

# A Database for a *Prototractatus* Structural Analysis and the Hypertext Version of Wittgenstein's *Tractatus*

Luciano Bazzocchi, Pisa, Italy

In my first contribution to the Kirchberg Symposium (Bazzocchi 2005), my interpretation key was Wittgenstein's note at the beginning of the *Prototractatus*. This note helps us not only better understand the notebook's first layer, it also makes it possible to date (in relation to Wittgenstein's letter to Russell dated October 1915) the methodological turn occurring between the first 28 pages and the rest of the manuscript. My second lecture (Bazzocchi 2006), focused on the another implication of this letter to Russell, i.e. the existence of a parallel version of the *Prototractatus*, "written in pencil on scattered sheets of paper". This led to a completely original explanation of the *Prototractatus* compilation and management. I will now show, by means of a dedicated database, a method of approaching the notebook that permits a point-by-point reading of the text in its three-fold structure, as the parallel version on scattered sheets did allow to its author – combining the indexed-sequential organization of the notebook with the hypertextual technique of the loose sheets. In this paper I will only list the main results, leaving the effective database exhibition to the presentation at the Symposium. As an example, I will analyze the critical insertion of proposition 7 in the 1916 *Abhandlung* "edition".

The *Prototractatus* manuscript was recovered by von Wright in 1965 in Vienna and was published – only partially indeed – in 1971. The notebook contains the entire material of the *Tractatus* (except for the thirteen propositions that Wittgenstein added in his own hand on the definitive TS202 typescript), but with different numeration and in an order which follows completely different criteria. It ends with the "Preface", which, except for its conclusive phrase, is identical to that of the final work. Since the *Prototractatus* printed version – and also the detailed parallel later supplied by the *Kritische Edition* of the *Tractatus* (Wittgenstein 1989) – reconstructs the text by the decimal order of propositions, it results in hiding the effective progression of composition<sup>1</sup>; since critics were thus not able to appreciate the original *Prototractatus* text, it was substantially ignored. For a better exegesis of the *Tractatus*, it seems instead that a more careful recognition of its composition steps, as they emerge from the manuscript, is extremely meaningful, when considering the following points: 1) the *Prototractatus* notebook illustrates the detailed order with which the single propositions were inserted in the corpus of the *Abhandlung*; 2) Wittgenstein proceeds in an essentially top-down way, that is composing (and/or extracting from diaries) first the cardinal propositions, secondly first level comments, thirdly the comments to them, last the detail comments: the structural order illustrated in the note to *Tractatus* proposition 1 is thus, on the whole, the compositional order; 3) the process of drawing up, indicated by Wittgenstein in successive sections of the notebook, occupies a very wide temporal arc, that possibly runs from spring 1915 to summer 1918; the succession of its layers testifies in some cases to a progressive conceptual and methodological maturation; 4) *Tractatus* reading by structural plans, following the formal relations represented through the decimal numeration,

would resume therefore the lines of thought originally suited by Wittgenstein himself.

In effect, the first page of the manuscript text,<sup>2</sup> after the title-page ("Logisch-Philosophische Abhandlung - Ludwig Wittgenstein"), the dedication to Pinsent and the maxim, contains six of the seven cardinal propositions. The first page propositions, that correspond almost literally to those of the *Tractatus*, are precisely: 1, 1.1, 2, 2.1, 2.2, 3, 3.1, 3.2, 4, 4.1, 4.2, 4.3, 4.4, 5 and 6. They represent a consecutive line of thought that has some of its completeness prescinding from the "comments" that, by means of the numerical references, will be gradually added. Beginning from the next page, Wittgenstein systematically develops these first propositions, by annotating comments 1.11-1.13, 2.01-2.07, 2.11-2.18, 2.21-2.23, 3.01-3.02, 3.11-3.16 and so on. Although many such sequences do not always emerge immediately in order, and sometimes interfere with one another, they constitute as many horizontal developments that still do not contain, except rarely, more detailed level comments. For example, sequence 2.01-2.07 is equipped, a few lines after, by the comment 2.031, but the remaining 41 developments will only appear between page 48 and page 96 (therefore, several months or even some years after). It is obvious that Wittgenstein's thought develops along parallel lines, clearly evidenced by the decimal numeration, which tend to terminate before there came more punctual deepening and reflections. The first layer of the notebook ends on page 28, after 283 distinct numbered propositions. It was McGuinness (2002) who introduced the term "layer" to discriminate this and other successive notebook sections, recognizable also because of the cross-sectional line traced by Wittgenstein at the end of each of them. The stratification of the notebook is indeed a constant fact, in the sense that every new proposition takes place without gaps in the pre-existent decimal frame. In some cases, when the added sentence is to be positioned in the middle, and not at the bottom, of an existing sequence, the numeration of sequence last part is every time corrected in order to make space for the new incoming one. Every new proposition, in principle, defines therefore a possible stage of development, finished and self coherent: much beloved quality by Wittgenstein, who risked the life at the front and could have died from day to day, but who had promised Russell, in the letter of 22 October 1915, that amongst his papers he would have however found "the last synthesis" of the *Abhandlung*, destined for publication.

