Projective Modal Structures of Plato's Parmenides

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Abstract
In the first part of the paper the hypothesis of existence of so called Lingua Philosophica is propounded. Lingua Philosophica is an authentic philosophical language, which basic structures still fail to be expressed strictly. The author suggests a version of axiomatic system (so called Projective Modal Ontology, further PMO), which from his point of view could serve as the first adequate formal system, by means of which Lingua Philosophica can be formalized. Explanations of the basic notions of PMO and their interpretation in various philosophical traditions are given. In the second part of the paper ideas of PMO are used to interpret the main ideas of Plato's Parmenides. Original formal treatment of logics of the dialogue is given, the structure of Zeno's dialogue is reconstructed, levels of macro- and micro logics of the dialogue are sketched, and the author suggests the principles of their coordination on the way of constructing the full logical interpretation of the dialogue as a very important example of method of classic dialectics.
1. Introduction

Parmenides is considered to be one of the most profound, yet difficult philosophical work. In the history of Western philosophy many authors have studied this dialogue since antiquity, for example, philosophers of neoplatonic tradition and Hegel. The text of that dialogue is considered as one of the most difficult logical and philosophical texts in the history of Western philosophy, perhaps with Kant's *Critique of Pure Reason* and Hegel's works. All philosophers agree that this dialogue is highly important for understanding the method of dialectics. It is not surprising that Parmenides attracts attention once again, but it keeps its mystery very strongly. It seems that there is a special code, encoded in the text, which requires its deciphering, and many philosophers were trying to do this. But no one could say that that deciphering was done. I believe that the code really exists and its deciphering can be done by appealing to constructions of Projective Modal Ontologies, further PMO (see below). Before such structures were formulated, one could not reach the sense of the dialogue. This is my thesis, which I will try to prove in the paper.

The story of Parmenides is very simple. The dialog tells that Parmenides and Zeno arrived to Athens and met Socrates and young Aristotle. They spoke about the nature of ideas. Before that meeting Zeno read his work on dialectics, showing contradictions, which follows from the nature of multitude. Socrates noticed that it is not difficult to prove that material things have contradicting properties, but to prove that that participation to contradiction properties inherent to pure ideas is very art. Proceeding to reasoning about pure ideas, Parmenides shows to Socrates that accepting of separate or penetrated into things existence of ideas results in contradictions, and this subject becomes very difficult. Parmenides formulates some method, which should be practiced by a philosopher, to understand the nature of ideas. Socrates asks him to explain dialectics, and Socrates and Zeno had persuaded Parmenides to pursue philosophical exercise about the nature of idea of the one. Parmenides had chosen young Aristotle as his interlocutor and then the main part of the dialogue, which has eight sections and each contains an investigation of some part of the idea of the one and the many under given presuppositions.

The following is a formulation of the method of Parmenides. Parmenides explains to Socrates that

“in the case of this very hypothesis of Zeno's about the many, you should inquire not only what will be the consequences to the many in relation to themselves and to the one, and to the one in relation to itself and the many, on the hypothesis of the being of the many, but also what will be the consequences to the one and the many in their relation to themselves and to each other, on the opposite hypothesis. Or, again, if likeness is or is not, what will be the consequences in either of these cases to the subjects of the hypothesis, and to other things, in relation both to themselves and to one another, and so of unlikeness; and the same holds good...
of motion and rest, of generation and destruction, and even of being and not-being. In a word, when you suppose anything to be or not to be, or to be in any way affected, you must look at the consequences in relation to the thing itself, and to any other things which you choose-to each of them singly, to more than one, and to all; and so of other things, you must look at them in relation to themselves and to anything else which you suppose either to be or not to be, if you would train yourself perfectly and see the real truth” (136a-e) (Jowett 1871).

At the first glance this method looks like an abracadabra. The essence is some relations “to itself” and “to each other”, taking of propositions about existence and non-existence of some origin, taking of origins “each of them singly, to more than one, and to all” and so on. What that means?

In the paper I will try to show a very important role of projective modal ideas for understanding of Plato's *Parmenides*, to which a tradition in the history of philosophy is devoted. I have already suggested an interpretation of *Parmenides* in the framework of projective modal ontologies. First, I will briefly concern with the basic ideas of PMO, and after that I will concern with their application to Plato's *Parmenides*.

2. The logic of projective modality

Upon reading different philosophical papers I had always perceived particular logic of philosophy, which is inexpressible in existed logical systems. I think that all philosophers know about existence of some philosophical language (*Lingua Philosophica*), they learn intuitively rules of use of this language upon reading the classics. But there still not existed even an elementary, but clear formulation of this language. The language somehow slips away from formalization by means of formal logic and mathematics.

