Wittgenstein's Ways

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Abstract

Already Aristotle spoke about different modi, or ways of being. Surprisingly enough, in the modern literature the discussion of this concept is very limited. This paper discusses Wittgenstein's constructivist ontology of ways. Wittgenstein's ways are different both from modi and from tropes. In short, his ontology of ways explores the manners in which the elements of one ontological system can be arranged so that ontological systems of higher order are produced. The advantage of this ontology is that it suggests an elegant solution to the problem of the emergence of systems of new order, such as matter, space, life, mind, and works of art. The concluding section presents examples of using this ontology as a model for treating "really hard problems" in the philosophy of biology, anthropology, and cosmology.

Keywords: construction, emergence, modality, ways, Wittgenstein

1. What are the Ways?

Aristotle explored different modes (*qua*) of being. Unfortunately, in modern literature, discussion on this concept has been largely neglected. A possible exception was Roman Ingarden, who investigated it in his *Time and Modes of Being* (1964).

Even more neglected is the concept of *ways* as a specific type of mode. Interest in this concept has increased only in recent years. Some authors explore it in connection with the ontological status of universals and particulars. For example, one claims that universals (for example, the shape of my house) are the different ways in which the building blocks (the particulars) of the object (my house) are ordered (Berman 2008, 220). The Trope Theory of Ways argues in a similar vein (Simons 1994).

Closer to our approach but developed in another direction is the discussion on constitutional relation by Barker (2000) and Zangwill (2012). They consider constitutional relation as a primitive and unanalysed notion. It cannot be reduced to other, more fundamental relations. Unfortunately, these two authors fail to suggest a conception that convincingly explains the emergence of new ontological orders.

In this paper, we will discuss the ontology of ways that employs the concept of construction (constitution) as well as of modal entailment. It defends hierarchical organization of the

being with many levels of ontological dependence. To be more explicit, we will explore Wittgenstein's conception of the ways of arranging a set of elements of one ontological level that produces a new ontological level. Its main advantage is that it sees the emergence of new entities like matter, space, life, mind, works of art, etc., as the construction of new ontological levels from the old ones.

To be sure, not every arrangement of the elements of one ontological level leads to the emergence of a new ontological order; it only takes place in specific cases. Moreover, most often, one cannot produce a new ontological level according to plan. However, the fact that we cannot predict the exact way of arranging individuals of one ontological level, which will produce a new ontological level, is not a valid argument against the constructivist ontology of ways. Scientific knowledge of human anatomy also fails to predict how life emerges from the analysed structure of the body. Nevertheless, it is a useful discipline that helps the most in our efforts to learn more about how our body functions.

Wittgenstein's ontology of ways is not reductivist but deductivist, in the sense that he rejects the view that entities of higher ontological orders are reducible to entities of lower order. However, Wittgenstein supports the view that the former are *deducible* from the latter, with which they stay in contact. This happens because they are ontologically dependent. Furthermore, Wittgenstein does not reject the emergence of higher ontological orders. He denies that the emergence is a product of an occult process, though (see § 6, (iv)). Moreover, Wittgenstein explores how exactly the new ontological order comes into existence.

2. Frege, Husserl, and Russell

The early analytic philosophers, Frege, Russell, and Husserl were the first to intensively discuss the constructivist ontology of ways.[1] Frege maintained that the sense of the sign is determined by the way (*die Art*) of its presenting (Frege 1892, 158). Though he did not explore the sense of the proposition in similar terms (as we will see in § 3, [ii], only Wittgenstein did this), we can construct it accordingly as the way in which the elements of the proposition are combined.

Husserl held that different types of mental acts (*noeses*) are the specific ways (*die Weise*) in which the human mind (the 'Ego') is directed to its objects (*noemata*) (Mayer 2009, 70–1;

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[1] Many historians of philosophy agree now that the early Husserl was an analytic philosopher.

Husserl 1901, ii, 761). Since mental acts have a constitutive function in Husserl's ontology, the objects of the external world are only given by the way in which they are grasped.

