophical Writings of Gottlob Frege* (Frege, 1952), which would stimulate considerable interest in Frege's work in the English-speaking world. Later Geach would add *Logical Investigations* (Frege, 1977), another collection of translations of Frege's writings. Wittgenstein, who knew of the work on the first of these collections, supported it strongly. Thus Geach reports later:

Frege needs no introduction; but readers may be interested in the remarks Wittgenstein made to me about this work in the last months of his life. He took a good deal of interest in the plan Max Black and I had for a little book of Frege translations; and it was through him that I was able to locate some rare works of Frege—the review of Husserl's *Philosophie der Arithmetik* and the essays 'Was ist eine Function?' and 'Die Verneinung'—in the Cambridge University Library. (Geach, 1977, p. vii)

He then adds a remark that brings us right back to Wittgenstein's correspondence with Frege from 1919–20:

[Wittgenstein] advised me to translate 'Die Verneinung,' but not 'Der Gedanke': that, he considered, was an inferior work—it attacked idealism on its weak side, whereas a worthwhile criticism of idealism would attack it just where it was strongest. Wittgenstein told me he had made this point to Frege in correspondence: Frege could not understand—for him, idealism was the enemy he had long fought, and of course you attack your enemy on his weak side. (p. viii)

In fact, Geach and Black did follow Wittgenstein's advice; they decided not to include a translation of "Der Gedanke" in *Translations from the Philosophical Writings of Gottlob Frege* (Frege, 1952), their "little book of Frege translations." Later a translation of the article was, however, added in *Logical Investigations* (Frege, 1977).

Toward the end of his report about Wittgenstein, in another remark that brings us back to other by now familiar themes, Geach writes: "Of his great debt to Frege Wittgenstein remained conscious to the end of his life. A few days before his death he said to me 'How I wish I could have written like Frege!'" (Geach, 1977 p. viii).<sup>55</sup> The last few days of Wittgenstein's life were in the spring of 1951. On April 29 of that year—twenty-six years after Frege—he died.

## VII. Conclusion: The Nature of Wittgenstein's "Great Debt" to Frege

In my introduction I noted that Wittgenstein's relation to Frege is often understood to be that of a hostile critic, thus Wittgenstein's debt to Frege as being rather minimal. This is still a widespread view, although it is being challenged increas-

ingly. In this essay I have amassed evidence—from Wittgenstein's first encounter with philosophy and with Frege to remarks about him made during the last days of Wittgenstein's life—that the ties between these two thinkers were actually quite strong, both personally and intellectually. Having become more aware of that evidence, one may be tempted to move over far in the other direction now; one may even want to go as far as Peter Geach when he claims: "[T]he most important single influence on Wittgenstein was Frege, and that . . . is true of the late as well as the early work, where the influence is so much closer to the surface" (Geach et al., 1970, pp. 5–6).<sup>56</sup> Or at least one may be willing to grant that significant parts or aspects of Wittgenstein's views have their roots in Frege's work.<sup>57</sup>

It seems to me that there is considerable plausibility to such claims, even to Geach's stronger one. To look back briefly at the evidence discussed in this essay: Wittgenstein's path into philosophy—his first excitement about it, his initial attempts at writing about philosophical issues, his decision to study with Russell, and so on—was clearly influenced strongly by his encounter with Frege and his works. After that, while a student in Cambridge, then also while a soldier in World War I, he kept in touch with Frege, both in person and through correspondence. At the end of this period, shortly before finishing the *Tractatus*, Wittgenstein himself stressed his "great debt" to Frege. Similarly, in the preface to the *Tractatus* Frege's works are mentioned as a major stimulus; and in the main text his name comes up repeatedly. All of this indicates that Frege had a deep influence (whatever the details) on Wittgenstein's first main work.<sup>58</sup> Later, after the *Tractatus* and after Frege's death, Wittgenstein remained actively engaged with Frege's writings, as illustrated by his conversations with Ramsey, Schlick, Malcolm, Geach and others. Moreover, in his notebooks he kept acknowledging Frege as a major influence on his general approach and "style." Finally, some particular themes in Wittgenstein's middle and later writings illustrate further Frege's lasting impact, in particular: the sustained reflections on Frege's criticism of formalist views, which led Wittgenstein (at least in part) to his notion of language game; and the continuing, positive appeals to Frege's context principle, extending from the *Tractatus* through his middle writings to his very last notebooks.<sup>59</sup> In sum, Frege and his works appear, indeed, to have been a crucial influence on Wittgenstein, both early and late—perhaps even "the most important single influence."

