

## **A Note on Frege's Concept of Language, Or, Does Frege Belong in the Analytic Tradition of Philosophy?**

*Andreas Keller*

Of course, the mathematician, logician, and philosopher Gottlob Frege is part of the Analytic tradition of philosophy, not least through the history of reception of his works within this tradition. And a statement he makes in his work "Begriffsschrift"<sup>1</sup> may even be read as a foundational statement of at least some type of Analytic philosophy. We read there:

If it is one of the tasks of philosophy to break the dominion of the word over the human spirit by laying bare the misconceptions that through the use of language often almost unavoidably arise concerning the relations between concepts and by freeing thought from that with which only the means of expression of ordinary language, constituted as they are, saddle it, then my ideography, further developed for these purposes, can become a useful tool for the philosopher.

So the question in the title is meant as a provocation and an eye-catcher. Of course, Frege certainly is part of the early, formative period of the Analytic tradition.

However, within the Analytic tradition, there is a current of thought that uses logic in a problematic way. With his "Begriffsschrift." Frege is the main founder of formal logic as we know it today. What I find problematic are attempts to use formal logic to try to establish formal theories of semantics of human language and to develop models of human thought based on formal logic or other formalisms. Examples of this tradition include works of Donald Davidson and others on formal semantics and theories of human action, formal theories in linguistics, starting with the foundational works of Noam Chomsky in the 1950s and 1960s, and developments in the field known as artificial intelligence, going back to the same time with the works of people like John

---

<sup>1</sup> Available online at URL =

[http://www.informationphilosopher.com/solutions/philosophers/frege/Frege\\_Begriffsschrift.pdf](http://www.informationphilosopher.com/solutions/philosophers/frege/Frege_Begriffsschrift.pdf), p. 7, (English translation of the German text). German original: Begriffsschrift, Halle 1897, p. VI – VII: "Wenn es die Aufgabe der Philosophie ist, die Herrschaft der Wörter über den menschlichen Geist zu brechen, indem sie die Täuschungen aufdeckt, die durch den Sprachgebrauch über die Beziehungen der Begriffe oft fast unvermeidlich entstehen, indem sie den Gedanken von demjenigen befreit, womit ihn allein die Beschaffenheit der sprachlichen Ausdrucksmittel behaftet, so wird meine Begriffsschrift, für diese Zwecke weiter ausgebildet dem Philosophen ein brauchbares Werkzeug werden können."

McCarthy. In this tradition, we see the underlying hypothesis that human cognition can be described in terms of formalisms or that there is some logic machinery underlying it. If analytic philosophy consists of attempts to clarify concepts and thought by means of logic, Frege is certainly part of it. However, as I want to try to hint at in the following, Frege would probably not have approved of attempts to use formal logic or similar formalisms to develop formal theories of human language and thought.

In one of his articles, “Ueber die wissenschaftliche Berechtigung einer Begriffsschrift”<sup>2</sup> (“On the Scientific Justification of a Concept Script”), Frege made an interesting statement about language. After writing about the deficits of human language, especially its ambiguity and vagueness, he states:

The highlighted shortcomings are due to a certain softness and mutability of language. On the other hand, it is precisely this softness and mutability that gives language its versatility and its ability to develop. In this respect, language can be compared to our hands’ ability to adapt themselves to diverse tasks. However, our hands are insufficient for us, so we created artificial hands—tools for special purposes—and these allow us to do the precise and detailed work which our hands would not be able to do.

The topic of the article is Frege’s justification for introducing his “Begriffsschrift,” or concept script, a formal language for logics and mathematics. Frege compares it to a special purpose tool that allows the hand to do things it could not do alone and that enables it to work more exactly. What is interesting here is the insight that precisely what makes language insufficient for the purposes of logics or mathematics also gives it its adaptability and potential for development. Clearly, what Frege had in mind was not the project of a formal semantics for human language, but an extension of human language by an exact formal tool for special purposes. Later projects for describing the semantics of human language in terms of formal logics or, in the field of “Artificial Intelligence,” by algorithms, sometime refer to Frege, who undoubtedly contributed some ideas towards such a project. But I don’t think he had such a project in mind himself. In contrast, his thinking must be placed in the context of 19<sup>th</sup> century philosophy.<sup>3</sup>

---

<sup>2</sup> “Gottlob Frege: Ueber die wissenschaftliche Berechtigung einer Begriffsschrift,” *Zeitschrift für Philosophie und philosophische Kritik*, 81 (1882): 48 – 56. See also G. Frege, “Begriffsschrift und andere Aufsätze,” I. Angelelli (ed.) (Darmstadt: Wissenschaftliche Buchgesellschaft, 1964), pp. 106 – 114; and G. Patzig (ed.), *Funktion, Begriff, Bedeutung: Fünflogische Studien* (Göttingen: Vandenhoeck & Ruprecht, 1962).

