

6. CONCLUSION

The purpose of this work was to read and to analyse the *Tractatus* from the perspective of its internal concepts and presuppositions. This effort has been consolidated here without reference to Wittgenstein's latter philosophical method, concepts or presuppositions, and without the application of any external devices foreign to his own intellectual development. The mention about the Aristotelian Square of Opposition and the problem about the infinite judgments in Kant are to be developed in the future. The insistence on an internal study of the *Tractatus* has the beneficial effects of making the transitions and ruptures in his Philosophy more natural than would otherwise be the case. Such a perspective sheds light on the organic attempt within Wittgenstein's Philosophy to solve problems which were unsolved and could not have been solved assuming what was assumed since 1914. As we have seen, the concept of a completely neutral and combinatorial logic plays a central role here. I hold that the main change in Wittgenstein's Philosophy deals (both directly and indirectly) with the change in his purist view of logic, which could not take the "completely" wrong track of examining some conceptual or even empirical organization in the world (*cf.* 5.551). The consequences of the famous "*Color Exclusion Problem*" showed him that logic should indeed look at the world, to some empirical organization: finding, therefore, that logic should lose its great computability power in order to be more sensitive to the enormous logical complexity of phenomena and of language. I believe that the largest exegetical gain of this work and of this internal approach is to hold the classical *Color Exclusion Problem*, which brings the *Tractatus* to its collapse and abandon, to be not only a local problem about synthetic or analytic exclusions in paradigm of measurement, but also a general logic problem that leads us to rethink the nature itself of logic. Colors are the illustrative field *par excellence* of the grey zone between what is logical and what is empirical. This problem impel us to consider logic's relationship to empirical degrees, to empirical and logical properties of space and to fields of numbers and mathematical functions.

The *Color Exclusion Problem* does not restrict itself to the *Tractatus* as we often read in secondary literature and manuals. It can be named as a cluster

problem. It is indeed a greater problem than the problem of ascribing degrees to empirical qualities, as Wittgenstein himself saw in his return to Philosophy in 1929. We see ourselves though as we were automatically inserted in a classical Aristotelian problem. We are also brought to a discussion about the limits of expressibility of algorithms or notational systems inside a paradigmatic attempt of reducing contrary exclusion in terms of exclusions by contradiction. This impossibility of translating some oppositions in terms of others clearly justifies the diagrammatic version of the oppositions square. Symmetrically, we are forced to think in a tractarian context, as to which extent we must be able to reduce all logical implications into tautologies. The truth functional paradigm ceases to work when it intends to be complete and exhaustive, or to cover language in its entirety. Independent from the necessary or *ad hoc* reductions of this “Color Logic” into number, into spatial concepts or in terms of mathematical function, we have to take into account that colors necessarily form a system, a grammar of logical relations which are *not truth-functional*. This means, briefly, that the sense of parts does not guarantee the sense of complexes made up from these very same parts. However, it stands open if some - or, indeed, any - grammatical propositions could be held in any sense as synthetic *a priori*, insofar as it seems to be, at least in this context, an undesired hybrid between logic and *empiria*. As we have discussed, this represents a phenomenological temptation against which Wittgenstein always tried to protect himself.

To some extent, we can state that the collapse and abandonment of *Tractatus* is analogous to the necessity of switching the field from that of propositional logic to a predicative one: we have to exhibit more logical complexity in order to capture our daily intuitions about the validity in different domains. Put more simply, we have the same demand in both cases: the necessity of analyzing a domain in detail, to analyze more properly and sensitively what is inside the propositions and indeed plays a relevant logical role. The logical paradigm with tautologies for analytic truths and contradictions for exclusions does not capture all the relevant logical relations which are already presented in the Aristotelian Square of Oppositions. For instance, we tried to show that the tractarian logic, which is powerful, but not sensitive, cannot express exclusions by contrariety. I am not affirming here that exactly that which happens with the *Tractatus* happens with propositional calculi when we need first order and second order predicates to

be more sensitive to validities. Indeed, we can generate the Aristotelian square of oppositions without predicates, but with modal elements, or quantification or even only with logical operators, such as conjunction, disjunction and negation.