Then again, it is easy to go too far in this direction as well. There were, after all, other major influences on Wittgenstein, starting with his Viennese upbringing, his reading of figures such as Schopenhauer, Boltzmann, and Hertz, and especially Russell's initial mentorship in Cambridge. As to the latter, we have seen that Wittgenstein was led to Frege's work initially via Russell's; and his first philosophical writings had as their main topic Russell's antinomy. Furthermore, Russell's works kept having an important influence on Wittgenstein, too.<sup>60</sup> This is true even if, in contrast to Frege's case, Wittgenstein came to dislike Russell more and more personally, did not suggest reading his works with students later on, and used Russellian ideas almost exclusively as a foil in the end. As to Frege's influence, it is also not clear whether Wittgenstein ever really or fully understood some of his main ideas, for example, his distinction between sense and reference or his conception of truth. Arguably, his understanding of them was distorted, especially early on, by his more intimate knowledge of Russell's corresponding views.<sup>61</sup> In addition, like most great philosophers Wittgenstein never simply

adopted an idea from someone else. Rather, he always had to think it through afresh for himself, with the result of adopting a digested, modified variant, if anything. Finally, it is undeniable that in a number of crucial respects Wittgenstein's views are opposed to Frege's. This is already clear from many of the explicit references to Frege in the *Tractatus*; and it does not diminish in Wittgenstein's later work, as the corresponding references in the *Investigations* indicate.

So what is the overall conclusion? How should we assess Wittgenstein's relation to Frege in general? Before answering that question directly, let me add two further cautionary clarifications, now of a more metatheoretic nature. First, there are not just two extreme poles—minimal debt or all-pervasive influence—that are available with respect to assessing this relation as a whole. In fact, there is much leeway in between, much room for more complex, more nuanced stances. W. W. Bartley, in his commentary on Wittgenstein, presents such a more nuanced stance when he writes:

Some persons think of influence in absolute terms, as if to be influenced by someone is slavishly to accept his entire view of the world. . . . But there is another kind of influence which consists in the critical and passionate confrontation with a point of view, in the course of which one absorbs the point of view—i.e., one is able to understand and think in terms of it, and seriously tries it out; withdraws from it whatever is of value—whether theoretical, practical, or in conception of problems; and rejects what is false or useless, and whatever, for any reason, one is incapable of absorbing. In the process one may tremendously clarify and enrich the original idea. Wittgenstein was influenced by Frege in this positive way. (Bartley, 1973, pp. 112–13)

This passage is, in my view, clearly pointing in the right direction. In fact, Wittgenstein's relation to Frege was, if anything, even less "absolute" than indicated—it was not just a matter of "passionate confrontation," "understanding," and "thinking things through further," but also, at least sometimes, of misunderstanding and distortion (on both sides; recall Frege's reaction to the *Tractatus*). In other words, when considered in all its details, their relation was multiform, complex, and rich.

