

Trees, Levels and Ladders

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I would like to propose that; a) Wittgenstein's *Tractatus* is structured following a tree-like fashion and should be read following this framework, by looking firstly at the seven cardinal propositions, then at the comments upon these propositions, then moving on to the comments upon these comments, and so on; b) when regarded in this perspective, not only does the text show great cohesion and perfect consistency, but many of the difficulties generated by the more usual, sequential reading fall away; c) the *Tractatus* really was constructed by successive layering of text, growing the tree level by level, and layer by layer. As a result, if we read the *Tractatus* following the series of commentary, rather than sequentially, we can trace the same progression of thought followed by Wittgenstein himself when compiling his manuscript.

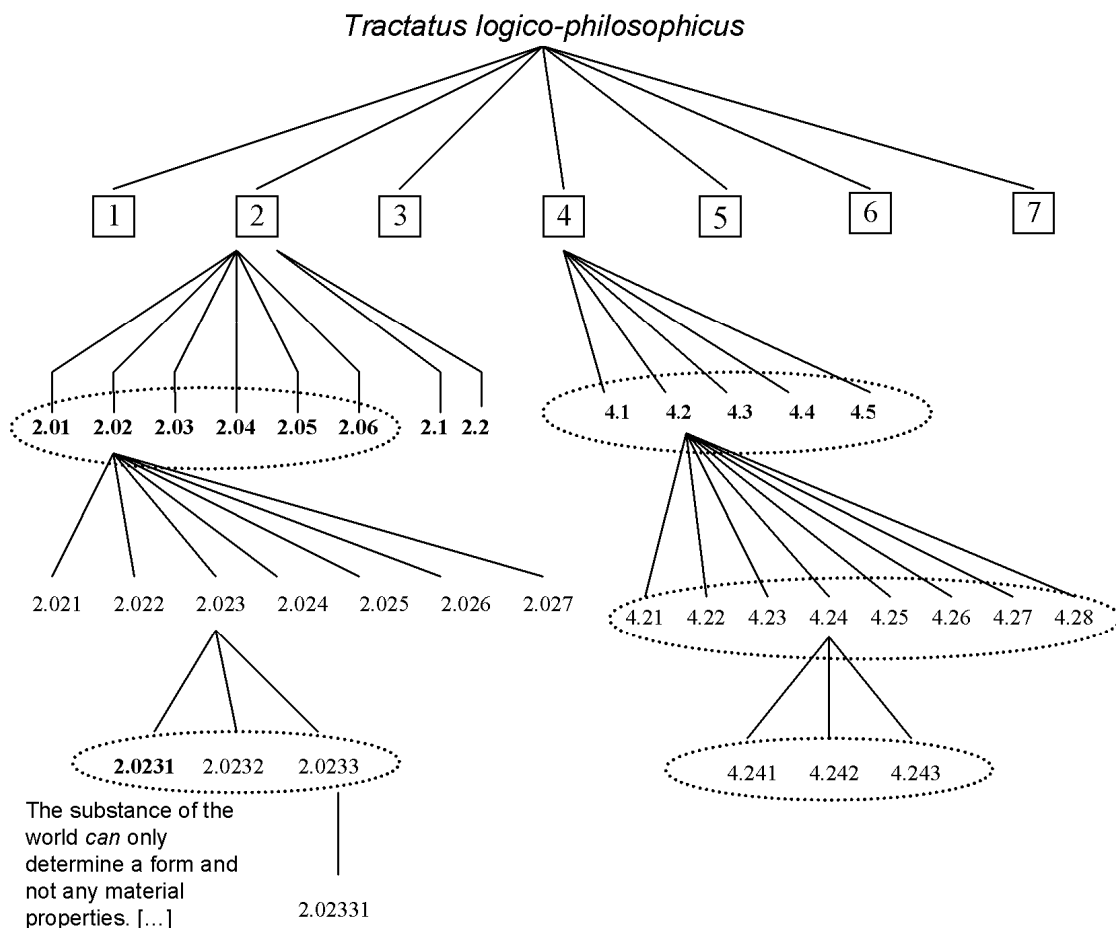
The project of the *Logisch-philosophische Abhandlung* was born when, in spring 1915,¹ Wittgenstein adopted a particular application of decimal coding for his propositions (already used, although only “with reference purpose”², and with completely different modalities, in Russell and Whitehead's *Principia Mathematica*). Decimal numbering enabled him to work in parallel on various related matters, develop his considerations on progressive levels of analysis, and to assign a very specific *form* to his text. In October 22nd 1915, he writes to Russell: “I have recently done a great deal of work and, I think, quite successfully. I am collecting it all and writing it down in the form of a treatise”. It is the hierarchical organisation, based on a numbering system, which gives “the form of a treatise” to the collection of propositions, at that time already existing in different manuscripts. Decimal coding is ultimately “absolutely” indispensable to also understand the finished work. Wittgenstein, writing to von Ficker, insists