The *Color Exclusion Problem* does not appear only in the passage 6.3751 like the secondary literature maintains but also at other parts when Wittgenstein asserts that only logical necessity exists. In the *Tractatus* he means that there is only necessity in the context of tautologies and contradictions. The tractarian perspective on logic is very attractive because it is powerful, comprehensive, *a priori*, and abstract. It does not contain even the tiniest part of ethics, because it should not contain hierarchies (5.556). As such, the tractarian perspective of logic would not allow an *a priori* exclusion of any possible combination in a domain, because it would reveal itself as a pure combinatorial process.

It has always seemed unlikely to me that such a problem would only appear once in such a condensed and holistic work. Indeed, the *Color Exclusion Problem* has already appeared indirectly in 5.513, when it is affirmed that only one proposition is totally outside of another proposition. The former would be given via the propositional negation of the latter. Clearly, when we have degrees (as we do in cases of gradations or in many propositional systems) we have an explosion of possible candidates for a negation of a proposition – candidates are potentially inexhaustible, with differing strengths. Moreover, we identified that this problem can already be found in the passages 2.0131 and 2.06 in the so called tractarian ontology. Here Wittgenstein conditions the understanding of an object or of a quality to the understanding of a (infinite) space of exclusive concatenations in which said object is inserted, in such a way that these states of affairs could not be logically independent from others.

The key passage which justifies both the imminence of the tractarian collapse and Wittgenstein's natural attempt to refine his capacity for expressibility in the logic of his middle period is the tractarian passage 3.42. One can see that the direction taken in this middle period is a natural consequence of the radicalization of tenets found in this passage: that is, the tenets that to understand a proposition, whether it's about gradation or empirical qualities or not, one must reach through, permeate, capture, thoroughly grasp or *durchgreifen* the whole logical space. This is evident when we understand that a negation never adds anything to a proposition. To be able to understand a proposition negation sends

this proposition necessarily to the logical environment or system to which this proposition has to belong.

The *Color Exclusion Problem*'s distinction in this kind of semantic holism can be found in the sending of a singular (in this case a color but in others, a proposition, or a dash on a ruler) to the whole to which it has to belong (e.g. the color scale, system of propositions, or the ruler itself). To understand a name requires not only to understand the propositions in which it can appear, but to understand the entire system and relations - both internal and external, as with relations between other systems - to which this name belongs.

For me, the key lemma for this tractarian holism (echoing as it does through the middle period of Wittgenstein's Philosophy) is in the middle of 3.3421, by accepting the substitution of "das Wesen der Welt" by something like "interne Eigenschaft einer Grammatik".

"Eine besondere Bezeichnungsweise mag unwichtig sein, aber wichtig ist es immer, dass diese eine mögliche Bezeichnungsweise ist. Und so verhält es sich in der Philosophie überhaupt: Das Einzelne erweist sich immer wieder als unwichtig, aber die Möglichkeit jedes Einzelnen gibt uns einen Aufschluß über das Wesen der Welt."

We have here the movement of presupposing a complex in order to understand a singular, via its possibility, which, in turn, is necessarily inserted in this complex. Furthermore, through the semantic holism, we can also investigate how natural it is to begin the *Tractatus* with its ontological part. Via this Holism, or refusal to separate language and reality, because the world divides into facts, we are able to read all the ontological theses in the "linguistic" part and *vice versa*, including all the problems, as with the *Color Exclusion Problem*. It would be at least odd that in so peculiarly concentrated work, such a problem only could be found close to its end, in the passage 6.3751. The tractarian logic's peculiarity and its holism allow us to talk about a single and a complex in a logical space, without differentiating between a linguistic single and an ontological single, nor between a linguistic complex and an ontological complex. That is, we can deal with their essential logical features without needing to say if we are dealing with names or objects, nor with propositions and facts, nor with language or ontology, respectively. In this way, we do not have (and we are not allowed) to initiate our exegetical efforts from a misleading radical categorical distinction between world

and language. This represents, among other things, the irrelevance of talking about a essential harmony or isomorphism in the *Tractatus*.

