

THE CONSTRUCTION OF THE LOGICAL WORLD

FREGE AND WITTGENSTEIN ON
FIXING BOUNDARIES OF HUMAN THOUGHT



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Two Types of Analytic Philosophy

In recent years, several works on the history of analytic philosophy were published. Among other things, they outlined different kinds of *analysis* it explored: logical analysis, conceptual analysis, connective analysis, deconstructive analysis, directional analysis, analysis as explication, etc. (Beaney 2007; 2009) In contrast, in this paper we concentrate on two types of logical *constructing* as employed in the early analytic philosophy:

- (i) constructing of many worlds (of many logical models of the world) with logical means;
- (ii) constructing of one logical world.

The first type was explored by Russell and Carnap. The second type, which will be a subject of special attention in this paper, was pursued by Frege and Wittgenstein. Among other things, the discrimination between two types of logical constructing, as practiced in the early analytic philosophy, can help to face the divide between analytic philosophy of science and analytic metaphysics/philosophy of language that gained prominence in the last few years. The belief that “the drift towards scholastic aloofness has increased and many of [our] contemporaries now pursue projects that strike ... as functionally pointless, often under the self-styled banner of analytic metaphysics” (Wilson 2006, xv) is winning ever more supporters among the core philosophers of science (Ladyman and Ross 2007).¹

In short, our claim is that the first type of logical constructivism we discern, that of Russell–Carnap, is easily applied to the analytic philosophy of science (cf. Demopoulos and Friedman 1985), while the second type, that of Frege–Wittgenstein, is more applicable to analytic metaphysics and in analytic philosophy of language.

Logical Construction of the World

The technique of “logical constructing” was introduced by Bertrand Russell in the paper “On Matter” (1912) and extensively applied in *Our Knowledge of the External World* (1914) and in some papers of *Mysticism and Logic* (1917). According to it, we do not know what material objects really are. However, we have good reasons to assume that they are this or that way. Logical constructions show, in an experimental manner, how things *could* be. In other words, they are *models* of the real world.

The advantages of this conception were methodological: it can help us to treat many specific problems by means of models that are logically sound. Between 1912 and 1914 Russell believed that it is the kernel of analytic philosophy. Following this conception, Russell developed:

- A new theory of matter. It accepted that the world consists of independent (autonomous) units—sense-data and universals—that can be ordered in different logical nets. Out of them, we can construct physical objects. Russell, however, did not claim that physical objects *exist* in that form.
- In *Theory of Knowledge* (1913) Russell set up that there is one primitive epistemological relation and this is subject's relation of acquaintance to sense-data and universals. Judgment, emotions, wishes, and volitions presuppose an act of acquaintance, but they add to it further elements. In terms of acquaintance, and with the help of the new logic (of the theory of relations, in particular), we can construct the whole body of human knowledge.

The flipside of Russell's logical constructivism was the central place *arguments* played in it. To be more exact, Russell believed that arguments:

- (i) can serve as pillars that support logical constructions;
- (ii) they can help to formulate new, fresh logical-philosophical conceptions. The underlying intuition was that we can hit upon important philosophical ideas by means of arguments alone, ordered in logically correct system.

In the *Aufbau* (1928) Rudolf Carnap embraced a similar conception. The objective was “to analyze reality—both physical reality and the social and cultural reality—with the help of theory of relations” (Carnap 1928, § 3). To this purpose, different systems of concept-constructing (or of “constituting”) can be built.² These systems, including that suggested in the *Aufbau*, are not to be considered unique—we can develop their alternatives. Furthermore, every one of these systems can be interpreted in different ways. The system of concepts suggested in the *Aufbau*, for example, has four interpretations.

The Construction of the Logical World Through Drawing Its Boundaries

Russell was convinced that his “scientific method” of logical constructing could help to achieve solid results in philosophy. This is guaranteed by the sound logic on which they are grounded, as well as by the “aseptic” character of their building blocks: both are immune to critical argument, or can be at least falsified by arguments. In contrast, traditional philosophy (the philosophy of Bergson, for example) produces results that are not solid, in the sense that they cannot withstand extensive verification or conclusive counterarguments (Milkov 2007).