However, the first person to explicitly and most innovatively explore the concept of "way" in the constructivist sense was Bertrand Russell. In his paper "What is Logic?" Russell defined that discipline (logic) as the study of the forms of complexes. Russell further claimed that these forms are nothing but 'the way the constituents of complexes are put together' (1912, 55). The constituents of a proposition are united neither by their "organic unity" (Moore) nor by the "context principle" (Frege), but by the way in which they are ordered.

Russell had great hopes from the introduction of the concept of ways into his ontology. He believed that it could help eliminate superfluous entities, such as propositions and logical constants. Importantly enough, Russell's programme was not reductive but merely eliminative.[2] As we will see shortly, it massively influenced Wittgenstein's ontology of ways.

The aforementioned steps of elaborating the concept of way presented by Frege, Husserl, and Russell suggest that the interest in that concept was a product of extensive exploration of the problem of analysis. That such exploration can be fruitful by discussing the problems of non-reductive metaphysics is well known from the fact that G. E. Moore is today unanimously credited with the introduction of the concept of supervenience.[3] The motivating intuition behind the present paper is that important ideas of the early analytic philosophers remained unexplored by the upcoming philosophical generations. Our objective here is to rationally reconstruct perhaps the most fruitful of them: Wittgenstein's constructivist ontology of ways.

3.   The Early Wittgenstein: Six Ways

A full-fledged ontology of ways (*Art und Weise*) as a means of producing ontological stages of a different order was first elaborated in Wittgenstein's *Tractatus*. Like Russell, Wittgenstein hoped that with its help he could reach the most austere (the most parsimonious) ontology that eliminates much philosophical confusion. Regrettably, Wittgenstein's ontology of ways remained largely overlooked. Also the newly awakened interest in the concept of ways among the ontologists (see § 1) did not change the situation. One reason for this was that Wittgenstein's ontology of ways was only implicitly articulated. Moreover, as we will

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[2] On the difference between reductionism and eliminativism by Russell, see Landini (2003) and Beaney (2016).

[3] Cf. Moore (1922, 261).

see in § 4, this implicitness had its deep theoretical reasons. The task of this paper is to make it explicit and show how resourceful this ontology is.

Wittgenstein developed his Tractarian ontology of ways in (at least) six steps:

(i) *Constructing States of Affairs*. In the *Tractatus*, Wittgenstein maintained that "in a state of affairs [in atomic facts], objects stand in a determinate relation [*Art und Weise*] to one another" (2.031). "They fit into one another like the links of a chain" (2.03). In other words, states of affairs are nothing but "the determinate way_1 in which objects are connected in [it]" (2.032).

By this connection, we have a topologically tight "fitting" (*passen*) of the objects (of their boundaries) of the states of affairs of one and another, in a specific arrangement (in a specific way_1). So, according to this conception, the elements (the objects) in the state of affairs are not connected with the help of a *third element* (a mortar);[4] they stick together through the topology of their boundaries alone.[5] In other words, states of affairs are nothing but collections of invariant items (objects) ordered in a specific way_1. Moreover, the new way_1 in which they are tied together gives birth to the new ontological level: the states of affairs.

Apparently, exactly this kind of ontology urged Wittgenstein to introduce the concept of state of affairs in his logical philosophy. To be sure, the original German word for this term—*Sachverhalt*—underlines that states of affairs are unities composed of objects, or things (*Sachen*), which are interrelated (*sich zueinander verhalten*; cf. Mulligan 1985) in a certain way_1. Moreover, the tight fitting of the boundaries of the elements (things) to one another and, as already noted, not some third element between them, is the cement (the glue) that ties these things together into a whole so that they are not merely loose complexes. Importantly enough, in contrast to Frege and G. E. Moore, Wittgenstein held that the unity of the states of affairs is not "organic" but achieved because of their topology alone.

(ii) *Constructing Propositions via Projecting States of Affairs*. Wittgenstein's next claim was that in the act of copying (modelling) states of affairs through propositions (pictures), the

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[4] "The elements [of the state of affairs] are not connected with one another by anything." (Wittgenstein 1930, 252)

[5] The building blocks of the walls of many Inca constructions in Machu Picchu have similar topological forms of cohesion. These centuries-old buildings were built with stones having boundaries that exactly fitted one another. This fitting together is precisely what made them stay together in good order for centuries.

structure of states of affairs is articulated in a new, strictly determined way$_2$: "What a proposition expresses it expresses in a determinate manner [way$_2$] which can be set out clearly" (3.251). Way$_2$ is thus the new element that the act of modelling (articulating, projecting) states of affairs introduces. It can also be called the *form* of picturing ("pictorial form"), or of projecting, or simply the way$_2$ in which the picture is articulated in time and space.