Second, it is questionable whether attempting to rank or quantify Frege's influence on Wittgenstein in any precise way is all that fruitful at this point. It should be clear by now that Frege's role in Wittgenstein's life was quite significant. Perhaps it makes sense, in addition, to argue that Russell's influence was more pervasive and important early on, while Frege's went deeper and lasted longer, at least as far as positive influence is concerned. The comparisons between Frege's and Russell's roles scattered throughout this essay point in that direction. But which one was "the most important single influence" on Wittgenstein overall: Frege's or Russell's (or someone else's)? Well, how could we decide?<sup>62</sup> Also, what would be gained by making such a decision, except perhaps for propaganda or publicity purposes?<sup>63</sup> It seems more important, or more constructive, to recognize both Frege's and Russell's influence as very significant, and then to reflect further on the precise nature of each.

One way of reflecting further on the nature of Wittgenstein's relation to Frege is to compare it not only to his relation to Russell, but also to other close relations between great thinkers. Peter Geach brings up one such comparison when



he writes: "Of each of them [Wittgenstein and Frege] I would use the words Aristotle used of Plato: a man whom the base have no right even to praise. Hearing Wittgenstein on Frege was like hearing Aristotle on Plato" (Geach, 1991, p. 14). Cora Diamond has recently suggested another, more elaborate, parallel:

We might compare Wittgenstein's relation to Frege with Frege's own relation to Kant. Frege's conception of arithmetic developed in great part as a critical response to Kant, but he wanted it to be quite clear that his criticisms were not those of a petty fault-finding spirit vis-à-vis "a genius to whom we must all look up with grateful awe" (*Grundlagen*, p. 101). In Frege's criticism of Kant one can see his sense that the pursuit of issues raised by Kant must be of the greatest value. He attempted to hold on to Kant's insights, sharpening them when he could, and removing what he took to be extraneous or in tension with Kant's most fruitful ideas. It is precisely that combination of great respect and deeply serious criticism, criticism the seriousness of which is itself expressive of respect, which we find mirrored in Wittgenstein's relation to Frege. (Diamond, forthcoming, first paragraph)

She adds: "Throughout his life, Wittgenstein was enormously influenced by Frege. Frege's writings shaped, to a great extent, the problems Wittgenstein confronted in his own thought—and not just the problems, but also methods of approach, and ideas about what could count as a satisfactory solution" (next paragraph). I find both of these comparisons helpful, especially insofar as both point toward the great respect in which Wittgenstein held Frege. Diamond's claim that Wittgenstein's whole outlook on philosophy—its problems, its methods, and so forth—was strongly influenced by Frege also accords well with the general evidence presented in this essay.

This brings me to my own conclusion. Most striking to me about this evidence is the extent to which Wittgenstein himself emphasizes his respect, admiration, even reverence for Frege. To repeat, not only does he write to Frege in 1918 about the "great debt of thanks" he owes him; he also praises his "great works" repeatedly in public, from the preface of the *Tractatus* to his last conversations with Geach in 1951; and he keeps emphasizing Frege's influence in notes to himself, for example, when he lists him as one of a few thinkers whose ideas he "seized on with enthusiasm." Similarly, not only does Wittgenstein keep being actively engaged with Frege's writings after Frege's death; he also suggests to various of his students and friends, from Frank Ramsey in 1922 to Ben Richards in 1950, to read these writings together, thus impressing their importance on them as well. On a more personal level, a cordial friendship between Frege and Wittgenstein develops during the ten years in which they are in direct contact, a friendship again based on mutual respect. Overall, Wittgenstein is deeply impressed by qualities such as the following in Frege's work and personality: seriousness and integrity, single-mindedness and intensity, focus and clarity. Frege's "style" as praised and emulated by Wittgenstein is, thus, not just a matter of literary surface; it extends to deeper, more substantive aspects of method and content, including themes such as the context principle.