In this paper, we shall explore a program alternative to that of Russell and Carnap—the program for constructing the logical world embraced by Frege and Wittgenstein. It suggested another way of achieving solid results in philosophy: by drawing the normative boundaries of the logical world. Importantly enough, what was at stake for Frege and Wittgenstein was not only the “outer” boundary of the logical world (a theme widely explored in the literature) but also its “inner”

boundaries: the bounds between its different areas. In other words, the task was not simply to distinguish between what pertains to and what lies beyond the logical world, what can and what cannot be said; the task was to make fine distinctions in the logical world itself. To use the felicitous expression later coined by the Oxford philosopher Gilbert Ryle, the objective of Frege and Wittgenstein was to draw the “logical geography” of the concepts in logic and philosophy.

Differences Between Frege’s and Wittgenstein’s Constructivism

Of course, there were considerable differences between Frege’s and Wittgenstein’s approach:

Frege’s case is clear. He fixed sharp boundaries in the world of logic already in his *Conceptual Notation* (1879) where he insisted that:

- the Conceptual Notation is to be kept apart from ordinary language;
- logic, mathematics and science are to be strictly separated from psychology;
- confirmation and content of judgment are radically different;
- course of impressions (*Vorstellungsverlaufe*) is not to be confused with the judgment. Etc.

In *The Foundations of Arithmetic* Frege argued that: (i) ideas (*Vorstellungen*) are different from both concepts and objects; (ii) true are only propositions, not concepts (later called the “context principle”); (iii) we must sharply discriminate between concept and object (Frege 1884, x). Etc. Using similar conceptual analyses,³ Frege gradually tailored a new, logical world (later he called it the “third world”) in which strict distinctions are made, for example, between: (i) seeing a thing, (ii) having an idea, and (iii) grasping a thought; these are not to be confused! (Frege 1918, 44) They lie on different planes and are divided by sharp boundaries. Strictly different are also: (i) sense (the thought) and meaning (the truth-value) of a proposition; (ii) function and object; (iii) idea ([*Vorstellung*] it is something private) and thought (it is typically intersubjective) (Frege 1891, 145). Etc.

Wittgenstein’s objective in the *Tractatus* was similar to that of Frege in the *Conceptual Notation*: to advance a new, “perfect” symbolism. However, he spent more space on elucidating how our *thinking* functions with the help of this symbolism. This made Wittgenstein’s conceptual analyses seem contingent.⁴ Indeed, the distinctions he made are solid. But they only serve as instruments for achieving better thinking. Some interpreters, Cora Diamond and James Conant among them, falsely interpreted this point claiming that (almost) all propositions of the *Tractatus* are nonsense.⁵

This tendency in Wittgenstein’s writings increased in 1933–6, when his attention shifted from the relation between symbolism (language) and reality to the relation between mind and reality and, especially, to the role human action plays in it. The hinge that connects the two dimensions, fact and propositions, their *multiplicity*, was replaced by the *rule* we follow when we act; and it is precisely this action that connects the new pair of dimensions: mind and reality. As a result, and in apparent opposition to Frege, Wittgenstein now meant that we do not need sharp boundaries at all. Of course, “you can *draw* one; for none has so far been drawn. (But that never troubled you before when you used the word).” (Wittgenstein 1953, § 68) This, however, does not mean that Wittgenstein abandoned the method of constructing a logical world. In fact, he continued to advance “pure truths” (for example, that the practice—the game—of communication is an

ontological and epistemological atom). These, however, had a rather volatile character. In short, Wittgenstein realized that the solid results his method produces can easily fade away. Still, they cannot be mistaken: indeed, they are “solid”.

A typical example in this respect was the fate of Wittgenstein’s “picture theory” in the 1930’s and 1940’s. Indeed, “if the picture theory disappears from the picture in Wittgenstein’s later philosophy, it ... is not because it was thrown away by the board but because it faded away” (Hintikka 1976, 110).