¹ The justification for the chronological course assumed here is given in Bazzocchi, 2008b.

² Russell / Whitehead 1927, vol. I, 91.

that, in case of publication “the decimal numbers of [his] remarks absolutely must be printed alongside them, because they alone make the book perspicuous and clear: without the numbering it would be an incomprehensible jumble” (Wittgenstein 1969, letter 5.12.1919, p. 39).

I believe we must truly recognise the decimal numbering, and in doing so, read the *Tractatus* following a recursive process of inspection. The starting point, naturally, begins with the seven cardinal propositions, to be considered in numerical order. Afterwards, for example, as with each of the other cardinal propositions, proposition 4 can be elucidated by reading, in series, its direct remarks, 4.1, 4.2, 4.3, 4.4, 4.5; to go into yet more detail, on 4.2 for example, one may pass to its sub-comments, 4.21, 4.22, ... 4.28; or, return to a previous level, to choose another, different yet parallel, line of analysis. Thus, the *Tractatus* presents itself in this way (in the schema, an oval outline is used to highlight the presence of distinct lines of thought):



The initial chain of seven cardinal propositions represents a first, substantial line of thinking. Conceptual meshing occurs naturally, from the termi-

nological connection between each remark and the one that follows: “what is the case” between 1 and 2; “facts” between 2 and 3; “thought” between 3 and 4; “proposition” between 4 and 5: “truth-function” between 5 and 6.

- 1 The world is everything that is the case.
- 2 What is the case, the fact, is the existence of atomic facts.
- 3 The logical picture of the facts is the thought.
- 4 The thought is the significant proposition.
- 5 Propositions are truth-functions of elementary propositions.
(An elementary proposition is a truth-function of itself.)
- 6 The general form of truth-function is: $[\bar{P}, \bar{E}, N(\bar{E})]$.
This is the general form of proposition.
- 7 Whereof one cannot speak, thereof one must be silent.

From our perspective, proposition 7 needs to be taken as complementary to proposition 6. Proposition 6 defines the general form of every meaningful proposition, while proposition 7 declares that nothing else can be meaningful. One might say that proposition 7 serves the function of a clause, “only if” in an “if and only if” definition: a proposition has a sense if, **and only if**, it has the form stated by proposition 6.

When we pass to the commentary on, for example, proposition 4, we read in this way:

- 4.1 A proposition presents the existence and non-existence of atomic facts.
- 4.2 The sense of a proposition is its agreement and disagreement with the possibilities of the existence and non-existence of the atomic facts.
- 4.3 The truth-possibilities of the elementary propositions mean the possibilities of the existence and non-existence of the atomic facts.
- 4.4 A proposition is the expression of agreement and disagreement with the truth-possibilities of the elementary propositions.
- 4.5 Now it appears to be possible to give the most general form of proposition: [...]

We can observe here a repeated, predicative relationship between two subjects. The exact meaning of such similar turns of phrase can be grasped only by comparing their different wordings.

- 4.1 **A proposition presents the existence and non-existence of atomic facts.**
- 4.2 The sense of **a proposition** is its agreement and disagreement with the possibilities of **the existence and non-existence of the atomic facts**.