Suppose such an overall assessment, based largely on biographical considerations, is correct. What should we conclude from it, especially as far as further interpretive and philosophical work is concerned? From Wittgenstein's deep, life-

long admiration for Frege it follows clearly, it seems to me, that he would have disdained any broad-brushed, unsympathetic criticisms of Frege's works, as can sometimes be found in the Wittgenstein literature today. Similarly, he would have rejected any suggestion that there is nothing to be gained in studying Frege's works, in themselves or in relation to his own works. In fact, I would go further than that; I am convinced that there lies great promise in exploring this relation more, including the various ways, however complicated, in which Frege's ideas did influence Wittgenstein's positively. To do so may, in particular, help us in interpreting and assessing some difficult passages in Wittgenstein's works, both early and late; perhaps also in Frege's. Paying special attention to Frege's continued influence on Wittgenstein may, finally, help us in understanding better the dynamics of Wittgenstein's views, that is, their development from early to late.<sup>64</sup>

#### Notes

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1. For lucid general accounts, see McGuinness, 1988; Monk, 1990, 1996.
2. Wittgenstein's Viennese background, including his relation to thinkers such as Kraus, Loos, Weininger, etc., has also received detailed, book-length treatments; see Janik and Toulmin, 1973; Janik and Veigl, 1998. In these, too, his relation to Frege assumes a relatively minor role.
3. See especially Baker and Hacker, 1980; Hacker, 1986. The same basic assumption also informs, at least to a certain degree, various other commentaries on Wittgenstein, including Monk, 1990. For some early dissenters, see Anscombe, 1963; Geach, 1961; Geach et al., 1970; partly also Dummett, 1981.
4. For recent examples (books and collections) of what I have in mind here, see Weiner, 1990; the first few chapters of Diamond, 1991b; Carl, 1994; the articles in Schirn, 1996; and Ricketts, forthcoming; those on Frege in Tait, 1997; and Floyd and Shieh, forthcoming; as well as many of the articles in this volume; for Frege's philosophy of mathematics, cf. Demopoulos, 1995.
5. For my general point of view concerning Frege's influence on (not only the early, but also the later) Wittgenstein, cf. Reck, 1997. For other recent studies that make Wittgenstein's relation to Frege their focus, cf. Diamond, forthcoming; and, in a different way, Kienzler, 1997. I will come back to Diamond's and Kienzler's work later.
6. For Wittgenstein's Manchester period, see Mays, 1961; as well as Mays, 1955, 1967.
7. See Appendix A in Russell, 1903, pp. 501–22. Conversely, Frege mentions Russell in an appendix to Frege, 1893/1903. Brian McGuinness discusses the possibility of Wittgenstein having encountered Frege's or Russell's writings even earlier, perhaps as early as during his student days in Berlin; see McGuinness, 1988, pp. 54–76. But the evidence for that is meager, as well as in conflict with Rhees's and similar reports.
8. Most commentators believe that Russell is mistaken on this point, i.e., that Wittgenstein first went to visit Frege and was sent to Russell by him; cf. Monk, 1990, p. 36; McGuinness, 1988, pp. 73–76 (who is relatively cautious in this respect); earlier also Bartley, 1973, p. 14.
9. It is brought up in McGuinness, 1988, p. 74, and discussed briefly in Monk, 1990, pp. 30–33. P. E. B. Jourdain, from whom we have the main evidence here (see below), calls it "a Wittgenstein curiosity"; see Grattan-Guinness, 1977, pp. 112–18, also p. 139.



10. See Monk, 1990, p. 32.

11. Ray Monk comments: "That Wittgenstein sent his solution to Jourdain rather than to Russell or Frege perhaps indicates some degree of tentativeness. He presumably came across Jourdain's name in a 1905 issue of the *Philosophical Magazine*, which contains an article by Jourdain on the foundations of mathematics and an article by his professor at Manchester, Horace Lamb" (Monk, 1990, p. 33).