Boundaries’ Character

The inner boundaries between different philosophical–logical realms and segments Frege and Wittgenstein drew have the character of normative lines. They give rise to “conceptual necessities”⁶ that set up analytic truths. This is the case with the propositions of arithmetic:

The conclusions we draw from them extend our knowledge, and ought therefore, in Kant’s view, to be regarded as synthetic. [The point is that] the fruitful conceptual definitions draw boundary lines that were not previously given at all. What we shall be able to infer from them cannot be inspected in advance.⁷ (Frege 1884, § 88)

And since they are “proved by logical means”, Frege claimed that they are both synthetic and analytic (ibidem). But we can call them for the better synthetic a priori. In *Remarks on the Foundations of Mathematics* Wittgenstein reformulated this position. Mathematical proofs guide us to accept specific concept-formations and the latter, in their turn, change our theoretical perspective (*unsere Auffassung*). That is why the propositions of mathematics are synthetic a priori (Wittgenstein 1956, III, §§ 30, 42). What Frege and Wittgenstein said about the propositions of arithmetic and mathematics was true about all propositions of their logical geography in general. These suggest ever new definitions that alter our way of seeing the world. Their *validity*, however, is analytic.

The Method of Constructing the Logical World

Michael Dummett explained why Frege never returned to the context principle, once he launched it in the *Grundlagen*, this way: Frege was sure that his principle was well-defined so that any new fit of exploring it would be a waste of time. A similar point can also be made about Wittgenstein. Take, for example, the different ways of contemplating *sub specie aeternitatis* Wittgenstein discovered. On October 7, 1916 he wrote: “The work of art is the object seen *sub specie aeternitatis* and the good life is the world seen *sub specie aeternitatis*.” (Wittgenstein 1979, 83e) After nineteen years of silence on this topic, in 1930 Wittgenstein added: “But it seems to me too that there is a way of capturing the world *sub specie aeterni[tatis]* other than through the work of the artist. Thought has such a way—so I believe—it is as though it flies above the world and leaves it as it is—observing it from above, in flight.” (Wittgenstein 1980, 5e) Apparently, when exploring conceptual problems, Wittgenstein often reached results which were so solid that he can also build on them after years of break.

Another instance of this method of working is the aspect-change issue introduced in the *Tractatus* 5.5423 and further discussed in *Zettel*, § 249.

These examples are a felicitous illustration of what can be called the method of philosophical constructing of the logical world that both Frege and the early Wittgenstein followed: the step-by-step “chiseling” of logical–philosophical truths out of their neo-Platonic glop.⁸ This type of constructing sets up a new, logical world in a monolithic form. Its products can be forgotten—they can “fade away”. They cannot be false, however, nor can they be destroyed.

In contrast, the assembly structures of Russell–Carnap can be dismantled; their logically well ordered claims (their chains of arguments) can be left aside. However, such cases are not seen as theoretical dead ends. Rather, they are considered signals that we are to abandon the old construction, resp., the old chain of arguments, and to advance a new one instead, one that fits the facts better. At the same time, we can preserve at least some segments of the old theory. In fact, this was the declared objective of Russell’s “revolution in philosophy” of 1914: “to obtain, as the sciences do, such partial and probably not wholly correct results as subsequent investigation can utilize even while it supplements and improves them.” (Russell 1917, 85) Frege was strictly against this method. The truths are “discovered” once and for all: they are “eternal”.

The Roots of the Two Methods

Apparently, the roots of these two methods of analytic philosophy lay in the role they assigned to language. For Frege and Wittgenstein, there was one language and also one world; for Russell and Carnap, in contrast, there were many languages and many worlds. The latter point hints at that at stake was more than a language—at stake was the kind of ontology embraced in logic.

This point of difference, first underlined in Heijenoort (1967), was extensively elaborated by Jaakko Hintikka. In particular, Hintikka claims that the project for *lingua characterica* advances a conception of language as an inescapable medium of communication; we simply cannot view the world outside it (Hintikka 1979; 1997). It deserves notice that philosophers following Hintikka’s interpretation of the dilemma between *lingua characterica* and *calculus ratiocinator* are often led to explore its relevance for analyzing continental philosophy (Kusch 1989).

We oppose Hintikka’s interpretation, focusing our attention on the fact that the program for *lingua characterica* sees language as connected necessarily with only one reality. In contrast, the program for *calculus ratiocinator* does not make such a claim. To put the dilemma of two different approaches in reaching solid results in philosophy in the terminology of van Heijenoort, while the program of Frege and Wittgenstein was to establish more of a language that is connected with the only world, the program of Russell and Carnap was more of a calculus.