As it can be expected, the relation between the piece of reality (state of affairs) and its picture is a topological relation of the tight fitting of the elements of the two structures. By its correlation to the state of affairs, the picture "touches" the state of affairs with its "feelers" (2.1515). In fact, only the "end-points [of the feelers …] actually *touch*" the state of affairs (2.15121). Here again, the touch occurs without the help of a third element.

The "hinge" that connects the two elements—state of affairs and its picture—is their "logical multiplicity". It is "what a picture must have in common with reality, in order to be able to depict it—correctly or incorrectly—in the way$_{[2]}$ it does" (2.17).

Apparently, Wittgenstein held that the shared multiplicity (the hinge) between the two structures—picture and state of affairs—(ontologically) depends on the way$_1$ in which the two are composed. Indeed, he maintained that "what constitutes a picture [what makes a picture *picture*] is that its elements are related to one another in a determinate way$_{[1]}$" (2.14). To be more exact, the picture takes shape because "the things are related to one another in the same way$_{[1]}$ as the elements of the picture" (2.151).

Similar is the construction of the propositional sign, or of "the [sensibly] perceptible sign of a proposition" (3.11): "What constitutes a propositional sign is that in it its elements (the words) stand in a determinate relation to one another" (3.14)—in a way$_1$. The way$_1$ in which the elements of the propositional sign are connected shows "how [the way$_1$] things stand" (4.022, 4.5) in the state of affairs.

Among other things, this conception shows that way$_2$ is ontologically dependent on way$_1$.[6] To be more exact, a proposition can project a state of affairs in a certain way$_2$ so that it can model the state of affairs only because the way$_1$ in which the elements of the picture are ordered is the same as the way$_1$ in which the elements of the state of affairs are built. In fact, exactly the identity of the way$_1$ of arranging the elements of both the state of affairs and its picture fixes their shared multiplicity.

That way$_2$ ontologically depends on way$_1$ betrays an implicit principle of the *Tractatus* that deserves attention. This principle maintains that there is a hierarchy of ontological de-

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[6] "States of affairs are *existentially dependent* on its constituent objects" (Simons 2011, 13).

pendencies of ways. As we will see in the lines to come, however, the sequence of these onto-logical dependencies has more of a character of fractals than of a Porphyrian tree. Indeed, the relation between way$_3$ and way$_2$ is not the same as that between way$_2$ and way$_1$, and even more so the relation between way$_4$ and way$_3$, etc.

(iii) *Constructing Thoughts (Application of Propositional Signs)*. The formed pic-tures/propositions, resp. propositional signs can be applied. To be more exact, "a positional sign, applied and thought out, is a thought" (3.5). It goes without saying that the hinge be-tween the propositional sign and its application—the thought—is their identical logical mul-tiplicity.

This is Wittgenstein's answer to the question: What is thought? Thought is not an occult process[7]—it is not a process at all[8]—but an element (a state of affairs) of reality, (logically) projected (transformed) in specific way$_2$ by the propositional sign that is applied (trans-formed) in a specific way$_3$. In a sense, thought is the reverse side of picturing states of affairs, or of the way$_2$ of their articulation. This, however, does not mean that way$_3$ is reducible to way$_2$; it is only ontologically dependent on it. This indicates that entities constructed by ways$_3$ are deducible from entities constructed by ways$_2$.

(iv) *Truth*. Truth and falsity are two different ways$_4$ of relating propositions to states of affairs: " '*p*' signified in the true way$_{[4]}$ what '~*p*' signified in the false way$_{[4]}$" (4.061). It follows that Frege's conception of truth and falsity of propositions as objects is false. They are only forms (ways$_2$) of relatedness of propositions to states of affairs.