We see that in 4.1, *a proposition* (**p**) and *the existence and non-existence of atomic facts* (**e**) are directly related, while in 4.2, they have a more mediated relationship. Using the introduced abbreviations **p** and **e**, we get:

- 4.1 **p** presents **e**
- 4.2 The sense of **p** is its agreement and disagreement with the possibilities of **e**.
- 4.3 The truth-possibilities of the elementary **ps** mean the possibilities of **e**.

If we interpret “mean” in 4.3, as equivalence between, “the truth-possibilities of the elementary **ps**” and “the possibilities of **e**”, we can replace the one with the other in 4.4, to get:

- 4.4 **p** is the expression of agreement and disagreement with the possibilities of **e**.

Whatever this may imply, it is evident that even a very simple structural analysis, like that shown above, is unfeasible for a reader of the sequential text, who encounters proposition 4.2 some pages, and thirty statements, after 4.1 and would be hard pressed to realise any connection between them.

From another perspective, looking at the tree, we can easily recognise that, when we arrive at the end of one line of analysis, for instance at proposition 2.02331, this is where the path ends and there is *nothing after* it: we must backtrack to a previous intersection and choose another path. Sequential reading may prove meaningless:

- 2.02331 [...] For if a thing is not distinguished by anything, I cannot distinguish it – for otherwise it would be distinguished.
- 2.024 Substance is what exists independently of what is the case.

All similar situations result in nonsense or, at the very least, risk serious misunderstanding:

- 2.063 The total reality is the world.
- 2.1 We make to ourselves pictures of facts.

Now, let us consider the following quotation:

I want now to turn to the end of the book [...]. Here we have these sentences:

My propositions serve as elucidations in this way: anyone who understands me finally recognizes them as nonsensical, when he has climbed out through

them, on them, over them. (He must so to speak throw away the ladder, after he has climbed up it.)

He must overcome these propositions; then he sees the world rightly.

About what cannot be spoken of one must be silent.

I want to draw attention to a slight oddness in phrasing, slight but deliberate.
[...]

This is the very turning point of Cora Diamond's contribution to *The New Wittgenstein* (Cray et al. 2000, p. 150). In quoting Wittgenstein's text, Diamond pays no attention to the decimal structure; indifferent to it, she specifies neither the numerical codes of "these sentences", nor distinguishes them in any way at all, as if they were three (or perhaps four) consecutive propositions, or they would constitute a continuous clause.³ But, with full evidence, propositions 6.54 and 7 are shown to be in the same structural relationship, or better still, *lack of relationship*, than the sentences of the two previous examples. Following our way of approaching the *Tractatus*' tree, it becomes impossible to read, or to quote, propositions 6.54 and 7 sequentially: they appear on different branches of the tree and belong to different lines of sight. If we wish to extract them from their contexts – as if the book was a mere collection of aphorisms – and put them near one another, we must be fully aware that we are building an alternative text. We must justify this procedure and to be sure we have not altered the original meaning of the sentences. I stress that Wittgenstein's line of reflection from 6.51 to 6.54 (commenting on 6.5) ends with 6.54 and, after this, in the tree of the *Tractatus*, there *is nothing else*. The fact that this simple consideration seems obvious in the case of 2.02331/2.024 or 2.063/2.1, but it does not appear equally evident in the case of 6.54/7, does not modify their structural similarity inside Wittgenstein's numbering system.

That the decimal numbers indicate a different structure to the work, hence a different reading from a merely sequential one, is easily confirmed if you consider Wittgenstein's note at the very beginning of the *Tractatus*. For the sake of clarity, I include it in its original form, together with the