It is indicative that our reason contemplates a deep logic in Plato's *Parmenides*, but we feel ourselves ineffectual to express that logic by means of contemporary conceptual instruments. How to express the one, the many, relations “to itself” and “to each other”? If we try to do this by means of contemporary strict reasoning – logic or mathematics – we will face a problem. Logic grows from the propositional calculus; mathematics grows from the set theory. There is something restricting ability of reason in the foundations of logic and mathematics, therefore this judgment does not allow expressing the basic principles of *Linuga Philosophica*. I have an impression that the achievements of rationality of 16th -18th centuries were reached by a very high price, which is an incompatibility of exactness and universality. Trying to be exact, we are not successful in expressing such universal principles which are substantial to *Lingua Philosophica*. According to this point of view, again there is something that we can learn from the ancients. We are impressed by their freedom of usage of universal principles. We acquire somehow these principles, but we cannot express them. As a
result, the mind of contemporary philosopher becomes torn – using Leibniz's terminology, we can say that it contains a region of exact – but not universal – apperceptions and a region of universal – but not exact – perceptions. Philosopher learns the universal but vague knowledge from the history of philosophy, which is converted to an unconscious libido of contemporary philosophy. And philosopher learns an exact and particular knowledge from contemporary scientific rationality – from a realm of the Super Ego of contemporary philosophizing. Does not the time have come to bring closer these two poles, to psychoanalyze contemporary philosophical mind, trying to extend the image of philosophical rationality to the frames of universal intuition of ancients?

I will try – not pretending, of course, to accomplish this task in the paper – to discuss schematically some possible prior preconditions of one of the contemporary attempts to Lingua Philosophica.

According to my point of view, the logic of Lingua Philosophica is not just a version of philosophical logic of Plato's Parmenides, but the last is one of the most complete account of Lingua Philosophica. We can pick out the basis principles of that logic.

(1) There is a source of being (“the one”) and there are its manifestations (“the many”). Every manifestation of being is formed as a result of imposition of some restricting circumstances on the source and manifestation itself becomes a source of the lower order. In this structure we find the unity of four basic elements: (i) logical subject, the source of predication; (ii) restricting conditions on the subject; (iii) procedures of organizing of predication; (iv) and predication (“projection”) itself as a result of restricting circumstances of subject in some procedure of predication. Since these elements are often confused and differently labeled by different philosophers, I propose a special terminology for them. The source of being I call “modus”, the conditions – “model”, procedure of projection – “projector”, and the result of projection – “mode”.

To express the relationships of these four elements I generally use the following notation: $X = Y \downarrow Z$ – “X is Y-in-the-condition-Z”, where X is mode, Y is modus, Z is model and $\downarrow$ is projector as two-placed functor $\downarrow(Y, Z)$, which relates modus Y and model Z with mode X.

Element Y in the formula $X = Y \downarrow Z$ is the source of being, X is a manifestation, expression of this source, Z is restricting condition, which restricts Y to X, $\downarrow$ is operation of expressing of the source in its manifestation.

It seems that this “ontological quaternion” is an invariant of any ontology, a “nuclear structure” of any philosophical logic, that is the logic of any philosophy.
There are many examples. Consider the following (“?” appears where categories of corresponding philosopher is unclear to me) – see table 1.

<table>
<thead>
<tr>
<th>Philosopher</th>
<th>Modus</th>
<th>Mode</th>
<th>Model</th>
<th>Projector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advaita Vedanta (Shankara)</td>
<td>Brahman</td>
<td>Jiva</td>
<td>Maya</td>
<td>Sinking into Maya</td>
</tr>
<tr>
<td>Democritus</td>
<td>Atom</td>
<td>Atom</td>
<td>?</td>
<td>Identity</td>
</tr>
<tr>
<td>Plato</td>
<td>Idea</td>
<td>Thing</td>
<td>Matter</td>
<td>Mimesis</td>
</tr>
<tr>
<td>Aristotle</td>
<td>Essence</td>
<td>Predicate</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Plotinus</td>
<td>The One</td>
<td>Emanation of the One</td>
<td>Matter</td>
<td>Flow of emanation</td>
</tr>
<tr>
<td>Thomas Aquinas</td>
<td>Essence (ens)</td>
<td>Existence (existentia)</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Spinoza</td>
<td>Substance</td>
<td>Atribut, modus</td>
<td>Non-being</td>
<td>Restriction by Non-being</td>
</tr>
<tr>
<td>Kant</td>
<td>Thing-in-self</td>
<td>Thing-for-us</td>
<td>Consciousness, I</td>
<td>Cognition</td>
</tr>
<tr>
<td>Hegel</td>
<td>Spirit-in-itself-and-for-itself</td>
<td>Spirit-in-itself, Spirit-for-itself</td>
<td>Spirit's being different</td>
<td>Incarnate of Spirit</td>
</tr>
<tr>
<td>Freud</td>
<td>Libido</td>
<td>Symbols of Libido</td>
<td>Region of Super-Ego, censorship of Libido</td>
<td>Sublimation of Libido, Oedipus complex</td>
</tr>
<tr>
<td>Heidegger</td>
<td>“Anwesen” as “das Unverborgene”</td>
<td>Being, Time</td>
<td>“verborgene”?</td>
<td>“das Geschick”</td>
</tr>
</tbody>
</table>