The first layer introduces further characterizing elements: it is in fact composed of original propositions that were compiled in relation to the *Abhandlung* and not obtained (for what matters to us) from previous diaries. Moreover, they rigorously consist of a single statement, with distinct numeration: statements which only in the passage to the *Tractatus* will sometimes be merged under a

<sup>1</sup> The involuntarily operated hiding is brought to light by Verena Mayer (1993). She shows how all *Prototractatus* reviewers have been tricked by the sequential printing, that twists the methodology effectively adopted in the manuscript.

<sup>2</sup> The first page of text is numbered by Wittgenstein as page 3; we adhere ourselves here to his pagination, following the attached photostatic copies to the printed edition. It's surprising that one of the more authoritative critical reviewers of the volume, Rush Rhees, would gladly have eliminated just the version in facsimile in order to reduce the price, that he thinks disproportionate to the effective value of the document. He concludes that also so "only libraries and special scholars would buy the [*Tractatus*] earlier version anyway" (Rhees 1973, p. 531).

merely one decimal. Starting instead directly after the separation line on page 28, there appears about thirty consecutive steps (also by multiple statements) entirely achieved from the 1913 Notes on logic; then there are citations from 1914 and 1915 diaries, as well as possibly from the earlier notebook (that can be individuated when they correspond to the notes dictated to Moore in 1914). The citations drawn from Wittgenstein's third diary, that runs from April 1916 to January 1917, belong to a successive layer, with all 36 statements in one block. These run in chronological order regarding the source notebook and without solution of continuity from page 81 until *Prototractatus*' page 86, even if the numerals given to each obviously assign them to widely varying sections of the work. The first 28 pages therefore are constructed in a completely different way from the rest of the manuscript. They define the carrying structure of the treatise: they comprise, even excluding proposition 6 (almost surely inserted in the first page much later), five of the seven cardinal propositions and 48 of the related 52 first level comments.

Analyzing the *Prototractatus* in detail, its dating turns out to be less problematic than what one commonly thinks. The thesis to which McGuinness has converted, i.e. that *Prototractatus*' first 70 pages were composed beginning from June 1915 (McGuinness 1989), can indeed be better specified: the original layer, with all the carrying structure of the job, was already completed within October of the same year. In fact, its propositions turn out to be marked as if in relation to a systematic copy (not on a typescript, as McGuinness thought, but probably on scattered sheets), and the letter to Russell (22 October 1915) makes reference both to the *Abhandlung* notebook and to such a copy on single sheets: "I am collecting it all and writing it down in the form of a treatise. [...] If I don't survive, get my people to send you all my manuscripts: among them you'll find the last summary written in pencil on loose sheets of paper".<sup>3</sup>

One can therefore suppose that in 1915, Wittgenstein already had the essential nucleus of the *Tractatus* in his hands, with the exclusion of branch 6 and proposition 7, and that he was in the process of systematically sifting his other notebooks to extract the best usable parts. The strategy is announced in the note at the beginning of the *Prototractatus*, in which he says that "in between these propositions will be inserted all the good sentences of my other manuscripts". We can presume that the version on scattered sheets was not in tightened numerical sequence (to which indeed a notebook or a typescript, but surely not a package of loose sheets, would be adapted), but is structured into deepening levels by dedicating every sheet to a specific line of comment. It turns out that the allocation of the right decimal number to every new proposition derives naturally from the detail sheet in which it is annotated. The notebook limits itself to recording the additions as they are accepted into the corpus in gestation – in a more and more chaotic succession of numbers, while in effect still perfectly ordered regarding the specific loose sheet to which the proposition belongs. Following the process on the *Prototractatus* notebook, that is anyway the only document we possess, it's therefore possible to track – thanks to the decimal numbers – the increasing logical structure, and also to discover the cross nexuses between the lines of reflection that Wittgenstein is conducting in parallel, on separate, but hierarchically connected sheets.<sup>4</sup> When also

adhering to the final text, it can be established that a sequence of comments from any level can be self-analyzed. And, because historically it was born as a simple series and since further comments have been a posteriori conceived and inserted, several days or even months later, to purposely avoid the alteration of the original linear process of thought, such first examination can be done apart from the detailed interleaving observations.