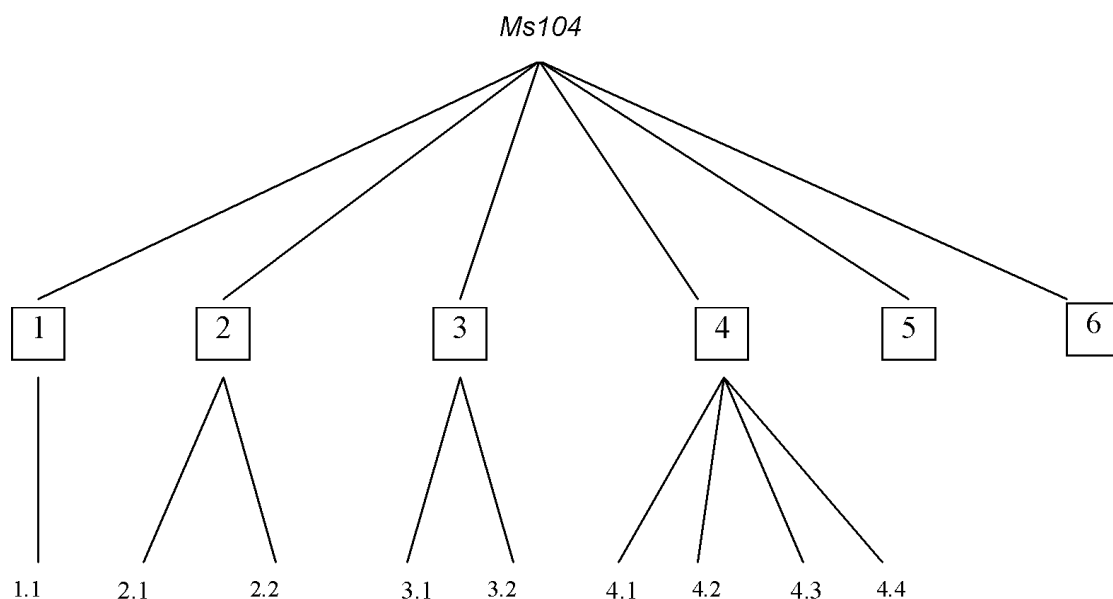
³ This is a very common habit, in particular for those critics who underline the contradictory aspects of Wittgenstein's text. In Black 1964, 378, the two propositions are combined in a unique paragraph, without any typographic distinction.

adjustments⁴, which can be seen on Ts204, one of the final typewritten copies of the book:

[...] ~~The propositions 1, 2, 3, 4, 5, 6, 7 are the cardinal propositions,~~ <T>he propositions n.1, n.2, etc. <are> comments on the proposition n° n; the propositions n.m1, n.m2, etc. comments on the proposition n° n.m; and so on.

In other words, the work *consists* of seven cardinal propositions, of their elucidations, then of elucidations upon these elucidations, and so on.⁵

Yet more convincing evidence can be drawn from the original manuscript of the *Tractatus*. There is no way of composing, in a sequential manner, a text with a complex tree-like structure; it is impossible, even for a genius like Wittgenstein. If we refer to the Ms104 Notebook, on which the *Tractatus* was in fact based, we can instantly see that Wittgenstein does indeed start from the root of the tree, and operates systematically, level by level: from cardinal propositions (first level) to their comments (second level: n.1, n.2, etc.), before adding comments to these comments (third level: n.m1, n.m2, etc.), and so on. Here is the structure of *the first page* of text (page 3 in Wittgenstein's pagination):

