

Tractus

logico-philosophicus

L. Wittgenstein

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1.

1. Die Welt ist alles, was der Fall ist.
2. Was der Fall ist, ist die Tatsache, ist das Bestehen von Sachverhalten.
3. Das logische Bild der Tatsachen ist der Gedanke.
4. Der Gedanke ist die sinnvolle Satz.
5. Der Satz ist eine Wahrheitsfunktion die Elementarstze
(Der Elementarsatz ist eine Wahrheitsfunktion seiner selbst.)
6. Die allgemeine Form der Wahrheitsfunktion ist $:\bar{p}, \bar{\xi}, N(\bar{\xi})$.
Dies ist die allgemeine Form des Satzes.
7. Wovon man nicht sprechen kann, darüber muß man schweigen.

1.1 The above should I guess provide a fair summary of what Tractus is all about. Those short sentences are like the sayings of an oracle, they need to be interpreted, commented and elaborated upon to make sense. Each of those sayings, (which may be thought of as titles) with one significant exception - namely the last, are being commented upon, be it in the same laconic manner. And not only that, each comment, is similarly commented upon, leading to a decimal notation, but not *ad infinitum*, the text is short, a mere 80 pages, and thus the depth of meta-comments do not go much further than five steps (such as 6.36311).

1.11 This way of presenting the material makes it of course very quotable, and thus the text has been something of a favorite among students of philosophy. In a sense the author relieves the reader of thinking for himself, he has already chopped up his thought into digestible epigrams.

1.12 The style also have some advantages to its author by incorporating footnotes, as well as their footnotes, (which is already impossible in a regular text) as their footnotes as well etc, naturally into a text. It also makes for non-linear reading, anticipating the hyper-text of the later digital age, although I suspect few readers avail themselves of that possibility. At least not on a first reading.

1.121 One does suspect that Wittgenstein did not write his Tractus linearly. That he might very well have started out with a skeleton more or less like the one above, and then during his writing, adding here and there, just as this numbered remark has been added as an afterthought.

1.2 The oracular presentation makes one at first to suspect that the work is the ranting of a mad-man, something that is not taken seriously by hard-nosed technical philosophers. But on the contrary it was very much, in spite of its frivolous appearance, taken seriously by Russell and his school, as it was later adopted by the logical positivists of the *Wiener Kreis* as a kind of Bible (to which its style was eminently appropriate).

1.21 The author explains in his introduction that much of the material is not original, but originality is not an issue with him, so there are no references at all. Except that throughout the text there are sprinkled references to Frege and Russell, who clearly were of paramount influence.

1.3 From this 'table of contents' one may at least get a rough idea of what the work is all about. Namely the elucidation of a formal language, whose object it is to clarify thought and to delimitate what should be the proper domain of philosophical and scientific exploration.

1.31 To Wittgenstein language is an image of the real world, trying to capture the relations between the facts that make it up.

1.311 The material manifestation of thought is the proposition. Propositions can be true or false, i.e. they may relate or not to the way things in the world hang together.

1.312 The truth of a proposition cannot be derived from the proposition itself. A proposition that asserts itself to be truthful, is just adding another claim that may or may not be true. Thus the power of a proposition is limited, ultimately its truth has to be ascertained by non-linguistic means, conveniently termed 'pointing'. It is the same with law. A written legal coda cannot exert itself by adding a law, that the breaking of its laws is unlawful. A piece of paper is but a piece of paper when left to itself.

1.3121 Thus Wittgenstein derides Freges and Russells attempt to add to a proposition some sign to the effect that the proposition it is true. This adds nothing to a proposition, the attempt is simply comical. You cannot lift yourself by your hair.

1.32 'Sinnvoll' expression is at the centerpiece of Wittgenstein's concern. Anything that can be expressed can be expressed clearly, is one of his major contentions, not so say admonishments. What cannot be expressed clearly, cannot be expressed at all, and there should be not attempt to do so. Expressions that are not meaningful only lead to confusion and the asking of pointless questions, which so has plagued philosophy.

1.321 In fact the ambition of Wittgenstein is to state a clear problem and to give a definite and final solution. So after the 'Tractus' Wittgenstein supposedly felt that there was no need more for philosophy. Its problems had been solved, by specifying in effect what its legitimate problems should be, in particular excluding ethics and aesthetics from its proper concern.

1.33 A proposition can be analyzed in irreducible components, so called elementary propositions *Elementarstze*. There is just one way of decomposing a proposition into its irreducible components, each of which cannot be further decomposed.

1.331 Wittgenstein refers to the elementary propositions as 'Names' clearly referring to Frege. names point to things in the world and are either true and false.

1.3311 This may be a strange way of referring to a name, but the terminology clearly is meant to bring forth the notion of something unique (and irreducible) that may (or not?) exist in the actual world. Names cannot be further analyzed linguistically, they are opaque from the point of view of linguistic analysis.

1.332 Wittgenstein makes a big point of the formal logical structure of a proposition. This is something, just like truth and falsehood, which is not part of the content and meaning of a proposition, but just something that it manifests, so to speak unconsciously and unintentionally.