Table 1
The table shows that categories of “modus” and “mode” usually were more clearly then categories of “model” and “projector”. In general, we can see that the category of “model” is a variation of Maya-Matter-Non-being that is, the principle of restriction and illusion.

The category of “projector” was expressed in different ways as a kind of act of Incarnation-Sinking of the source of being to the solider and more corporal environment.

Modi are different Essences-Substances-Ideas, that are some sources and generators of properties.

Modes are different manifestations, aspects, or sides of modi.

I think this ontological quaternion will be reproduced in new variations until philosophy exists. Special case is given in different versions of atomism, for example in Democritus’ one. The source of being – the atom – in such conceptions is simultaneously its only positive manifestation, so projector is expressed in the identity with itself, and “the weakest maya” – which does not change modus – becomes circumstances (model).

Corresponding to that case I will accept the following:

(2) For every modus there exists a model, which does not change the modus. This is the weakness case of conditionality. Such a model might be called “a model unit” (“identical model”) of modus – consider the unit (one) in the operation of multiplication, we get x when we multiply x by 1 (x*1=x), just as if 1_Y is a model unit for modus Y, then Y=Y↓1_Y, that is Y is a mode of itself. I will call the idea of every source of being as predication of itself “the identical mode” of that source (modus), too.

(3) It is possible that modus Y forms its modes not in any restricting circumstances (models), but only in some relevant circumstances. For example, formation of projections of three-dimension body can be considered as a case of formation modes of modus. Consider, for example, a case, in which a three-dimension body T is human head and projections P_1 and P_2 are photos from some fixed positions. We can find such a case, for example, in photographing of criminals, where two classical positions - “front” and “profile” - appear. Other positions are not allowed in this practice and can not be regarded as modes of given modus. Sometimes to obtain an appropriate mode you should turn your head to the right a little. Thus, in these examples not all geometrical projections of tree-dimension object can be regarded as officially permissible projections, that is not in all models it is allowed to form modes of the modus.
Another example. One may regard a whole person as a modus, situations or circumstances, in which the person can manifest itself, as models, and person's manifestations in such circumstances as modes. For example, one can appeal to communication with other persons. For a person X there will be its modes X-in-a-communication-with-Y, where Y is another person. For example, as modes of a person emerge such my modes as Me-with-friends, Me-with-relatives, Me-in-my-family and so on. These are my aspects, my modes. But as a person, I cannot form my mode in geometrical plan, because a person is not a geometrical body. On the other hand, geometrical body – for example, a stone – can not manifest itself as a person in the circumstance of communication with people. Consequently, for some modus Y not all restricting circumstances (models) are restrictions of that modus. It should be noted, from that point of view, what models are defined for a modus, on which it can form its modes. Such models I will call “(proper) models of given modus”.

(4) There might be a hierarchy of modal relationships when mode of modus has its own modes. In that case the question arises: “is mode of mode of modus the mode of that modus?” I would answer positively, and I will call this “property of transitivity” of modal relationships. So if C is a mode of B and B is a mode of A, then C is a mode of A. We will need that property to express the idea of order, which is connected with modal relationships. I suggest that mode of a modus is not “stronger” then that modus, that is the mode is “weaker or equal” to its modus in its “force of being”.

That intuition of order, which is connected with ontological quaternion, is one of the central intuitions of different conceptions of philosophical logic. In the Antiquity, the Middle Ages, the Modern Ages that order were often called “order by nature”, and, for example, Plato, as you can see in Plato’s Parmenides, reasoned that the one is prior by nature to the many. Or Spinoza’s first theorem in his Ethics states: “Substance is prior by nature to its states”.