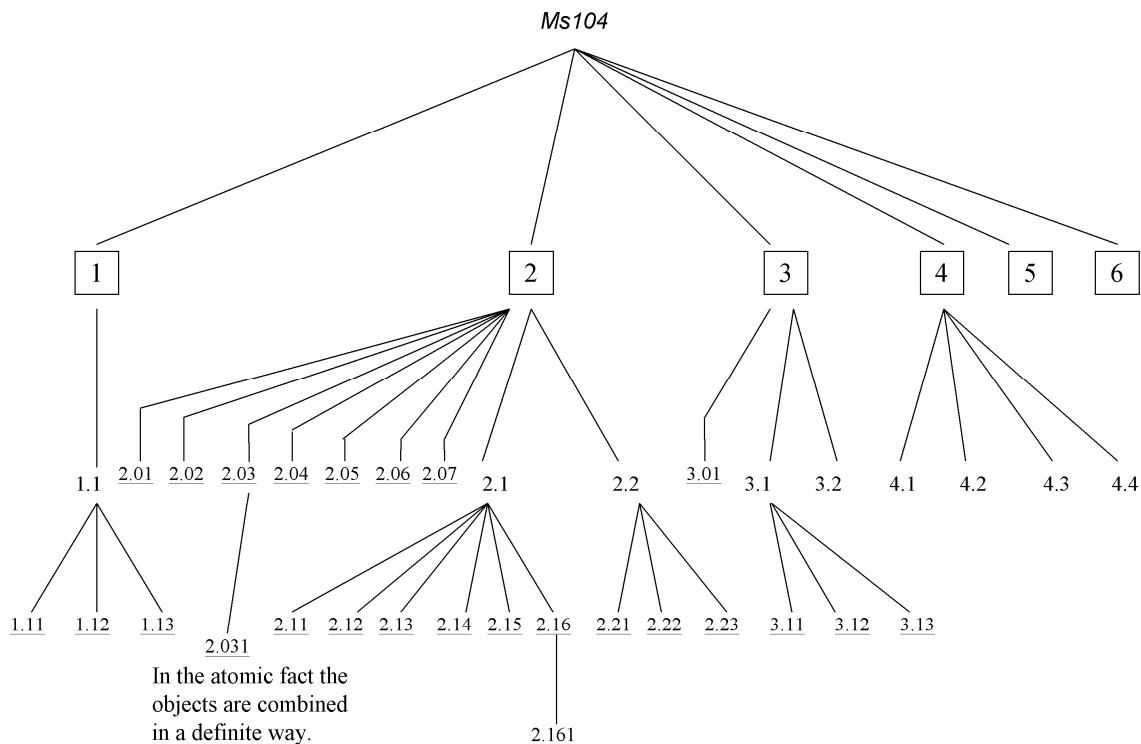


⁴ Often Wittgenstein amends a proposition not because it was incorrect, but because it was *too obvious*.

⁵ From the viewpoint of its decimal structure, therefore, the *Tractatus* does consist essentially of elucidations (see 4.121: “A philosophical work consists essentially of elucidations”).

On this first page, we already encounter six of the seven cardinal propositions, and some second level remarks. (Note that propositions 4.1-4.4 were composed in straight sequence, exactly as we suggest they are to be read. It should now become clear as to why they result in such an immediate connection to each other).

The following diagram shows the contents of the first three pages of the manuscript; in these first pages, the numbers and propositions correspond, in general, to the published version of the book:



Wittgenstein proceeds in horizontal fashion, adding distinct series of remarks to each of the propositions of the main page, without specifying, for the time being (with very few exceptions), comments at a more detailed level. For instance, series 2.01-07⁶ is fully developed within two steps: 2.01-2.02 on the second page, 2.03-2.07 on the third; 2.031 being added only after 2.07 was written down. To limit ourselves to the branches that we depicted in our first schema, we can observe that the third level succession, 2.021-027, was composed only on page 27, with sub-comments 2.0231 and 2.0232. Comment 2.0233 was added on page 94; while fifth level comment, 2.02331, was added on page 96. Similarly, series 4.21-4.28

⁶ The union of 2.06 and 2.07 corresponds to TLP 2.06.

(or its equivalent: TLP 4.28 corresponds to the manuscript's 4.26) appears on page 9; the equivalents of 4.241 and 4.242 are to be found on page 15; 4.243 concludes with page 46.

With regard to the numeration that we find in the manuscript, this top-down procedure – that is, from the first level statements until the remarks of the second, third, fourth and successive levels – is rigorously maintained. First, Wittgenstein composes a, more or less, complete series of remarks, then, even several pages and several months later, he adds more detailed comments to it. At the precise moment that Wittgenstein puts his thoughts into words, he generally doesn't insert the comments that now, in the sequential layout, we can find between these statements themselves. Evidently, the semantics of each horizontal series does not require the remarks that are added later. Consequently, when we read the *Tractatus* in its tree fashion, by distinct chains of remarks belonging to the same level, we are in fact following the original lines of Wittgenstein's reflections. It comes as no surprise to see that, following our way of reading, the text not only appears sensible and logical, but often becomes more meaningful and clearer.