1.3321 Thus Wittgenstein thinks of propositions formally as functions. The variables are the elementary components of which they are made up. Those variables are either true or false, and the function assigns a truth-value to the proposition as a whole given the truth values of the variables.

1.332101 Functions, according to Wittgenstein, cannot take themselves as arguments. Hence the issue of the Russell paradox does not occur, and the notion of types introduced likewise by Russell is unnecessary. Somehow Wittgenstein makes a distinction between functions and operators which is a bit obscure. Maybe operators are allowed to use their results as arguments, thus allowing compositions with themselves. In this way, given an operator, Wittgenstein proposes to define the integers by iteration.

1.33211 Thus Wittgenstein is credited with having invented truth-tables. No truth-tables as we know them nowadays, are to be found in the text; instead there are some rather typographically awkward attempts to manifest the truth-content of simple compound propositions. The notion of a truth-table must have been implicit in Antiquity, and the only advancement in later day logic must have been the elegant realization that a implication would automatically be considered true, would its first term be false, something which is somewhat counterintuitive.

1.332111 The Swedish philosopher Wedberg claims that explicit truth-tables are to be found among the Stoic philosophers.

1.3321111 With the preceding remark, and even more with the present, the commentary depth of Wittgenstein in his Tractus has been superseded.

1.33211111 It is easy to win at formal games. But formal depth is not necessarily the same as real profundity, as this remark may illustrate.

1.332111111 This remark makes a point, which by now is superfluous to make. It will thus put a period. (Or 'point' as the word is in German.)

1.3322 Propositions that are constants. I.e. either true or false, are referred to as tautologies and contradictions respectively. Those are propositions that exhibit the extremes of propositional behavior so to speak. They carry no meaning. Tautologies being everywhere, contradictions nowhere, to use the simile of logical space, of which Wittgenstein is fond.

1.33221 Tautologies and contradictions constitute the domain of pure logic. In a way, within the multifarious world that there is, Wittgenstein creates a small, orderly world of tautologies. This illustrates the paradox, as well as parody, of formal system. When carried to the extreme, depriving things of meaning, and only preserving the most shadowy of features; the system itself becomes something very concrete, but something rather boring, and far from as exciting as the kind of thing, it haughtily tries to transcend. In particular one can study tautologies for their own sake, as particular propositions, and ask how they can be generated.

1.332211 Something similar was done by Aristotle classifying syllogisms and generating them systematically in an axiomatic treatise that significantly antedated that of Euclid.

1.3322111 But geometry is far more exciting than syllogisms.

1.34 Wittgenstein seems to have swallowed lock, stock and barrel, Russells contention, that mathematics is just a sequence of tautologies.

1.341 He speaks about mathematics being equalities, composed of expressions, and that mathematical proofs, constitute some kind of algebra, in which expressions are replaced by equivalent expressions, with concomitant simplifications.

1.3411 This does not reveal any deeper understanding of mathematics, although in his scheme of things, it is in inevitable interpretation of it.

1.3412 Logic becomes some kind of mathematics, proceeding similarly, but in some purer form, with no connections beyond itself. He notes, that a proposition in logic cannot be distinguished from its proof. The proof is the same thing as the proposition. This has a certain 'logic' to it.

1.342 Wittgenstein speaks about pixels, without using the term. Would it not be useful to think of the formalization of mathematics as the same as breaking down a picture into pixels. Such a presentation is very portable and precise and can thus be manipulated, yet when we actually see a picture, its pixel representation is of no help. We do not experience a picture, pixel by pixel. In the same way we do not experience mathematics logically, atom by atom. There is of course nothing wrong with reducing mathematics to logic in that way, there is in fact a certain 'logic' to it. But it does not give the whole story, in fact it leaves out most of the story.

1.34201 Is the 'logic' of 1.342 the same as the 'logic' of 1.3412 ?

1.342011 Is such a question meaningful at all?

1.3421 Wittgenstein also speaks about breaking down a picture not only in squares (the standard pixel representation) but also into equilateral triangles or hexagons, remarking that one representation might be better than the other depending on the picture. His point is that we may employ different ways of structuring different aspects of the world, some being better adapted to the particular aspects than the other.

1.4 The work is about formal languages and it abhors what cannot be stated clearly and unambiguously. Yet, the most exciting part of the Tractatus is the authors insistence, in spite of himself, to try to express what is inexpressible.

1.41 One particular example of this is 1.312 in which the meta-statement that a proposition cannot by itself say anything about itself is claimed. One of the major insights of early 20-th century formal theory being that one must make a distinction between formal language and the meta-language with which one discusses it. This is clearly, not at least from a philosophical point of view a deeply unsatisfying state of affairs.

1.42 Wittgenstein speaks about exhausting the expressible and thus approaching the boundary of what is expressible from the inside.

1.4201 This is somewhat reminiscent about a set being recursive, its complement not necessarily so.

1.421 The boundary fascinates him, and it is clearly this that motivates his text, although he pretends not. He among other things identifies the boundary with the 'ich' implying that solipsism carried to its extreme becomes identical with realism.

1.4211 But what about the world not complying to our wishes and thus being beyond our will. Is not solipsism about willing the world, being its God?