To express that fundamental intuition it is necessary to connect modal relation of a mode to a modus with relation of non-strict order – for example, “less or equal”. But that relation is to correspond to the three following properties: reflexivity, that is every element should be less or equal to itself; anti-symmetry, that is if A is less then B or equal to B and B is less then A or equal to A, then A and B is to be equal (there an idea of equality arises, which should be conform with non-strict order); transitivity: if A is less then B or equal to B and B is less then C or equal to C, then A is less then C or equal to C.

The property of reflexivity will keep for every modus, because for all moduses there exists the model unit. Therefore, one can state that every modus is mode of itself, that is modus is modally less of equal to itself. We should understand “A is less then B or equal to B” as “A is a mode of modus B”. Anti-symmetry could be kept by
introducing of equality as simultaneously keeping of conditions “A is mode of B” and “B is mode of A” - then we can suggest that A and B is equal. And we accept the transitivity. So relation “A is mode of B” should become a relation of non-strict order.

In my opinion, conditions (1)-(4) form a minimum of the logic of Lingua Philosophica. These introduce ontological quaternion “modus-mode-model-projector”, postulating by this a set of modi, modes, models and projectors, defining proper models for each modus, in which it can form its modes, keeping non-strict order of modal relation “A is mode of B”, suggesting of existence of model units for every modus, defining of equality on modi and of transitive modal relations.

After that a richer version of ontology, about which I will write some words in its connection with broad prevalence in different versions of Lingua Philosophica, can be developed.

(5) We can introduce two limits for a set of all modi: null-mode is a mode of all modes and maximal modus is a modus of all modi. These two objects express two ontological limits – maximal non-being (null-mode) and maximal being (maximal modus).

(6) One can introduce notion of positive mode – it is a mode, for which there is an unequal mode – and positive modus – it is a modus, which possesses a positive mode. Positive mode and positive modus are “lifted up” over the null-mode and, from this point of view, are not a minimum of being.

(7) Ontological quaternion “mode-modus-model-projector” might be extended to ontological sexternion “mode-modus-model-projector-module-surjector” (2004b, 295-300). In result PMO became as follows.

Some sources of being – generators – were defined, these sources are able to form their aspects (modes) in the context of some restricting circumstances (models). One could call this procedure of restricting a projector. Projector is two-placed operation defined on modus and model and forming a mode of that modus in the model.

One could look at the relationship between mode and modus in another way. One could imagine that not mode is formed from modus, but modus is formed from mode. In that case we need not a restriction, but some principle of increasing of mode to modus. Such a principle I will call module. One could look at the procedure of increasing of mode to modus on the basis of some module as at a two-placed functor, which I will call surjector. Surjector is defined on mode and module and results in modus of that mode with the module. At the result we get a following schema (see fig.1).
Modus on that picture is the big circle, its mode is the little circle, model is the square, module is triangular. Projector is the arrow from the oval, which contains modus and model, to the mode. That expresses the idea of projector as a two-placed functor, defined on modus and model and resulting in mode. Similarly, surjector is the arrow from the oval, which contains module and mode, to the modus. That expresses the idea that surjector is a two-placed functor, defined on mode and module and resulting in modus. Projector restricts modus to a mode. And surjector “increases” mode to modus. That is why model is the principle of restriction, and module is the principle of increasing.

So schema of projective modal relations becomes inwardly symmetrical – now it contains functor of “restriction of being” (projector) from modus to mode and functor of “increasing of being” (surjector) from mode to modus. Similarly, as projector is defined on modus and some restricting factor of modus to mode (model), surjector is defined on mode and some increasing factor of mode to modus (module).

If $X = Y \downarrow Z$, then there exist such module $Q$ and surjector $\uparrow$ that $Y = X \uparrow Q$.

Here $\uparrow$ is a surjector, $Q$ is some module as an increasing circumstance, by which we can arrive from mode $X$ to modus $Y$. Similarly, formal schema becomes symmetrical.

Now I will provide some reasons for adopting surjector, which are analogical for reasons for accepting modus, model and projector.

For example, one could imagine that there is a model unit for every modus, in which every modus becomes itself as its mode, and one could imagine that there is a module...
unit (identical module), in the frame of which every mode will be “increased” to itself. Similarly, there are defined own models for every modus, in which models that modus forms its modes, there are proper modules for every mode, in the frame of which a mode is increased to its modi.

For an extent analysis of this situation (as a specific theorems of a special axiomatic system, which is called Projective Modal Ontology - PMO) see my papers listed in the Bibliography.