Contemplating Logical–Philosophical Truths

Similarly to the differences between Frege’s and Wittgenstein’s logical constructivism, there were also considerable disparities between Russell’s and Carnap’s logical constructivism. Above

all, starting with his 1903 statement, “the discussion of indefinables ... forms the chief part of philosophical logic” (Russell 1903, xv), Russell was also engaged in conceptual analyses.

This is scarcely true about Carnap. He had practically no experience of “direct contemplation of facts” (Russell 1921, 212), which explains why Carnap badly misunderstood Wittgenstein’s practice of discovering philosophical truths in a fit of deep concentration: a point well documented in Carnap’s “Autobiography”:

When [Wittgenstein] started to formulate his view on some specific philosophical problem, we often felt the internal struggle that occurred in him at that very moment, a struggle by which he tried to penetrate from darkness to light under an intense and painful strain, which was even visible on his most expressive face. When finally, sometimes after prolonged arduous effort, his answer came forth, his statement stood before us like a newly created piece of art or a divine revelation. (Carnap 1963, 25–6)

Carnap was surely unfair to Wittgenstein when he compared him to “a religious prophet or seer”.⁹ Wittgenstein’s objective was not to invent religious truths but logical–philosophical ones. His truths were rigorous and threw light on fundamental logical–philosophical problems. It deserves notice, however, that conceptual analyses were not Russell’s strength. They were also not his main interest which was the logical constructing and advancing long and consistent chains of argumentation. This point shed light on Wittgenstein’s claim expressed in his letter to Russell, the co-author of *Principia Mathematica*!, of 15.12.1913: “Neither you nor I knew ... , I think, a year and a half ago ... what a huge and infinitely strange science logic is.” (Wittgenstein 1974, 45) Wittgenstein meant, of course, philosophical logic, whose task is to set up logical norms.

Apparently, Russell and Wittgenstein also had different talents for philosophy. In short, Wittgenstein was simply not good at systematic reasoning. In this sense, Russell reported that “when there are no clear arguments, but ... only inconclusive considerations to be balanced, and unsatisfactory points of view to be set against each other, he [Wittgenstein] is no good” (Monk 1996, 293).¹⁰ In other words, Wittgenstein was no good at constructing series of logically impeccable philosophical arguments: that was Russell’s forte. At the same time, however, Russell had also noted that “when everything has been done that can be done by method, a stage is reached where only direct philosophical vision can carry matters further. Here only genius will avail.” (Russell 1914, 245) And exactly in such situations, Russell felt that even when he “put out *all* [his] force” he will “only just equal” Wittgenstein’s force, no more (Monk 1996, 252).¹¹

Analytic Dogmatism

The program for constructing a logical world made the philosophy of Frege and the early Wittgenstein rather dogmatic. This is especially well seen in Wittgenstein’s *Tractatus*, where only theses are put forward with no arguments in their support. C. D. Broad felicitously characterized this side of Wittgenstein’s early philosophy speaking about “the highly syncopated pipings of Herr Wittgenstein’s flute” (Broad 1925, vii). Russell tried to persuade his student and friend to change this already in 1912, but without success:

I told him he ought not simply to *state* what he thinks true, but to give arguments for it, but he said arguments spoil its beauty, and that he would feel as if he was dirtying a flower with muddy hands.¹²
(Monk 1996, 264)

Wittgenstein just meant that his logical–philosophical dicta are steps in discovering the monolith, autarchic truth. They do not need any supportive material. This method of pursuit of truth had as an effect a form of “pedagogical dogmatism”. We are referring here to the well-known fact that Frege and Wittgenstein were sensitive to any interpretation of their positions whatsoever. To be more exact, they (Wittgenstein more than Frege) disagreed with:

- (i) all attempts to expose their teachings;
- (ii) any effort further to develop their logical philosophy.

Peter Simons has recently noted that there are two cultures of philosophical teaching that differ in the degree of “tolerance that a philosopher has towards differences of doctrinal opinion with his students, pupils, acolytes, followers” (Simons 2004, 12). In Austrian philosophy, in particular, Meinong, Schlick and Carnap fostered open culture, Brentano, Husserl and Wittgenstein closed. Simons further claims that “analytic philosophy tends to have an open culture, and continental philosophy tends to have a closed culture” (ibid., 11–12). In the lines above, we drew a different picture. There were two leading *analytic philosophers*, Frege and Wittgenstein, who:

- (i) embraced a philosophy of closed culture;
- (ii) were not empiricists but rationalists.