From the other side, the contiguity between the end of a line of reflection and what appears, in the sequential arrangement, as the “succeeding”, higher-level proposition, results in a totally random effect of the linearisation of the tree and may make no deliberate sense. For example, 2.024 was defined 70 pages, and perhaps two years, before 2.02331; the latter being added as a comment on 2.0233, without any interest or awareness that with the final linearisation – required to obtain a printable text – appears immediately before 2.024:

We can say the same about proposition 7. Proposition 7 is composed on page 71, in relationship to an immediately previous enquiry on “the general form of the proposition” (statement 6, just integrated or completed at the bottom of p.3), “of the operation” (statement 6.01, p. 70) and “of the number” (statement 6.02, now TLP 6.03). In addition, proposition 7 appears immediately after a remark that we can rebuild as⁷:

⁷ Its first paragraph was later deleted, reappearing inside a comment of further level. In Bazzocchi 2010a, I complete, in this way, the analysis drafted by McGuinness (1989 and 2002).

- 6.2 Ethics doesn't consist of propositions.
All propositions are of equal value.

An interesting feature of the decimal coding method is that at every phase of its development, the *Abhandlung* can be maintained perfectly coherent and “complete”, ready to be published: this was of crucial importance to Wittgenstein, who might, at any moment, be killed on the War Front. If the compositional work had been stopped at this point, then the last propositions of the linearisation would be 6.2 and 7, as Wittgenstein had arranged them at the end of 1916.

However, a few pages, and possibly several weeks later, Wittgenstein restructures and elucidates statement 6.2 (renumbered in the meantime as 6.3), concluding with proposition 6.33.⁸ Now, the possible “finale” becomes more esoteric:

- 6.33 There is indeed the inexpressible. This *shows* itself; it is the mystical.
7 Whereof one cannot speak, thereof one must be silent.

But, on page 76, this suddenly changes into an apparent neopositivist claim:

- 6.4 For an answer which cannot be expressed the question too cannot be expressed.
The riddle does not exist.
If a question can be put at all, then it *can* also be answered.
7 Whereof one cannot speak, thereof one must be silent.

Soon, it evolves into a more doubtful consideration:

- 6.42 We feel that even if *all possible* scientific questions be answered, the problems of life have still not been touched at all. Of course there is then no question left, and just this is the answer.
7 Whereof one cannot speak, thereof one must be silent.

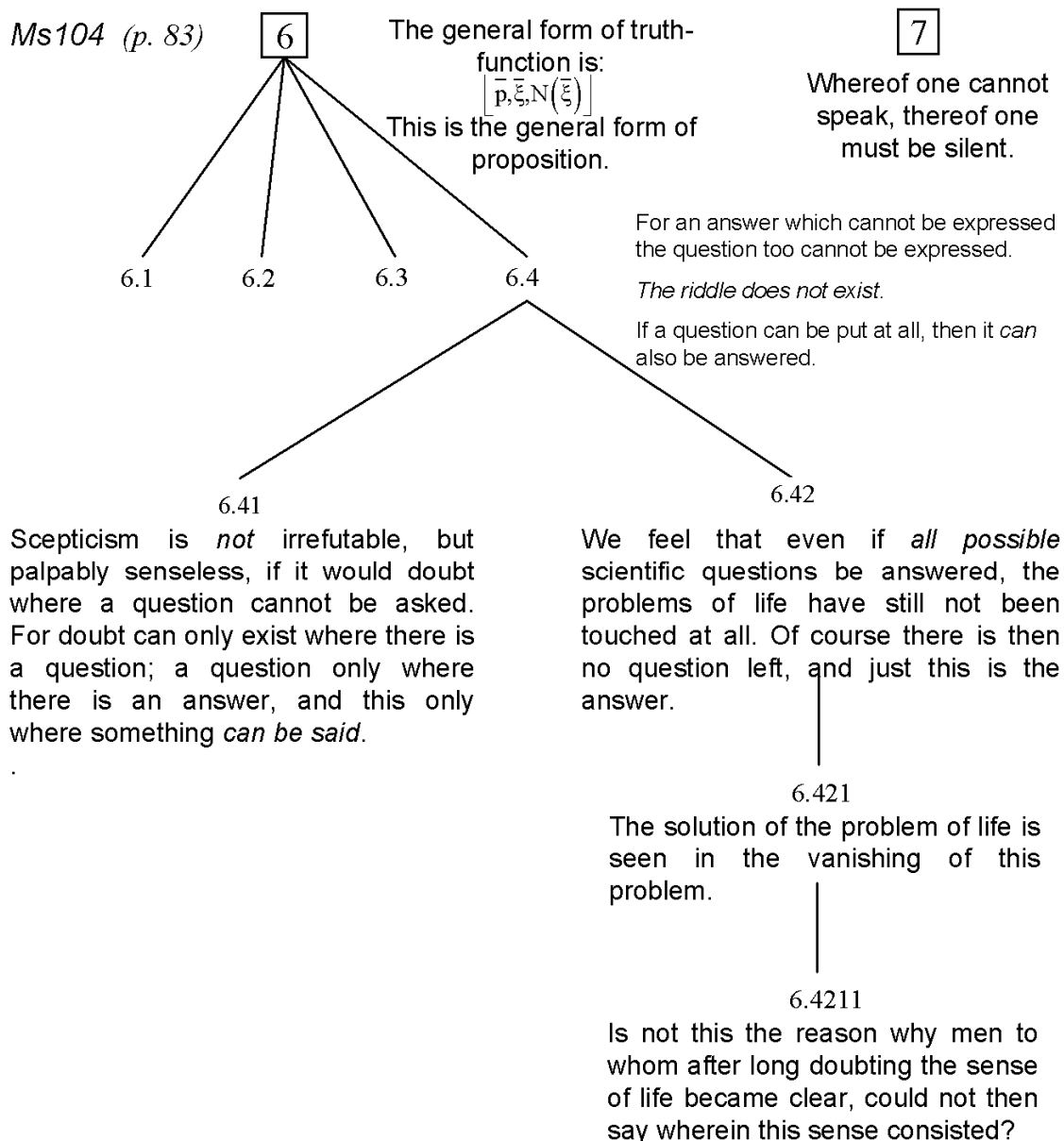
On page 83, however, proposition 7 seems to develop an Aesopian moral:

- 6.4211 Is not this the reason why men to whom after long doubting the sense of life became clear, could not then say wherein this sense consisted?

⁸ Here I follow the manuscript numeration, as it existed during the time I refer to. All the codes of groups 6.2, 6.3 and 6.4 were visibly renumbered as 6.3, 6.4 and 6.5 when Wittgenstein added, to page 101, a new proposition on mathematics, with code 6.2. This effort demonstrates that the decimals *do not have* the purpose of avoiding renumbering, when Wittgenstein needs *to insert* afterthoughts.

7 Whereof one cannot speak, thereof one must be silent.

Of course, we are talking here for the sake of discussion, from an absurd point of view, the point of view of the sequential paradigm; for us, clearly, the meaning of proposition 7 *does not depend* on the presence of whatever sentence has the highest number in group 6. In fact, up to page 83, the structure of the *Abhandlung* was not an equivocal one:



Nevertheless, let us follow the absurd train of thought: when the composition arrives at page 85, the “finale” might appear to be pedagogical advice:

6.43 The right method of philosophy would be this: To say nothing except what can be said, i.e. the propositions of natural science, i.e. something

that has nothing to do with philosophy: and then always, when someone else wished to say something metaphysical, to demonstrate to him that he had given no meaning to certain signs in his propositions.

7 Whereof one cannot speak, thereof one must be silent.

On page 86, the “ending” seems to become completely paradoxical:⁹

6.45 He must surmount these propositions, then he will approach, on the right level, what can be said.

7 Whereof one cannot speak, thereof one must be silent.

In the manuscript, this is later modified to:

6.45 He must surmount these propositions, then he will approach the world on the right level.

7 Whereof one cannot speak, thereof one must be silent.

The obvious conclusion here is that the *Tractatus* has no conclusion in a sequential sense, because it was not composed along a sequential frame, nor was it intended to be observed or read as a continuous sequence, as if its codes did not exist, or, as if Wittgenstein’s ladder was an improbable ladder composed of 526 rungs.¹⁰ I leave it to the reader to judge whether this may have some relevance to the very sophisticated discussion of, and around, “The New Wittgenstein”.¹¹ My idea is that we must first learn to

⁹ Evidently, it is he who surmounts *Tractatus*’ propositions (*included* proposition 7) who realises “what can be said” (“i.e. propositions of natural science”, see the preceding 6.43) and *can* meaningfully talk. The warning of proposition 7 is not addressed to him in any particular way. On the contrary, he has already understood Wittgenstein himself.