The best way to reconstruct the composition process is to bring back the single propositions on database items, so as to be able to read the *Abhandlung* in whichever stage of development, by its three carrying structures: a) the chronological order on the notebook; b) the numerical sequence of decimals; c) the recursive structure, by successive deepening plans. If a more dynamic approach is preferred, it can be shown, for each gradually added proposition, the exact point of the structure in which it was put into place, or how it was moved to compose different forms in the not infrequent event of numeration modifications. As an example, starting from the first proposition of the notebook it can be dynamically seen how the hierarchical cascade grows and is accomplished, page by page and phrase by phrase. Such a process illuminates the relative independence of branches that in the sequential printing appear in direct succession. For example, the famous proposition 7 ("Whereof one cannot speak, thereof one must be silent") is composed on page 71, after section 6.1 on logic and immediately following the proposition now numbered 6.4 ("All propositions are of equal value"), but before all the other 6.4 branch sentences (with ethical references), as well as before the 6.2's (on the mathematics), the 6.3's (on the limits of the scientific propositions) and above all before the 6.5's (with hints to the mystic, to the limits of the *Tractatus* and to the metaphor of the ladder to be thrown away after its use).

In effect, in the summer of 1916 the *Abhandlung* ended on page 70, with an observation taken from the 1915 diary: "In logic process and result are of equal value" [*sind gleichwertig*]. For some time, it can be presumed, this proposition remained the last one, in a chronological sense, noted down in the *Prototractatus* notebook.<sup>5</sup> However, the term "*gleichwertig*" continued to dig into Wittgenstein's mind. *Gleichwertig*: of equal value. When he annotated this phrase in the diary, on April 24th 1915, he had in mind identity, equivalence in logical sense; in fact he added: "(therefore no surprises)". He had always used the word "*Wert*", value, in a technical way: the value of a variable, to assign a value. However, beginning from June, in the philosophical part of his diaries he had instead begun to write of the sense of the world, of good and evil;<sup>6</sup> the word "ethics", until then never noted, had appeared twice on July 21th 1916, three times on 24th, three on 30th, and three on August 2nd; and again, on August 5th, October 7th and October 9th, as well as it should have appeared in the last philosophical annotation of the diary, January 10th 1917. By now the word "*Wert*" entails other suggestions. To be of equal value can also mean: to have the same importance for us, to be of value in an identical way. Neither logic nor science are placed at the value level, of the sense of the world; for them to be of equal value in valuational sense can only signify: to be equally of no value.

<sup>5</sup> The last proposition by logical (that is numerical) order, and therefore at the moment the effective conclusion of the *Abhandlung*, was 6.131: "Logic is transcendental". According to McGuinness, the pause of composition would quite run from March 1916 to September of the same year.

<sup>6</sup> In his private diary, Wittgenstein notes: "Last month I long reflected on every possible thing, but strangely I am not able to establish a connection with my mathematical reflections" (6.7.16). Yet the following day, he exclaims: "But the connection will be established! What cannot be said, can *not* be said!". The connection can be only negative: ethics can only be absent from the *Abhandlung*. This seems to be the proper origin of the proposition 7.

<sup>3</sup> Letter cited by von Wright (Wittgenstein 1971, p. 6). Von Wright however gave it a different interpretation.

<sup>4</sup> The exegetic simplification brought by the hypothesis that the flying sheets continued to operate in parallel with the notebook long after 1915, is illustrated in (Bazzocchi 2006).

A new perspective opens. The same locution, unexceptionable from the logical-mathematical point of view, is borrowed to achieve a second meaning, that is unexceptionable too, but differently. Therefore Wittgenstein resolves to take the notebook in his hand again, alluding to logical equivalence in order to design more directly, from the inner side, the limit of what can be said. In a kind of Gödelisation, a proposition internal to the sayable can mean, by reinterpreting the *Gleichwertig*, something about the limit itself, without disregarding the impossibility to speak of it. Therefore, he modifies the last annotated proposition, sterilizing it. It becomes: "In logic process and result are equivalent" [*sind äquivalent*], by freeing the term *gleichwertig*. He traces a separation line and satisfies the debt to mathematics with operation and integer number definitions (closely connected to his more recent result, the formulation of "the general form of the proposition"). He then resolved to touch, although in a negative way, the boundary he had imposed to himself: "6.2 Ethics does not consist of propositions". Propositions and ethics are anti-ethical, and now Wittgenstein possesses the verbal device he needs to show why: on the concept "of equal value", now available, Wittgenstein applies an unexpected semantic shift by generalizing: "6.3 All propositions are of equal value"<sup>7</sup>. It is obvious that "*gleichwertig*" cannot have here the sense of the logical-mathematic equipollence: the reference is to the sense of value. And the reference cannot be other than devaluating: if any proposition is worth (in an evaluational sense) as much as any other, indeed there isn't any value in it; but the latter idea cannot be expressed, without the risk of saying what can only be shown. Up to now Wittgenstein showed it by being absolutely silent about it; the value, so to speak, shone for its absence. Here, he alludes to it in a little more reckless way, with all the "exorcisms" of the case. He doesn't add any comment, but instead places a tombstone that wants to be definitive: "7 Whereof one cannot speak, thereof one must be silent". If then, on this small opening, later on Wittgenstein decided to proceed forward, it's a history that will be reconstructed on another occasion.