At the same time, there were two other analytic philosophers, Russell and Carnap, who:

- (i) were open for revisions of their teachings;
- (ii) were empiricists.

Frege and Wittgenstein sought to fix—to “discover”—logical–philosophical truths. Since these were considered logical, they saw them as eternal. Nobody, their acolytes including, can add new elements to them. In other words, their “closeness” was not simply a matter of intolerance, or temperament. It was theoretically motivated. At the other pole were the “logical constructivists”, Russell and Carnap, who kept an “open door policy”: the doors of their philosophy were unlocked for criticism, substantial changes and transformations. The philosophical–logical models they suggested were subject to amendments and improvements *per definitionem*.

Epilogue

We started our analysis pointing out that the study of history of analytic philosophy exploring the types of analysis that it developed is rather one-sided. By way of conclusion, we would like to note that the argument of this paper can be also used against Quine’s claim that at the bottom of analytic

philosophy lies the sharp distinctions between analytic and synthetic, or empirical knowledge. This is an important point, since the great majority American historians of analytic philosophy closely follow this thesis of Quine. A typical example in this respect is Soames 2003, who sees the history of analytic philosophy, from Frege to Kripke, as quasi-Hegelian cumulative development (or rather dismantling) of the idea of analyticity. There is no word about the synthetic method of Frege and Wittgenstein! Our point is that there were at least two different conceptions of analytic philosophy from the very beginning, and Quine's criticism is only valid with respect to the logical constructivists Russell and Quine. Frege and Wittgenstein, in contrast, were immune to it.

First of all, Frege and Wittgenstein were not interested in empiricism, reductionism or science—empiricists and philosophers of science were the logical constructivists Russell and Carnap. Wittgenstein clearly declared that point already in his *Tractatus*, 4.1122: "The Darwinian theory has no more to do with philosophy than has any other hypothesis of natural science." As regards Frege, despite the fact that he spoke about science all the time—he deemed to make logic "scientific"—he did that in such fossilized terms that no philosopher of science today will find his position tenable. To be more exact, Frege claimed that natural laws are eternal truths (Frege 1897, 135).

Secondly, Frege and Wittgenstein were not only interested in analytic a priori but also in synthetic a priori truths. In other words, they did not believe that all logical truths are analytic. Hence, even if there are no analytic propositions immune to empirical verification, as Quine claimed, this does not mean that there are no synthetic a priori propositions that cannot be disproved by experience.

Endotes

- ¹ For criticism see van Inwagen 2009.
- ² Correspondingly, Carnap called his opus magnum *The Logical Construction of the World*: that is the way the leading experts on Carnap, A. W. Carus, Michael Friedman, Alan Richardson, and Thomas Uebel, translate *Der logische Aufbau der Welt*, instead of *The Logical Structure of the World*, so translated so R. A. George (Carnap, 1967).
- ³ It deserves notice that one of the few authors who turns attention to the clear difference between these two schools of the early analytic philosophy, logical constructing and conceptual analysis, mistakenly assumes that the practice of conceptual analysis only “emerged from 1929 onwards, when Wittgenstein returned to Cambridge” (Glock 2008, 41).
- ⁴ For reasons why they sound this way see Milkov 2012.
- ⁵ For criticism see Milkov 2003.
- ⁶ In the *Tractatus*, they are more of “conceptual possibilities”. Indeed, Wittgenstein's task there was to discover ever new possibilities (he followed the dictum: “The possibility of every single thing reveals something about the nature of the world” 3.3421) and to delineate them from other possibilities with “sharp boundaries”.
- ⁷ My translation--N. M.
- ⁸ As already noted, it is problematic to speak about “Platonism” in the case of Wittgenstein.
- ⁹ In recent years, this profound misunderstanding of this type of philosophical analysis was perpetuated in the claim that Wittgenstein was not an analytic philosopher at all: at least the later Wittgenstein “might be seen as more like continental than analytic philosopher”. (Morris 2007, 68)
- ¹⁰ Russell's letter to Ottoline Morrell from April 23, 1913.
- ¹¹ Russell's letter to Ottoline Morrell from March 17, 1912.
- ¹² Russell's letter to Ottoline Morrell from May 27, 1912.

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