In this work, we also investigated the extent to which the tractarian project and the Philosophy of Wittgenstein's middle period were compromised by the search for a perspicuous notation to show the logical multiplicity of facts (initially) and, finally, phenomena. The logical analysis carried out through a special notation greatly determines the form of what is being analyzed, as it brings with its investigation presuppositions. It is clear that, when we have a predicative notation we tend to have an ontology of properties and substances as a result. Even with an analysis crouched in terms of function and argument, we have concepts and objects as its ontological product. The intuition here is largely a Leibnizian one: a symbolic system must be able to follow the syntactic rules of a system in order to represent it. But we already have the deadlock here: Is the notation ultimately a result of – or is it a criterion for – a perspicuous logical analysis? I have intended to present this question here in this work while creating an opportunity for a further development. If we believe (as Wittgenstein did in 1929) that the notation should exhibit logical multiplicity to capture some conceptual concatenations in propositional systems, we clearly find that a more adequate notational system must be a result of a complete linguistic analysis. In the *Tractatus*, a notational system would itself be the normative criterion of propositional sense, separating language exhaustively into three categories of syntactical legitimacy (*e.g.* tautologies, contradictions and contingent propositions) in such a way that what might be outside this classification would be nonsense. This happens with traditional Philosophy, which does not fulfill the criteria of meaningfulness imposed by the tractarian notation.

Referring to the Leibnizian intuition with respect to symbolic and notational systems, we can see, in one turn, several tractarian theses and presuppositions (both metaphysical and operational) that are concentrated and evident in our current-day use of the truth table notation. From this perspective, we can also see the tractarian failures, *i.e.*, its deficiencies of expressibility. We can thus affirm that the *Tractatus* fails where the truth table notation fails. This is because this notation incorporates all the presuppositions (generously metaphysical, because about the essence of all language) that were there. However, we can also see a positive exegetical contribution to the interpretation of the tractarian project.

Moreover, this strategy reveals to us the extent to which metaphysics infuses our secularized present-day use of truth tables in our contemporary manuals.

The tractarian logic can be captured by the truth tables as a purely neutral, complete, sound, combinatorial and mechanical procedure, able to express all logical necessities, that is, in this time, tautologies and contradictions. This notation also represented a criterion for meaningfulness, since contingency was itself the sign of the propositional legitimacy. This all-embracing of the logical connections through the truth tables could not be accomplished because of the lack of sensitivity in expressing the logical relations in a system that comprehends contrary propositions. There, we have some combinations that needed to be *a priori* excluded from the notation. The truth table or the *WF-Notation*, as Wittgenstein used to call it, is an ingeniously simple, complete, powerful, sound and decidable means of propositional calculation and expression. In the truth table, the logical semantics and syntax meet each other perfectly, although, or precisely because of it, it is too abstract and limited. The truth table computability hides the serious limitations of logical expressibility thus directly demonstrating that to work with the truth table is to work over the spoils of a metaphysical failure. Analogous to cases of infinitesimal calculi and monadology, the Cartesian coordinates system and an extensible substance, like mathematical logic itself and Fregean logicism. The truth table and the *Tractatus* indirectly show us that, even when metaphysics is wrong, it can, however, be seminal.

This shift from the *Tractatus* to Wittgenstein's middle period can be seen as a movement of fragmentation and a weakening of the tractarian notion of an absolute logical space and of the truth table as *the* privileged notational means to express logical relations. In the middle period, we had numerous and concurrent systems of propositions and notational systems that were (truth-functional or not) more or less adequate to express the logical multiplicity of those numerous systems. The truth table as the perspicuous notation is, in some extent, also broken into fragments. This fragmentation follows the compositional paradigm's collapse as a parameter for unequivocal and complete logical analysis. By this time, Wittgenstein was indeed thinking about different notations for non-truth functional systems, like the octahedron of colors he thought of for the color system. In this diagram it is clear the appeal to the third-dimensionality in order to grasp better the logical multiplicity of the color system, which cannot be captured,

for instance, by the tractarian formal series or by its quantificational devices or by a linear order.