It should be also noted that axioms of PMO gives a possibility to prove equivalence of mode and modus. Correspondently, these entities can be discerned only relatively: one could say that A is mode of B and B is not a mode of A, but one could not prove that A is only a mode and B is only a modus, since A is simultaneously a mode and a modus and B will be simultaneously a mode and a modus.

Further the term “modal” can be used in two senses — in wide sense and in narrow sense. In the wide sense of “modal” I will mean “is related to ontology with modi, modes, models, projectors...”, as I have meant it before. In the narrow sense of “modal” I mean “is related to modes”. Today the term “modal” is closely related with the idea of modal logics. I will emphasize my own usage of the term, contrasting it with traditional by using the term “projective modal” (or simple “projective”). This emphasizes the idea of projector in the process of forming modes from modi.

3. The Logic of Parmenides: macrologic

My first and the main hypothesis in the context of deciphering of the algorithm in Plato’s Parmenides, written above, is centered on the following: metaphysics of antiquity endorsed the idea of consideration of entities in the framework of certain circumstances or conditions. For example, one could consider the idea of the many in the context of different circumstances — in the circumstance of proposing existence and non-existence of the many, in the circumstance of relationship to itself and to the one and so on. Consequently, in the example the method of legal variation of some ideas is described. One could speak about such a variation as an expressing of some modality of principle, formation of its modifications in the context of some circumstances. Therefore, we face with Projective modal intuition, which presupposes formation of aspects-modes from some full-blooded source-modus in the context of some restricting circumstances. If A is a varying principle and C is conditions of its consideration, then one could express formation of aspect of A in the circumstances C as mode \( A \downarrow C \) — that is “A-in-circumstance-C”. So, the method, which is formulated by Plato’s Parmenides, is that we formulate different modes-aspects of some idea in the context of different circumstances of its consideration.
Let me try to reconstruct in detail a system of aspects and circumstances in the context of given formulation of the method of dialectics of antiquity.

Let M be the idea of the many, E be the idea of the one, B be the idea of being, \( \parallel B \) be the idea of non-being. The method begins with presupposition of existence of the many: “being of the many”. The statement about existence of the many can be considered as taking of aspect-mode of the many M, in which it exists, participates to the idea of being B. One could express this as mode \( M \downarrow B \), that is “the-many-in-the-condition-of-being” (“being of the many”).

Presupposed that the many exists, that is fixed the mode \( M \downarrow B \), lets see “what will be the consequences to the many in relation to themselves and to the one, and to the one in relation to itself and the many”. We saw there new aspects of the ideas of the one and the many. The idea of the many M is taken in the relation to itself (it can be expressed by mode \( M \downarrow M \), where M is a modus and a proper model for itself simultaneously) and to the one (as mode \( M \downarrow E \)). The same is presupposed to the idea of the one E. We take the idea of the one in the relation to itself (mode \( E \downarrow E \)) and to the many (\( E \downarrow M \)). All these new modalities of the ideas are considered in the context of fixed more global modality of the existing many \( M \downarrow B \): “what will be the consequences to the many in relation to themselves and to the one, and to the one in relation to itself and the many, on the hypothesis of the being of the many”. One could express this as formation of second-order modes, that is modes \( M \downarrow M, M \downarrow E, E \downarrow E \) and \( E \downarrow M \) form their aspects-modes in the context of presupposed fixation of mode \( M \downarrow B \) as more global context-circumstance. In the result there arise aspectations of the ideas of the many and the one, which can be expressed as second-order modes as follows:

\[
(M \downarrow M) \downarrow (M \downarrow B), \ (M \downarrow E) \downarrow (M \downarrow B), \ (E \downarrow M) \downarrow (M \downarrow B), \ (E \downarrow E) \downarrow (M \downarrow B).
\]

For example, the second-order mode \( (M \downarrow E) \downarrow (M \downarrow B) \) could be read as “the-many-in-the-relation-to-the-one-in-the-circumstance-of-the-existing-many” and mode \( (E \downarrow E) \downarrow (M \downarrow B) \) could be read as “the-one-in-the-relation-to-itself-in-the-circumstance-of-the-existing-many” and so on.

I use a different symbols (\( \downarrow \) and \( \downarrow' \)) to emphasize that different functors may work here. For example, for projector \( \downarrow \) we take the ideas M, E, B and \( \parallel B \) as modi and models, but for projector \( \downarrow' \) we take modes \( M \downarrow M, M \downarrow B \) and so on as modi and models. In other words, the first-order projector \( \downarrow \) is “-in-relation-to-” and the second-order projector \( \downarrow' \) is “-in-the-circumstance-of-“.
In that way the first part of Parmenides' method for dealing with the idea of the one and the idea of the many might be reconstructed. But this is not the end. The schema is applied repeatedly in the context of non-existence of the many:

“you should inquire not only what will be the consequences to the many in relation to themselves and to the one, and to the one in relation to itself and the many, on the hypothesis of the being of the many, but also what will be the consequences to the one and the many in their relation to themselves and to each other, on the opposite hypothesis”.