12. Ivo Grattan-Guinness, the author of *Dear Russell—Dear Jourdain*, in which Jourdain's notebook entry is published, comments: "[T]he legitimacy of [this] passage seems undisputable; but the details of the relationship between Wittgenstein, Jourdain, and Russell are not clear. Jourdain's reference to a 'reply' to Wittgenstein indicates that the contact was with him rather than with Russell, and probably in a written rather than a verbal form. Wittgenstein was at Manchester University or abroad at this time . . . and may have seen Jourdain's address at the bottom of one of his papers. If he did write, then unfortunately Jourdain did not put the correspondence in his surviving notebooks. No direct contact with Russell is implied, but the subject matter is Russell's paradox, and it seems impossible that Jourdain would not have mentioned to Russell by name this new correspondent who had views on 'solving' his paradox" (Grattan-Guinness, 1977, p. 115).

13. Cf. Rhees, 1984a, p. 214 (immediately after the passage quoted above); also the report by Peter Geach to be quoted below.

14. For the former, see, e.g., Carnap, 1963, esp. pp. 4–6 (although Carnap's personal impression of Frege seems not to have been entirely negative); for the latter, see the preface of Dummett, 1973, in particular p. xii; more extensively Gabriel and Kienzler, 1994; as well as the now available original source (Frege, 1994).

15. For more on Frege's caring relation to his adopted son, Alfred, see Kreiser, 1997.

16. See here Frege's letter to Russell from December 26, 1912, in which he reports the 1912 visit (Wittgenstein, 1961, p. 120, partly quoted below); then Wittgenstein's letter to Frege from October 22, 1913 (briefly summarized by Heinrich Scholz), in which he asks for permission to visit him again (Frege, 1980, p. 265), as well as Frege's letter to Jourdain from January 28, 1914, in which a meeting in the fall of 1913 is confirmed (p. 129, again quoted later in the text).

17. The question of date is of some interest for Frege interpretation. As Geach's report shows, Frege had not entirely given up on his view that numbers are objects by this time. But what exactly his position was is not entirely clear; cf. here Frege, 1996 (i.e., Carnap's notes from Frege's lectures on logic from roughly the same period), and the corresponding remarks in the preface by Gottfried Gabriel.

18. For the 1911 date, see again the report of Wittgenstein's sister Hermine quoted above; for the 1920 date, see the last item in Frege, 1989, a letter from Frege to Wittgenstein dated June 30, 1920.

19. See Scholz, 1976; and the editors' introduction to Frege, 1980; a translation of the introduction to Frege, 1976, for background information; cf. also Veraart, 1976; and, more recently, Hill, 1995.

20. Recently there have been speculations that perhaps important parts of Scholz's archival material were not stored in the university library after all, thus that the Frege *Nachlaß*, or parts of it, may have survived. A new search for it has, however, not yet brought anything to light; cf. Wehmeier and Schmidt am Busch, 2000.

21. Frege, 1989; for some background to this discovery, see the preface by A. Janik (pp. 5–7).

22. A few additional notes by Wittgenstein in connection with receiving these letters and cards from Frege have also surfaced recently; see Wittgenstein, 1992a, e.g., the entry from October 30, 1914 (p. 37, cf. also n. 51), in which Wittgenstein records the receipt of a "very nice note [*sehr liebe Karte*]" from Frege.

23. In an earlier draft of his letter from January 28, 1914, Frege writes: "I had lengthy conversations with [Wittgenstein] before Christmas, and I wanted to write him a letter

about them in order to spin out the thread further [*um den Faden etwas weiter zu spinnen*]" (Frege, 1980, p. 79, translations emended).

24. As the editors of *Philosophical and Mathematical Correspondence* remark: "With Frege's permission, a translation of parts of GGA I appeared in the *Monist* 25 (1915), pp. 484–94, 26 (1916), pp. 182–99, and 27 (1917), pp. 114–27, but Jourdain collaborated on the translation with Johann Stachelroth, and it is not known how much of the translation is due to Jourdain" (Frege, 1980, second footnote).

25. See Wittgenstein, 1961, pp. 97, 99, 100, again 100, and 103, respectively.

26. Detailed analyses of some of these objections can be found in the essays by Diamond, Goldfarb, Proops, Ricketts, Sluga, and several of the other contributors to this volume.