(v) *Propositions of Logic (Tautologies)*. An important point in Wittgenstein's *Tractatus* is that human beings copy states of affairs spontaneously, without following acts of their will. It is true of thinking, too. We do not think because we decide to do so. Speaking and thinking are simply parts of human natural history. Alternatively, as Wittgenstein put it, "man pos-sesses the ability to construct languages capable of expressing every sense [and to think about every sense], without having any idea how each word has meaning or what its meaning is" (4.002).

The situation is quite different in logic. Indeed, one constructs propositions of logic (tau-tologies) on purpose. Moreover, in Wittgenstein's *Tractatus*, tautologies are something of an

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[7] Wittgenstein further developed this claim in his *Philosophical Investigations*. Cf. § 6 (iv) below.

[8] This position results from Wittgenstein's non-emergentist stance.

optical instrument that helps us to see—it shows[9]—the form of propositions of science and ordinary language: "The propositions of logic demonstrate the logical properties of propositions by combining them to form propositions that say nothing" (6.121). Exactly this "combining" shows the way$_5$ the logical properties of the propositions are hooked to each other in the *logical knot* they build in order to form their sense. Wittgenstein also called this kind of showing a *method*; in fact, the whole of mathematics is nothing but a logical method that employs equations.

The use of the term "method" here is no accident. Often, when Wittgenstein spoke about active operation with symbols, he used the term "method" instead of "way". As we will see in § 5, the later Wittgenstein frequently spoke about *method*—about the method of verification, for example—instead of way. Without any doubt, this growing use of the term "method" is connected with the increased role of action in Wittgenstein's later philosophy. Ontologically, however, the two terms mean the same.

(vi) *Contemplation beyond Time*. Works of art and the good life are also products of seeing elements of reality in a specific way$_6$: in the way$_{6a}$ we see a single object (the works of art) *sub specie aeternitatis*, or in the way$_{6b}$ we see the whole world (the good life) *sub specie aeternitatis* (1961, 83). The same is also true of the mystical way$_{6c}$ of contemplating the world. It makes it possible "to view [to feel] the world *sub specie aeterni*…as a limited whole" (6.45).

4.   Concluding Remarks on Wittgenstein's Tractarian Ways

We have seen that there are at least six different "ways" in Wittgenstein's Tractarian constructivist ontology. By way of taking stock of our study so far, we would like to say that the *Tractatus* introduced a full-fledged ontology of ways that helps one to construct entities of at least the following ontological levels: states of affairs, propositions, propositional signs, thoughts, tautologies, truths/falsehoods, works of art/the good life/the mystical. For obvious reasons, however, this paper will not analyse them in detail. Our objective here is more humble. It is to present in brief Wittgenstein's concept of ways and, at the end of the paper, to reveal their explanatory power in naturalistic metaphysics.

We have already seen (in § 3, [v]) that the tautologies of logic and mathematics show the logical form of the propositions of science and ordinary language. Wittgenstein insisted that "a proposition *shows* its sense. A proposition *shows* [the way$_2$] how things stand [*wie es sich*

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[9] We will say more about Wittgenstein's concept of showing in § 4.

verhält]" (4.022). This point betrays that Wittgenstein's ontological ways are ineffable. We can only notice them and point at them; we can grasp them or show them. But we cannot define them, or theoretically analyse them. We can only conceive of them intuitively. Among other things, this point (at least partly) explains why theoreticians and historians of analytic philosophy badly overlooked Wittgenstein's many concepts of way.

We would also like to emphasize that Wittgenstein's Tractarian ontology of ways remained essentially the ontology of one world.[10] It thus opposed the ontology of many subordinated worlds of his teachers, Frege (the author of the conception of three worlds) and Russell (the author of the Ramified Theory of Types).[11]

Moreover, Wittgenstein's Tractarian ontology was not emergentist. The transition from one ontological level to a higher one does not mean a transition from one world to a higher one. Wittgenstein's ontological levels are only different stages of one and the same world. In a sense, Wittgenstein's Tractarian ways are simply "bridges" to new, higher ontological levels.

Perhaps this is the main advantage of Wittgenstein's constructivist ontology of ways: It dispenses with the accepting of many ontologically subordinate worlds. At the same time, the Tractarian ontology of ways is not reductionist. The level of propositions and of propositional signs, for example, is not reducible to their elements. Without the specific way in which the elements are ordered, the proposition/propositional sign would not come into existence.