¹⁰ Such a ladder would lead us to twice overcome the height of the Statue of Liberty; nevertheless, following Conant’s, “what sort of foothold(s) a given remark provide(s) a given reader in her progress up the ladder [...] depend(s) upon the sort(s) of aspect it presents to her [...] – on the use(s) to which she is drawn to put it in the course of her ascent”. Nor the nightmare seems ended yet: “And then, finally, when I reach the top of the ladder, I grasp that there has been no ‘it’ in my grasp all along (that that I cannot think I cannot ‘grasp’ either)” (Conant, James, in Cray et al. 2000, 217 and 196). At this point, it is no surprise that one is tempted to cling nervously to the ladder, instead of resolutely throwing it away...

¹¹ However, I suggest that we consider that the actual form of proposition 6.54, “then he sees the world rightly”, corresponds to the original “then he will approach, on the right level, what can be said” [*dann kommt er auf der richtigen Stufe zu dem*

draw upon Wittgenstein's decimals, in order to see the *Tractatus* rightly¹²; then can we discuss its meaning better.

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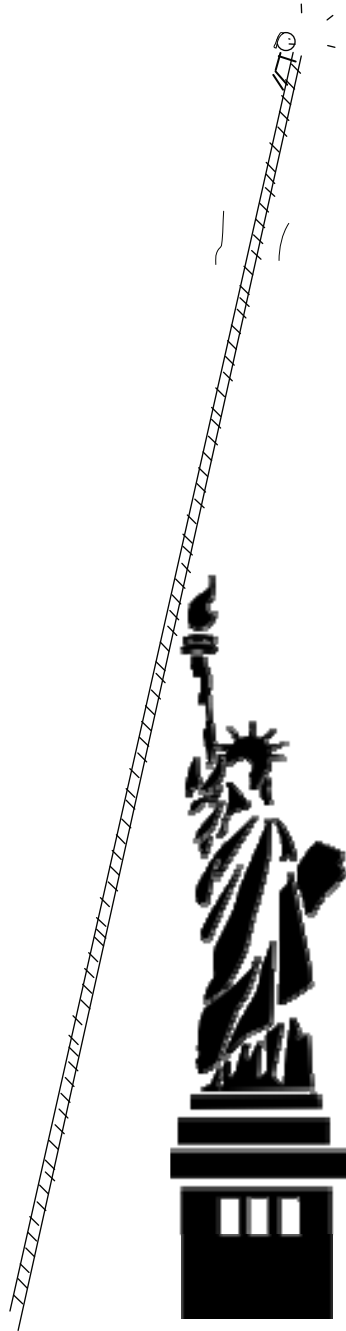
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was sich sagen läßt]. Later, the remark was modified (since what one can speak about is none other than "the world" of proposition 1) into "then he will approach the world on the right level". The question of "the right level" is the leit motiv of the whole book. If we understand Wittgenstein, then we understand that the level to be reached (really, the only conceivable level) is the same level of proposition 1, the level of the facts of the world. It finally becomes clear as to why we are able to throw away the ladder without fear: not because, opportunistically, we have already used it to arrive at the top of some scaffolding, but because there was never anything higher to reach. Wittgenstein's ladder, like Escher's stairs, leads us to the same level we started from; indeed, there was no need of a ladder at all. Wittgenstein's advice about ladders: "If the place I want to get to could only be reached by a ladder, I would give up trying to get there. For the place I really have to get to is a place I must already be at now. Anything that I might reach by climbing a ladder does not interest me" (Ms109, p. 207, 7.11.1930; quoted by Peter Hacker, in Cray et al. 2000, 382).

¹² For a more complete improvement of this perspective, see Bazzocchi 2010b.

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Really can Tractatus' ladder be a ladder with 526 rungs?