27. In Wittgenstein's parallel *Geheime Tagebücher 1914–1916* (Wittgenstein, 1992a), the focus is even more on ethical and religious issues.

28. See Wittgenstein, 1961, pp. 2, 10, and 29, respectively. For analyses of (i) and (iii) see the essays in this volume by Conant, Diamond, Goldfarb, and Ostrow; for (ii), see Frege, this volume.

29. All the passages from Frege, 1989, are quoted in my own English translations.

30. See the end of the letters from April 9, September 12, and October 15, 1918, but also earlier.

31. As far as the impact of Frege's intensity and seriousness on Wittgenstein is concerned, see also the following report by Peter Geach about his own conversations with Wittgenstein later on (around 1950): "I cannot now remember at what time Wittgenstein began to ask me to go for walks with him. Those walks were rewarding but very tiring; on a walk Wittgenstein never relaxed mentally for a moment, and required the same degree of concentration from me; attempts at light conversations were immediately quashed, and careless talk about philosophy was ruthlessly and devastatingly exposed" (Geach, 1991, p. 13). Whether Wittgenstein was consciously emulating Frege in this respect or not, the similarity is surely striking.

32. This aspect of Wittgenstein's relation to Frege has not been noted much in the literature so far. Lothar Kreiser, in the only reference to it of which I am aware, suggests a connection between Frege's retirement in the fall of 1918, the subsequent sale of his house in Jena, and a "gift from Ludwig Wittgenstein (early in 1918) which made it possible for him to move back to his home in Mecklenburg" (Kreiser, 1997, p. 77).

33. See the letters from April 21, 1916, and June 30, 1917 (partly also that from September 16, 1917), in Frege, 1989.

34. Here I am relying on item XLV/23 in Frege, 1976: "Wittgenstein to Frege, undated. Wittgenstein announces a visit to Frege" (p. 268, my translation). The corresponding letter, itself lost, is placed (tentatively?) between a letter from September and one from December 1919.

35. Cf., e.g., Nedo, 1993, p. 21.

36. Frege, 1989, pp. 17–18.

37. See again Nedo, 1993, p. 22.

38. For further discussions of this particular theme, see Kremer, 1998; and Reck, 1997.

39. For more on these themes, see Geach, 1976; Diamond, 1991b, chaps. 2–6; Diamond, 1991a; Conant, 1989; Conant, this volume; for Frege's side, see also Weiner, 1990, chap. 6; forthcoming.

40. Here I have largely adopted the translation in Monk, 1990, p. 163.

41. For what is probably Frege's most polemical and ironical attack on any writer, see Frege, 1899.

42. Cf. Nedo, 1993, pp. 21–25, for a fuller history of Wittgenstein's attempts to publish his work.

43. Parak, 1992, p. 154 fn. 2.

44. For general information about this period, including Ramsey's visits, see the editorial appendix to Engelmann, 1967, pp. 144–46. For Ramsey's own reports, see the quotations below. In addition, compare the discussion in Kienzler, 1997, chap. 1, which alerted me to some of these traces.

45. For a general, brief chronology of this period, see Nedo, 1993, pp. 26–29. Wittgenstein's meetings with the Vienna Circle are documented directly in Waismann, 1967.

46. See especially the meetings on December 30, 1930, and January 1, 1931, in which parts of *Grundgesetze*, vol. 2, are the topic of discussion (Waismann, 1967, pp. 130–36, 150–51). I was again led to these and some related sources by the discussion in Kienzler, 1997.

47. This claim is defended in detail in Kienzler, 1997. I am also indebted to unpublished work by Wolfgang Kienzler here, as well as to some corresponding conversations. Two qualifications, though: First, Kienzler does not claim that it was Frege's criticism of formalism alone that led Wittgenstein in this direction; he also points to the importance of his concurrent studies of Plato, Augustine, Spengler, Frazer, etc. Second, Kienzler emphasizes the opposition between Wittgenstein and Frege much more than I do; his general thesis is that Wittgenstein wanted to go "with Frege beyond Frege [*mit Frege über Frege hinaus*]." I will come back to such general evaluations in the last section of this paper.