We can risk even more here and maintain that there is an original resemblance between the notions of logical space, phenomenological language, grammar, calculus and language games. In all these elements we have the leadership of a complete system, which defines an exhaustive horizon of articulatory legitimate possibilities in a domain. Thus, here we have a possible basis for a welcome thesis about a continuity in Wittgenstein's Philosophy, in spite of the ruptures, namely *via* an intuition of a general semantic holism. Within the organic evolution of this thought, I hold there is a natural conceptual development in the direction of linguistic practices and actions, whereby to understand a particular entity one is required to understand the complex to which this entity belongs. A particular entity is somehow always inserted in a certain system of rules and practices.

In this thesis we could also investigate the emergence of a new theory of representation or *Bildkonzeption* presented by Wittgenstein in this middle period following his moves to demand more sophistication and sensitiveness in the application of logic. In this middle period we have the fall of the thesis about the independence of the elementary proposition and of the metaphor about the *Bilder* itself. This follows the emergence of the notions of models, expectation, command, the metaphor of systems of propositions as rulers (*Maßstab*) and the centrality of the notion of logical multiplicity. It is interesting to note that Wittgenstein seems to have chosen the “wrong” metaphor in the *Tractatus*: a representation must have been primarily a ruler (*Maßstab*) and not a *Bild*. Although both have to be set against reality, the latter metaphor does not generate the notion of gradation or of extension that the first one does. Logical multiplicity was something marginal in the tractarian *Bildkonzeption*. Put briefly, it was used to guarantee the equinumerosity or co-extensionality between representation and the complex to be represented. While, it is the hallmark of the middle period and the theme of a perspicuous sight into the descriptive linguistic phenomenon. Any representation (or even notational system) must exhibit or account for all articulatory possibilities in its syntax while also systematically excluding all impossibilities. Both in the middle period and in the *Tractatus* a notation must exhibit the rules of a system in such a way that it prevents absurdities. The

notation itself should eradicate logical mistakes (*cf.* 5.4731). This prevention of logical nonsense is something that the truth table, at last, could not do. Such a notation enables the articulation of propositions that cannot be articulated due to its internal elements. We should then be able to look inside the propositions in order to capture their hidden logical complexity and relations.

In this way, the emphasis in understanding this tractarian period (present in Wittgenstein's thinking up until 1931 as this work defends) must sit exactly within the argument for the need for a complete logical analysis of language in order to show its hidden logical ground. That is why we largely used the image of an excavation here: the image of excavation or prospective search helps us to better understand the collapse and abandonment of the *Tractatus*. To abandon the *Tractatus* is neither trying to sophisticate the notational means nor developing more perspicuous *Bildkonzeptionen* in order to capture more complexities of phenomena. It is neither investigating the impossibility of a pure language of the sense data, nor adopting the numbers in elementary propositions to capture the exclusions or implications internal to them. To abandon the *Tractatus* is to abandon the image of a hidden logical complexity in our language, which must be exposed and brought to the surface by a perspicuous logical analysis guided by an adequate notation. Or that our current language must have been in any instance reduced to a deep or hidden logical ground. If we do not need a complete analysis of the language anymore, we do not need either to develop an ideal notation. We do not need to postpone the investigation of language, by trying to sophisticate our instruments of logical analysis. Nothing is hidden. We have at our disposal now and ever everything that we need, that is, *die Grammatik* of our daily language. The natural consequence would be the dissolution of misleading philosophical questions and nonsense. The mature Philosophy of Wittgenstein is born here, at this point. And it is developed naturally - without conversions, schizophrenia or dualism of personality. If we cannot organize our concepts or ideas in such a way but that logical problems always emerge, the most natural strategy to solve them is to try to understand what was wrong in our former presuppositions and/or images.