Yet another point is that Wittgenstein's different concepts of ways (ways$_{1-6}$) form a family with the members bearing close resemblance to each other. They, however, have no "general form" and no general structure. This point is especially well demonstrated by the fact that the relation between different ways is divergent. Indeed, whereas way$_2$ is ontologically dependent on way$_1$, way$_6$, for example, is not based on way$_5$ (cf. § 3, [ii]).

5. The Later Wittgenstein: Four Further Ways

As it is well known today, the focus of Wittgenstein's attention changed in the early 1930s. While the *Tractatus* was mainly concerned with the acts of modelling (articulating) parts of the world (states of affairs) through language (propositions) and thoughts, at the be-

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[10] Incidentally, the very term "hinge" betrays that we have here not two worlds but two planes of one and the same world.

[11] At the same time, Wittgenstein's *Tractatus* can be also seen to maintain the existence of many possible worlds (cf. Bradley 1992)—without hierarchy between them, though.

ginning of the 1930s, Wittgenstein deepened the exploration of the relation between the action of language-speaking and the action of language-learning (between the actions of demonstrating how to compute and of learning how to compute). In this connection, he also critically discussed the concept of *rule*—the supposed principle that apparently guides us when we use a language or when we calculate. The whole of Wittgenstein's later philosophy can be advantageously seen from this perspective.

Importantly enough, with the change in his conception, starting with his "Theses" (1930), Wittgenstein gradually abandoned the *term* of "ways" and spoke more often about "method" and "use".[12] However, the concept he employed remained the same. From this change in Wittgenstein's position, four further types of ways emerged in his ontology:

(vii) *Propositions' Meaning*. Around 1930, Wittgenstein started claiming that "*the meaning of a proposition is the way*[7] *it is verified*" (1930, 244). In other words, it is the way_7 in which we can apply it—or linguistically act with it. In his later work, this thesis was explicated in the doctrine that "the meaning of a word is its use in the language" (1953, § 43). The use here means nothing but the way_7 in which the word is applied, or in which we can linguistically act with its help.

(viii) *Language/Calculating Learning*. The change in the theoretical interest of the later Wittgenstein urged him to put at the centre of his attention the problem of language/calculus learning. He held that two persons, teacher and student, teach/learn a language sentence by sentence, by which one action (the speaking of the sentence by the pupil) models another action (the demonstration of the sentence-command by the teacher). To be more exact, the pupil is "drilled" (*abgerichtet*) for this purpose. The same is also true about teaching and learning how to calculate.

Importantly enough, this kind of action-modelling proceeds in a form similar to that in which pictures model states of affairs in the *Tractatus*. The hinge between the two levels here is again the "logical multiplicity"—this time, the logical multiplicity of the action of teaching and learning language/calculus.

Correspondingly, the action of the pupil, his getting command of language/calculus, can be seen as a way_8 of performing (replicating) the action of the teacher—the demonstrated command of the language/calculus taught.

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[12] In fact, Wittgenstein already spoke about the application of the propositional sign as the "method" of its application in the *Tractatus* (cf. § 3, [iv]).

(ix) *Mind.* In *Philosophical Investigations*, Wittgenstein held that the human mind (*Geist*) is only an instrumental concept—it is a way$_9$ of *doing* something. Following Descartes, we usually believe that the mind is a substance, but only because we think about the mind in physical terms. Concepts like "understanding", "meaning", etc., are thus typically interpreted as a kind of thin *stuff*. Wittgenstein's main point now was that "where our language [misleadingly] suggests a body [a stuff …] there is none: there, we should say, is a *mind* [*Geist*]" (1953, § 36). To be more exact, the concept of mind denotes nothing but the way$_9$ in which we mentally *do* something: speak a language, calculate, etc.

(x) *Action.* Wittgenstein had already discussed the problem of connecting language with action, including the action of operating with language (action of language producing and conceiving) in the *Tractatus*, wherein he claimed that "if a sign is *useless* [*wird nicht gebraucht*], it is meaningless" (3.328).[13] Only in the *Philosophical Investigations*, however, he clearly articulated the doctrine that we can correctly use language only in terms of actions.