48. While this remark appears in print in *Zettel*, which otherwise contains mostly notes from the 1940s and 1950s, it actually goes back to notebooks from the early 1930s (see especially MS 112, 20/211).

49. I am indebted both to Kienzler, 1997, and to Diamond, forthcoming, with respect to this last paragraph.

50. The same agreement also underlies, somewhat more implicitly, the beginning of §10: "Now what do the words of this language [of the builders] signify?—What is supposed to shew what they signify, if not the kind of use they have?" For further discussion of these passages, see Reck, 1997.

51. See Frege, 1950, p. 73, also pp. x, 71, 116; then Wittgenstein, 1963, p. 14; 1974, p. 63; 1978, p. 344; 1982, p. 118. There are further, more implicit, echoes of the context principle in other works by Wittgenstein.

52. I plan to explore some of the changes in Wittgenstein's understanding of the context principle in future publications. In Reck, 1997, my goal was to establish the continuities and similarities first.

53. See Malcolm, 1966, p. 86; Bouwsma, 1986, pp. xi, 49–51; cf. also Monk, 1990, p. 552.

54. For more on this trip to Norway, see Monk, 1990, p. 574. Monk writes: "He [Ben Richards] and Wittgenstein spent much time reading and discussing Frege's work."

55. See also Geach, 1991, p. 14: "The very last time I saw Wittgenstein we were talking about Frege; taking the book in his hands, he said slowly 'How I envy Frege. I wish I could have written like that.'"

56. The introduction to Geach et al., 1970, is not signed specifically by Geach. But it seems fair to attribute this claim, if not primarily, then at least also to him, as one of the editors of that work.

57. In Dummett, 1973, the basic claim is that many of Wittgenstein's most fruitful ideas have their roots in Frege's work.

58. Recently it has also been claimed that Frege's "Der Gedanke" was influenced by Wittgenstein's early ideas in turn. This claim is more audacious, I think; but see Sluga, this volume, for an interesting defense.

59. Again, the first of these is discussed more in Kienzler, 1997, the second in Reck, 1997. There are others such themes one could mention. For example, Frege's views about the objectivity of logic seem to be tied directly to Wittgenstein's rule-following considerations in his later work; note, in particular, that Frege's main example of an "objective fact" in logic is how one number follows another in a series (Frege, 1950, p. 93). I plan to explore this connection further in a future publication.

60. And not just Russell's works from before World War I; cf., e.g., Wittgenstein's reactions to *The Analysis of Mind* (1921), both in his *Blue Book* and in *Philosophical Investigations*, as discussed in the appendix to Kripke, 1982. I owe this reminder to Leonard Linsky.

61. See again Kremer, 1998, and the essays in this volume by Diamond, Goldfarb, Proops, and Ricketts. In Macbeth, this volume, too, the claim is that Wittgenstein did not really understand some of Frege's views.

62. One numerical fact in this connection, for what it's worth: if one searches Wittgenstein, 1992b, the CD-ROM edition of Wittgenstein's published works, the name 'Frege' (and its cognates: 'Frege's,' 'Freges,' etc.) comes up 91 times. This is second only to the name 'Russell,' which comes up 201 times.

63. I suspect that the strong emphasis on Frege's primacy by Peter Geach et al. (see above) was meant at least partly to serve such purposes. More particularly, it was meant to challenge the status Russell's works had, into the 1950s and 1960s, as the undisputed center of analytic philosophy, including as an influence on Wittgenstein. Frege's ideas were only starting to gain prominence at that point (at least in the English-speaking world). The latter has, of course, changed significantly since then.

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