1.42111 But even in our dreams are we really in control?

1.421111 Would dreams make sense as dreams, if there was no awareness of some kind of ultimate reality of which they are just phantom copies? If there would be no sun,

would we think of the Moon as glowing with borrowed light?

1.422 In one of his oft quoted epigrams, he points out that the 'eye' does not see itself. This does not mean that the eye does not exist, only that it cannot be part of the picture it conveys. (cf 1.41).

1.43 The field of vision knows no boundary. It is S^2 seen from inside, and thus finite yet unbounded. It is rather remarkable, that we cannot think of a line of sight finitely extended, going back to itself, but if not indefinitely extended, prompting the question of what lies beyond.

1.432 Our lives, likewise have no boundaries. Death is on the limit of our life and not part of it. Not part of our biographies as Wittgenstein famously puts it. Eternity is not living on indefinitely, eternity is the absence of time. Thus anybody who can truly live at the moment is experiencing eternity. At the moment in the centre of life, there is no death.

1.4321 Is life an open or closed set? This used to intrigue me and worry me when I was young and learned about the continuum. Is there a last moment of time when you are alive? According to Wittgenstein, your life is an open set, containing no boundary points.

1.43211 Mathematical metaphors are powerful. They can render philosophical profundities prosaic.

1.4322 What happens after our deaths? Do we live our lives again ignorant of the fact that it is but a repeat? (For what time?)

1.43221 If so Buddhism makes sense. (But if so is this really a comfort?)

1.44 What is not expressible cannot be expressed. This is almost a tautology, but one philosophical reflection is very slow to digest. (Cf 1.32 and further commentaries). You cannot give the coordinates for a point that does not exist.

1.441 A picture cannot depict anything geometrically impossible, but it can depict things which are physically impossible.

1.4411 Is this a good way of making a distinction between geometry and mechanics?

1.4412 Is it not true that you can depict impossible figures?

1.44121 Those figures only become impossible when we try to interpret them 3-dimensionally, taking their visual clues literally. You clearly can construct real solid 3-dimensional objects which look like the impossible figures from one particular perspective.

1.45 Wittgenstein is fond of pointing out that many contentions are meaningless, that they are not phrase-able in precise language. But the very pointing out of that fact, is that phrase-able in precise language? Does not the author expose himself to the quip of Collingwood to the effect that the act of rejecting meta-physics is a meta-physical statement. Or the criticism of the positivists by Popper, that their entire program was based on a meta-physical contention?

1.451 An example of this is Wittgenstein's scorn of the claim that there is only 'one' 'one'. This is clever.

1.452 Maybe one should think of those verbal expressions of the author, not as propositions, but as pointing. Using language not symbolically but provocatively. Is this not what is meant by metaphors? The notion not of arguing but evoking, and that it is here that we have the real distinction (metaphorically so to speak) between science and

philosophy.

1.46 Some thoughts can be manipulated, and in doing so consistently and cooperatively it extends much further than a single thought can reach. Thoughts as bricks piled onto each other to make impressive monuments. This is the essence of human progress, this is the essence of science. What can be manipulated and multiplied can be confined to formal schemes. Anything beyond that is useless for the ultimate purposes. But that does not mean that the useless, that which remains at the end of thought does not exist and is not unimportant. Those are the metaphysical intimations that haunt philosophers, and all humans that cannot but reflect. Metaphysical thoughts cannot be piled on each other, they cannot make up systems. They exist as individual thoughts, confine-able to the individual human brain and the epigrammatic formulation.

1.461 Could it have been something similar to the above that has been taunting Wittgenstein?

1.5 How should one interpret the last proposition in 1.? That after it had been written, Wittgenstein condemned himself to eternal silence?

1.51 The proposition, or rather admonishment, does not come isolated, but as a kind of climax. Before that the author refers to the ladder that has to be removed after it has served its purposes. Should one think that the entire 'Tractatus' is in the nature of a ladder, the steps of which one has to climb (one after the other) to prove the untenability of the position it seeks to establish. That the ladder is only meant to get you to a certain conclusion, and once it is reached the ladder is to be rejected. But that the only way to get to the conclusion, to solve the problems of philosophy, is to go through the erroneous process?

1.511 Some people interpret Plato's 'the Republic' in the same way. As a thought experiment which has to be conducted in detail to show its untenability.

1.512 This process is also known as proof by contradiction.

1.5121 How does Wittgenstein accommodate proof by contradiction in his world? The exploration of a possible world (because it is expressible) only to find out that it is impossible. That the world does not adhere to our wishes?

2 Wittgenstein would later repudiate this work. This is not too surprising. Further developments in logic and formal language must have reveal to him the naivety and primitive nature of his main thrust.

2.1 What about adding up all the decimal numbers that have appeared in this review? Will the sum have any significance? What about adding up all the decimal numbers occurring in Tractatus? Has that been done?

2.11 Has Wittgenstein done it? Or would it be something he would recommend readers to do, as being the only sensible thing to do with the text?

2.12 If that would be done, what would it signify? Some kind of pointing? But pointing to what? But do we always need to point at something when we point? Can we not just point for the heck of it?