The explicit change in Wittgenstein's understanding can be tracked to the following remark made in the "Theses" by Friedrich Waismann:

> A propositional sign must have as many distinguishable elements as the corresponding situation. Both must have the same *multiplicity*.
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> A very good illustration of that is provided by taking the proposition of language as the instruction for doing something. By using words, I can, for instance, guide somebody around my room by saying, 'Take three steps straight ahead! Now two to the left! Now stretch out your arm! Etc.' Hence, it is evident that language must have the same multiplicity as those movements. (1930, 236)

In *Philosophical Remarks*, Wittgenstein claimed that language has the multiplicity of a signal box that produces actions that correspond to different sentences of that language (1964, § 10). This idea held a central place in *Philosophical Investigations,* wherein Wittgenstein compared (in § 11) the different roles words play in our language with the different functions of the tools in a toolbox. Now, Wittgenstein maintained that an action, following an instruc-

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[13] The illustrious commentator of Wittgenstein's philosophy, B. F. McGuinness, has correctly noticed that "we ought not to contrast the *Tractatus*, with its notion of *Bedeutung*, and the *Philosophical Investigations*, with its notion that naming is the use. Use determines reference in the *Tractatus* also" (1981, 66).

tion (i.e. action that is not radically spontaneous and free), is nothing but a way$_{10}$ of carrying out the instructions for acting.

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It is time now to sum up the changes that Wittgenstein introduced in his conception of ways in the 1930s and 1940s. In these years, he concentrated his efforts on the different forms of connecting language/calculus action-instructions with language/calculus action-acquisition. He also explored the problems of the relation between mind and action in general. Importantly enough, in this second period of Wittgenstein's philosophical development, his ontology remained non-reductionist and non-emergentist. The world of the language/calculus instructor is not different in kind from the world of the instructed. They are just its different levels. The "bridge" (the "hinge") between the two world levels is the logical multiplicity of the mental actions.

6. Wittgenstein's Ontology of Ways and the Naturalistic Metaphysics

In this last section, we will demonstrate that Wittgenstein's ontology of ways can help treat difficult philosophical problems of the emergence of mind, science, and nature. Its main advantage is that it dispenses with ontologies of different worlds of increasing complexity without elapsing into reductionism.

(i) *Technology*. It is a common place that many technical devices employ the constructive principle of ways. Here is a trivial example, well known for more than 150 years. The telephone transforms—in a certain way$_{11}$—human speech into electrical impulses to transport them to another point in space. (The recorder transports them to another point in time.) In the next step, the electrical impulses are transformed again—following the same way$_{11}$ but activated in reverse—into human speech. In the latter phase, electrical impulses construct an entity of a higher level (but not of a higher world): human speech.

(ii) *Philosophy of Biology*. Similar considerations can be also adduced in the realm of the emergence of life. Life on Earth emerged as a result of the specific way$_{12}$ in which some of its elements (chemical substances) were ordered. Standard theories of the origin of life, like that of Oparin–Haldane, can be interpreted in this sense. No final cause, no Aristotelian ἐντελέχια, no Kantian teleology, no Bergsonian *élan vital*, no *vitalism* in Hans Driesch's sense, is needed for this purpose.

(iii) *Anthropology*. Wittgenstein's ontology of ways can also help explain how human beings emerged out of the animal world. A crowd of creationists claims that a convincing

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answer to this question requires referring to God's design. In contrast, the ontology of ways we have exposed and defended in the lines above supports the view that human form of life is only another way$_{13}$ of arranging the building blocks of the basic forms of life of other species—more so since, as we have already seen in § 3, (ii), (iii), and also in § 5, (x), language, thought, and action can be conceived of as ways of arranging lower levels of being.