Consequently, now we take mode $M \downarrow B$ (“the-many-in-the-circumstance-of-non-being”) as more global principle.

In the result we get four new second-order modes as follows:

\[(M \downarrow M) \downarrow (M \downarrow B), \ (M \downarrow E) \downarrow (M \downarrow B), \ (E \downarrow M) \downarrow (M \downarrow B), \ (E \downarrow E) \downarrow (M \downarrow B).\]

For example, the second-order mode $(M \downarrow E) \downarrow (M \downarrow B)$ could be read as “the-many-in-the-relation-to-the-one-in-the-circumstance-of-non-being-of-the-many”, mode $(E \downarrow E) \downarrow (M \downarrow B)$ could be read as “the-one-in-the-relation-to-itself-in-the-circumstance-of-non-being-of-the-many” and so on.

In the result we get eight second-order modes. However the described procedure is considered for Zeno's hypothesis about (non-) being of the many. To proceed to the structure of Parmenides we only need to consider the same constructions about being and non-being of the one (for modes $E \downarrow B$ and $E \downarrow B$ correspondently).

I give a schema of construction of Projective modal structure of Parmenides with numbering of corresponding parts of the dialogue near the arrows, which symbolize second-order modes (see figure 2).
There represented general situation of variations of origins $X$ and $\Gamma X$. $X$ may be the one $E$ and $\Gamma X$ may be the many $M$. If we will be following this conformity, we will get the structure of *Parmenides*. If we will take $X$ as the many $M$ and $\Gamma X$ as the one $E$, then we will get a symmetrical structure of some dialogue, which could be called say *Zeno*, because Parmenides, when he is describing such a structure, cites Zeno's work, in which dialectics of the many is considered.

Let us introduce more unified terminology. Let us call more global modes $X \downarrow B$ and $X \downarrow \Gamma B$, which lay in the basis of division of the method into two large parts, the *basic modes*. Let us call variations on that basis more changeable modes $X \downarrow X$, $X \downarrow \Gamma X$, $\Gamma X \downarrow X$ and $X \downarrow X$ the *epimodes*. The basic modes and epimodes is the first-order modes. Let's call modes, which is forming from that first-order modes, $(X \downarrow X) \downarrow (X \downarrow B)$ and so on *second-order modes*.
There are eight second-order modes, which is expressed by the eight parts of \textit{Parmenides}. The following is Projective modal codification of all eight parts of \textit{Parmenides}:

1. \((E\downarrow E)\downarrow(E\downarrow B)\)
2. \((E\downarrow M)\downarrow(E\downarrow B)\)
3. \((M\downarrow E)\downarrow(E\downarrow B)\)
4. \((M\downarrow M)\downarrow(E\downarrow B)\)
5. \((E\downarrow M)\downarrow(E\downarrow B)\)
6. \((E\downarrow E)\downarrow(E\downarrow B)\)
7. \((M\downarrow E)\downarrow(E\downarrow B)\)
8. \((M\downarrow M)\downarrow(E\downarrow B)\)

For example, interpretation of the formula of the first part \((E\downarrow E)\downarrow(E\downarrow B)\) is “the-one-in-the-relation-to-itself-in-the-circumstance-of-being-of-the-one” and so on. It should be noted that the last four parts are not symmetrical with the first four parts, namely the fifth and the sixth parts are interchanged. This situation is unclear.

One could get the structure of hypothetical Zeno from \textit{Parmenides} by changing E on M and M on E in all formulations of second-order modes.

But this is not the end of formulation of method of dialectical variations. Supposing it with the structure of Zeno Plato comes to a more general formulation of the method. The main directions of generalization are connected with two principle factors. First, one could form the basic modes not only for being and non-being, but for every idea, expressing some state (“when you suppose anything to be or not to be, or to be in any way affected”). Second, the structure of denial of the given idea becomes more complicated. One could consider not only additional idea as a denial of any given idea, but any idea from additional set of ideas or even any set of additional ideas (“to the thing itself, and to any other things which you choose-to each of them singly, to more than one, and to all”). The rest of the method is still the same.