If this way of considering the *Prototractatus* is reasonable – in particular in order to illuminate the top-down process adopted by Wittgenstein in collecting his propositions, from high level sequences to the most detailed lines of thought – it becomes useful to read the *Tractatus* not throughout the strict sequence of the decimals, but by homogenous sights, by successive deepening levels. That is, the *Tractatus* reveals itself to be a hypertextual structure, that from its homepage (largely corresponding to the *Prototractatus*'s first page) opens to recursively nested pages of comment, like in a gradually more detailed hierarchical fractal. It is possible in fact to coherently interpret the decimal numbers like technical specifics in order to construct hypertext pages, assembled in an architecture that one can visit in iconic modalities – analogous to those offered by a modern website. In this way, for example, comments 2.11-2.19 can be picked out at a glance, in a single sequence: more or less exactly as Wittgenstein thought and arranged them originally through the pages 4-6 of *Prototractatus* notebook. The same can be said of the sequence 2.01-2.07 (pp. 4-5), 2.021-2.027 (pp. 26-27), and in general of any other level page, if we reconstruct it exactly by the homogenous grouping that the decimal indication and the composition methodology suggest. Such reading by levels, evidences instead – beyond the independence of the line of thought regarding the subsequent

observations – the tie with the origin sentence that stimulated the deepening and supplies the right context (the correct logical place) for its profitable observation. The visit to hypertext turns out therefore to be profitable in order to relive the thought process put into existence by Wittgenstein (in order to think "the thoughts which are expressed in it – or similar thoughts", as the author wishes in the preface). The hypertext approach leads us through essential ways to formally concluded unitary pages, to homogenous sights to consider and to meditate; parallelly, it reconstructs by spatial intuition and topological relations the logical shape assigned by the decimals to the entire structure. On every virtual page, we find all references and formal, expressive and aesthetic expedients that can represent its sense to us; at the same time, we perceive all around the solid architecture of the whole, that gradually we learn to recognize and to take as reference. The *Tractatus* exploration by hypertextual pages, instead of in strict decimal sequence, is no longer an obliged, uneven route, but it is similar to the immersion into one musical score for several voices, or in one rather huge architectural piece of work. At every visit, we pick up some further particular, and we make a more perspicuous image of the form, the assonances, the sense of the whole.

The two instruments – the database for a punctual inspection of *Prototractatus* strategies, and the hypertext for hermeneutical observation of *Tractatus* views – are thus in a true synergic symbiosis.

## Literature

- Bazzocchi, Luciano 2005, "The Strange Case of the Prototractatus Note", in *Time and History – Papers of 28. International Wittgenstein Symposium*, Kirchberg am Wechsel, 2005, pp. 24-26.
- Bazzocchi, Luciano 2006, "About «die letzte Zusammenfassung»" in *Cultures: Conflict-Analysis-Dialogue – Papers of the 29th International Wittgenstein Symposium*, Kirchberg am Wechsel, pp. 36-38.
- McGuinness, Brian 1989, "Wittgenstein's pre-Tractatus manuscripts", in *Grazer Philosophische Studien*, 33, pp. 33-47
- McGuinness, Brian 2002, "Wittgenstein's 1916 Abhandlung", in *Wittgenstein and the Future of philosophy*, Haller, H., Puhl, K., Wien, pp. 272-282.
- Mayer, Verena 1993, "The numbering system of the *Tractatus*", in *Ratio (New Series)*, IV, Oxford, pp. 108-120.
- Rhees, Rush 1973, "Review of Wittgenstein, *Prototractatus*", in *Philosophical Review*, 82, , pp. 530-531.
- Wittgenstein, Ludwig 1971 1996<sup>2</sup>, *Prototractatus*, B.F McGuinness, T.Nyberg and G.H. von Wright eds., Routledge & Kegan Paul, London.
- Wittgenstein, Ludwig 1989, *Logisch-Philosophische Abhandlung*, Hrsg. B. McGuinness, J. Schulte, Frankfurt.

Email: l.bazzocchi@fls.unipi.in

<sup>7</sup> In the successive year of work, Wittgenstein will add other sections to branch 6, modifying number 6.3 in 6.4 and cancelling by rubber the over cited proposition 6.2.