(iv) *Philosophy of Mind.* Wittgenstein's ontology of ways is especially effective in attempting to solve the problem of how the mind relates to the brain. Thereby, it dispenses with all "occult processes" (1953, § 38) that are usually associated with this relation. In contrast, the "new mysterians", Thomas Nagel and Colin McGinn, maintain that human reason cannot understand this relation in principle (cf. McGinn 1991)—or, as Emil du Bois-Reymond put it more than a century ago, *ignoramus et ignorabimus.*[14]

In contrast, the consequential Wittgensteinians support the view that qualia depend ontologically on the ways$_{14}$ in which the brain cells and the connections between them are ordered.[15] Their opponents (cf. Davidson 1980, Putnam 1975), in contrast, maintain that even if two brains are identical, their psychological product will be different. In his theory of "neutral monism", Donald Davidson, for example, claims that whereas mental events can be token-identical with the physical events, they are not type-identical with them. In particular, propositional attitudes are not ontologically dependent on the brain.

In fact, however, what Davidson's argument really indicates is only that besides the brain events, a second physical factor interacts with the mental events: parts of the external world to which the mind is directed. In other words, mental events are ontologically dependent, in different proportions, both on the physical events of the brain, and on the events of the external world. There is nothing intrinsically "anomalous" in this completely monistic conception of the relation between mind and matter.

(v) *Philosophy of Cosmology.* Wittgenstein's ontology of ways also shakes hands with the latest discoveries in cosmology. According to relativistic quantum theory, particles are to be understood as specific ways$_{15}$ of arrangement of quantum fields. Certain arrangements of the fields (particularly their arrangement in our universe) correspond to the idea of 24 particles, and others to 276 particles.

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[14] "We don't know and will never know."

[15] Arguments first formulated by Wittgenstein were successfully used against the *ignorabimus* principle in the philosophy of mind (cf. Bennett and Hacker 2013).

Taking off from there, some authors (cf. Krauss 2012) conclude that the universe—the stuff of which is composed of 24 particles—is practically constructed from nothing. To be more exact, the stuff—the particles—are simply arrangements out of quantum fields. No energy is needed to this purpose. Correspondingly, the fact that "there is something [stuff, particles] rather than nothing" is only due to the specific way$_{15}$ of arranging quantum fields.

This conception was severely criticized by Albert (2012) with the argument that quantum fields are not "nothing". Be this as it may, this point is irrelevant to our ontology of ways. What is important to it is that the external world can be seen as being composed of the specific ways$_{15}$ in which the quantum fields are arranged.

(vi) *Style*. While the early Wittgenstein was above all interested in the contemplative side of art—in the art consuming (cf. § 3, [vi])—the later Wittgenstein, who, as already seen, experienced an action-turn, paid more attention to art creating. Accordingly, in the mid-1930s, Wittgenstein started maintaining that "style is the general necessity seen *sub specie aeterninatis*" (1997, 27).[16] Of course, Wittgenstein meant here the style in works of art, not in science where it is of less importance. This claim is supported by the fact that in these lines Wittgenstein spoke about necessity "seen *sub specie aeterninatis*"—a term he used when he discussed works of art in the *Tractatus* (cf. § 3 [vi]) Indeed, since art is radically expressive, the style in it plays a key role. Propositions and theories of science and of everyday life are clearly different: they picture (model) parts of the world (states of affairs). That is why the style in them plays a minor role.

The above-mentioned claim of Wittgenstein can be well interpreted in the sense of his ontology of ways. According to this interpretation, what Wittgenstein meant here was that style is constitutive by creating works of art: It is the "engine"[17] by creating the work of art and the "rule" of its interpretation after it is produced. Most importantly, this rule can also be seen as the way$_{15}$ in which the artefact is *constructed* (not just *seen*, as it was with way$_6$). Different interpretations of the work of art are only its instantiations that follow its rule.[18]

7. Epilogue

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[16] See ch. 27.

[17] We speak here about an "engine"—which is a physical object—only in a metaphorical sense. As we have seen, Wittgenstein strongly opposed using physical terms when speaking about the human mind.

[18] See ch. 27 again.

In the lines above we have seen that Wittgenstein suggested a sophisticated ontological model (method) that adequately explains the emergence of new levels of reality of increasing complexity. Over recent years, this topic has been extensively investigated using alternative methods (Clayton 2004; Deacon 2012; Kaufman 2000). We hope, however, that our study has shown that the approach we followed in it—the ontology of Wittgenstein's ways—is more promising and resourceful for this purpose.

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