This is a general logic of the method of dialectical variations, described by Plato in \textit{Parmenides} and realized in organization of parts of the dialogue. As we saw the key to that method lays in projective modal constructions. There is the idea of variations
of some principle in some architecture of projectors and restricting circumstances in the basis of the dialogue and the method of classical dialectics. This makes possible to create the most full-blooded system of representing the varying principles. The method of dialectical variations looks like some algorithm, which make possible to take some principle and its denial, some state and to begin to “cut” regularly the system of aspectations-modes, revealing the most full-blooded Projective modal architecture of aspectations of varying principles. It makes possible to reconstruct the fullest form of these origins. This is *Ars combinatoria* of the dialectical logos of antiquity.

4. The Logic of *Parmenides*: micrologic

But problems of philosophical logic of *Parmenides* still remain.

In the general case one could talk about two levels of logical organization of the dialogue, which will be called *macro-* and *micrologics*. The macrologics of *Parmenides* is expressed in general plan of organization of the parts of the dialogue. Every part is a non-differentiated unit (atom) and one could speak only about their external organization. I presented above the structures of macrological organization of *Parmenides* and the method of dialectics. When we deal with micrologics, we get deeper into the logic of every part, finding its inner dividedness and ruggedness. That is why there many important logical and philosophical problems (investigation of micrologics and of coordination of micrologics and macrologics) in *Parmenides* remain. I will try to present these problems below.

It should be noted that micrologics of the dialogue is rather monotonous. The very little universum is described, it contains the following categories: (1) the one/the many; (2) the whole/the parts; (3) the limit (the middle/the beginning/the end)/the infinite; (4) having contours (round/straight); (5) having a place in itself/having a place in something different; (6) motion (moving (rotating/changing of places)/converting)/rest; (7) identity/difference; (8) similarity/distinction; (9) equality/inequality; (10) time (the past/the present/the future) and so on.

The two classes of modes-aspects of investigated ideas are realized in relation to that set of principles, which symbolize some full set of categories. The first class contains different sorts of *inexpressibleness* and non-participation of an idea in nothing of a given universum (*modes of inexpressibleness*). The second class contains *modes of panexpressibleness* and pan-participation, that is participation in every category of the framed universum. But there are different ways to this results, namely in the difference of the eight ways to the two finals there is a difference of the eight parts.

I will give short formulas of all parts of the dialogue at the micrological level along with their codification in macrologics.
1 part. \((E \downarrow E) \downarrow (E \downarrow B)\): the one is not contained in the many and in everything where the many is given. Because everything is contained in the many (the whole, the motion, the rest and so on), that is why the one is not contained in anything and therefore is inexpressible.

2 part. \((E \downarrow M) \downarrow (E \downarrow B)\): the one is contained in the being and in virtue of that in the many and by way of that in everything.

3 part. \((M \downarrow E) \downarrow (E \downarrow B)\): the many is not the one and is given as consisted of many parts, but by way of that is contained in the one (for example, every part is one part of many parts and that is why it is contained in the one). Therefore, the many — being contained in the many and the one — is contained in everything (the many appears as infinitely plurality).

4 part. \((M \downarrow M) \downarrow (E \downarrow B)\): the many is not contained in the one and by way of that it is not contained in the many, because there are the whole and the parts in the many, which are so and so in their result of being contained in the one. In the result the many is not contained in anything.

5 part. \((E \downarrow M) \downarrow (E \downarrow \lceil B)\): the one is contained in the non-being and by way of that it is contained in the cognition, in the distinction and in everything.

6 part. \((E \downarrow E) \downarrow (E \downarrow \lceil B)\): the one is not contained in the being and in everything, in which the being is. In the result the one is not contained in anything and therefore is unexpressable.

7 part. \((M \downarrow E) \downarrow (E \downarrow \lceil B)\): the many, to be distinct from the other, is to have that other in itself. Because the one does not exist, then only the many may be that other thing. Therefore, the many is the other to the many, being spilled to infinitely plurality. But there will be an illusion of the limit and the one and by way of that the many will be contained in everything.

8 part. \((M \downarrow M) \downarrow (E \downarrow \lceil B)\): the many is not the one and by way of that it is not the many, because there an implication to the one in the many. Therefore, the many is not contained in the many, in the one and in anything.

We can more strictly coordinate macro- and micrologics of the Parmenides. I will give some examples of such coordination analysis.