<sup>3</sup> If some formulations in Frege’s text sound rather Kantian—as has been pointed out to me by Robert Hanna (personal communication)—this is certainly no accident. Frege was a student of Kuno Fischer who, in his *Geschichte der neueren Philosophie*, Vol. 3, “Immanuel Kant und seine Lehre,” helped to start the

Interestingly, Frege — referring to human language — speaks of its ability to develop (“Entwicklungsfähigkeit”: this could also be translated as “potential for evolution”). The development of new formal extensions of human language, like Frege’s own conceptual notation, is an example of such evolution.

My own opinion on this matter is that since human language is extensible like this, a complete formal theory of human language, of its syntax and semantics, is not possible. It seems to me that Frege had a similar view. Further down in the article we see that he had an evolutionary or developmental idea of how language, thinking, and technology develop in a circular or spiral-like way. When discussing the possibility of developing an exact notation starting from the less exact everyday language, he states:

[T]he same difficulty also arises in the case of language. Language was supposed to have facilitated the development of reason, but how could human beings have created language without reason? In order to investigate the laws of nature, physical devices are used. These can only be created by an advanced technology which in turn is based on knowing the laws of nature. In each case, the circle is solved in the same way. A progress in physics causes a progress in technology and this in turn enables us to build devices which promote physics. The application to our case is obvious.<sup>4</sup>

Undoubtedly, Frege created the foundations of modern formal logic and this in turn spawned the philosophical programs of logicism and of formal semantics for human language. But in this relatively little-known article Frege is pointing the way

---

Kant-renaissance known as Neo-Kantianism; the third edition of that from 1882 is available online at <https://archive.org/stream/geschichtederne22fiscgoog#page/n10/mode/2up>>. Wilhelm Windelband, one of the primary representatives of Neo-Kantianism, was also one of Fischer’s students. Frege’s use of the word “rein” (pure) in the sub-title of his “Begriffsschrift” is also probably a reflection of Kant’s use of the word. So Frege should certainly be viewed in the context of the Neo-Kantian paradigm that dominated philosophy and science in Germany from the 1860s onwards. I do not intend, however, to go here into the literature that exists on this point.

<sup>4</sup> An example of this helical structure of progress that Frege might have had in mind here is the development of the microscope. One of Frege’s teachers was Ernst Abbe, who was instrumental in the development of microscopy. Frege studied in Jena, a city which, essentially through Abbe’s contributions, became a center of microscope production and optical industry. Progress in physics (the mathematical theory of lenses and microscopes developed by Abbe) led to progress in technology (the advanced microscopes built by Zeiss and Abbe based on Abbe’s equations and calculations), and these microscopes in turn opened up new possibilities for research, e.g., by biologists, and in the context of Jena, think of Ernst Haeckel, who published famous books with pictures based on microscopy; see, e.g., [https://de.m.wikipedia.org/wiki/Datei:Haeckel\\_Diatomea.jpg](https://de.m.wikipedia.org/wiki/Datei:Haeckel_Diatomea.jpg)>.

towards another direction, looking at human language (and thinking) as an artificial creation of humans<sup>5</sup> that is versatile and developing, historic and unfinished, augmentable by formalisms but not based on them. It looks like Frege's aim was not to provide a theory of semantics of human language in terms of logic, but to develop language and thinking further and improve their exactness. His later writings on language may be reinterpreted along these lines: not as an attempt to formalize semantics, as if an underlying logical structure of human language had always been there, but as an attempt to improve the exactness of speaking, writing, and mathematical and philosophical thinking and reasoning.

The later Wittgenstein's comparison of language with an ancient city comes to mind here. Wittgenstein writes:

Our language can be seen as an ancient city: a maze of little streets and squares, of old and new houses, and of houses with additions from various periods; and this surrounded by a multitude of new boroughs with straight regular streets and uniform houses.<sup>6</sup>

Frege erected one of these new regular quarters, perhaps part of the university district of the city, but he did not aim at breaking down the historical center and replace it with straight rectangular streets as well.

The Analytic tradition in philosophy claims Frege as one of their own, at least as their "grandfather." However, we may put this claim into question since "On the Scientific Justification of a Concept Script" (see the original German text and its English translation in this issue of *Borderless Philosophy*, on pp. 78-96), shows that Frege's own thought went in a quite different direction.

---

<sup>5</sup> This is the reason why I prefer to speak of "human language" instead of "natural language."

<sup>6</sup> L. Wittgenstein, *L. Philosophical Investigations*, trans. G. E. M. Anscombe (New York: Macmillan, 1953), §18, p. 8<sup>e</sup>.