The general part for the first and the sixth is epimode \(E \downarrow E\) (“the-one-in-the-relation-to-itself”) and these parts differ by their basic modes — the basic mode of the first part is \(E \downarrow B\) (“the existing one”) and the basic mode of the sixth part is \(E \downarrow \lceil B\) (“non-existing one”). This is the difference at macrological level. Consider now the common traits and the differences of the micrological constructions of these parts. What is of
common is that these two parts express the inexpressible aspects of the one (it is an influence of epimode $E \downarrow E$). The difference is that how this inexpressibility is reached. We get to this inexpressibility in the first part from implication to the many (it is an influence of basic mode $E \downarrow B$). If we analyze the other part this way, then we will notice that reflexive epimodes (of the form $X \downarrow X$) always present the aspects of inexpressibility of corresponding ideas (1, 4, 6 and 8 parts). And transflexive epimodes (of the form $X \downarrow [X]$) always present the aspect of pанexpressibility (2, 3, 5 and 7 parts). Let's try to understand an influence of the basic modes. The one in the first part of the dialogue is given in reflexive mode, but it exists. This imparts a moment of “transfle xivity”, moment of an openness to the other. It leads to departing into inexpressibility from the inside of being, that is by the nonparticipation in the many as the complement of the one in being's sphere. So the one leaves being's sphere to the inexpressibility and being virtually opened to this sphere from its inexpressibility. According to the sixth part, the one is not contained in the sphere of being, this intensifies its moment of inexpressibility as non-entering the sphere of being.

Another example is comparison of the second part and the fifth part. A common element of these parts is transflexive epimode of the one $E \downarrow M$ (“the-one-in-the-relation-to-the-many”) and these parts differ by basic mode. The basic mode of the second part is $E \downarrow B$ (“the existing one”) and the basic mode of the fifth part is $E \downarrow [B]$ (“the non-existing one”). The common transflexive mode is expressed in formation of a panexpressible mode of the one, which present the one as being contained in all categories of universum. The difference of basic modes results in different ways to this panexpressibility. The basic mode $E \downarrow B$ in the second part is expressed in intensification of existential definitions in defining the panexpressible one, so a layer of participation to being is earlier then layer of implication within-ontological definitions, for example, to participation in the many. And vice versa, the influence of the basic mode $E \downarrow [B]$ in the fifth part results in the weakness of existential definitions of the idea of the one, but the open character of the one (on the account of the epimode $E \downarrow M$) results here in the creation of a moment of being in the non-being. The non-being of the one “detects” itself as participation in a weaken moment of the same sphere of being. So the one indeed enters the universum of being, but the one enters it by its increased meonal definitions (by the category of the difference, the otherness etc.)

Now let's compare the fourth part and the eighth part. The common feature of these parts is that epimode $M \downarrow M$, which results in inexpressible aspect of the many. The difference of micrologics of these parts is that the basic mode of the fourth part is $E \downarrow B$ (“the existing one”) and the basic mode of the eighth part is $E \downarrow [B]$ (“the non-existing one”). Here we have again different ways of inexpressibility, but now of
the idea of many. An influence of the basic mode $E \downarrow B$ in the fourth part leads to that that the many is not contained in the one and in the many, in which the one is given, increasingly devastating its ontological definitions. The existing one reveals its all-penetrability and its contradiction with mode of the many, which is forced out from being. In the eighth part the many appears to be not contained in the idea of the one and in the idea of the many, but it “comes” to this state because the one does not exist in that case, devastating the ontological universum, in which everything should be participated in the one.

Let’s compare the third part and the seventh part. The general epimode $M \downarrow E$ results in definition of the many in both two parts via aspect of pan-expressibility. The transflexive mode $M \downarrow E$ leads to an openness of the many to the other, that is to the one, but in the third part and in the seventh part this openness realized in different ways. In the third part, the one exists (by basic mode $E \downarrow B$) and the many appears to be contained in the one as is, but via its own derivatives (for example, by the participation of its parts to the one). In the seventh part, the basic mode $E \downarrow B$ leads to the non-existence of the one, but the open status of the many leaves inside of itself a ghostly remains of the one, to which the idea of the many is able to open. So the many should be divided in itself to the twice-many and the many-one, becoming an increasing many (with increasingly weaken definitions of the one), with increasing meonaltity penetrating by itself the definitions of ontological universum.

So we can approach to some trans-logic of that dialogue, which coordinates macro- and micrologics of its definitions.

5. Conclusions

In result one could conclude that there is a very complicated structure of classical dialectics, which is expressed in particular in Plato’s Parmenides. Did Plato — of course, if he really was an author of that dialogue — realize this logic? Or he used it only in intuitive manner? One could not answer to these questions. But even if it is used in intuitive manner its constructions appear very complex and apparently these constructions can be reconstructed only by means of Projective Modal Ontologies, which express the idea of ontological variations in different systems of circumstances, drawing gradually dialectical fullness of investigated principle.
Bibliography