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Forms, Formalism and Uniqueness (II) – Thematic dossier

VARIA

BOOK REVIEW

Issue Coordinator: Mihai RUSU
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Introduction to *Forms, Formalism and Uniqueness (II) – Thematic dossier*

MIHAI RUSU[*]

This dossier of *Studia Universitatis Babeş-Bolyai. Philosophia* gathers four papers written by early-career researchers that participated at the first edition of the ERGO Conference of Philosophy and Humanities. This conference took place at the Babeş-Bolyai University in April 2018 and it was organized as an integrative event, aimed at highlighting and capitalizing on the diverse landscape of philosophical research and education in Cluj-Napoca. The theme of this first meeting – "Forms, Formalism and Uniqueness" – was proposed so as to encourage reflection on the meaning and role of these concepts in the two main traditions of Western philosophy: continental and analytic. We expected that the contributions would be able to trace and characterize not only the multiple guises of these three concepts inside one tradition or the other, with their respective jargon and technicalities, but that we would also succeed in finding common points of interest and similar arguments and ideas that might inspire practitioners in either tradition and foster mutuality and actual collaboration. Our hopes were at least partially confirmed and I am certain there is much to look forward to from the young philosophers that participated in the event.

Eight contributions, equally divided between traditions, were selected to be published in this journal. The first thematic dossier, which was published in the August 2018 issue, was devoted to the continental approach, while this one brings together four very diverse and challenging papers that were presented in the analytic section of the conference.

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The first paper, written by Vlad-Lucian Ile, a PhD candidate at the Babeş-Bolyai University and the University of Tours, puts one of the main structuring topics of the conference in a very interesting perspective. Vlad Ile is interested in the history of medieval logic and the various notions of form and formality that are to be found and investigated within this very rich, but also very puzzling intellectual territory. The main subject of his research is Peter of Spain's theory of supposition. In spite of a renewed interest of contemporary philosophers and logicians for the medieval logical tradition, the character and underpinnings of Peter of Spain's theory are far from being clarified. Vlad analyzes the various hypotheses that have been proposed in the literature for interpreting Peter of Spain's work, connecting them to the multiple senses of formality that have been defined in relation to the development of logic and formal philosophy. Throughout the paper, Vlad evinces the strengths, but also the limits of analyzing medieval theories with modern means and presuppositions. He argues strongly against considering Peter of Spain's theory of supposition as a quantification theory. In order to drive his point forward, Vlad compares Peter of Spain's approach to a more evolved later theory, that of William Ockham. In contrast to this achievement of maturity of the medieval logical tradition, Peter of Spain's supposition theory can only be characterized as weakly formal.

The second paper of the dossier is a substantial and detailed examination of reference in mathematical theories by Adrian Luduşan from Babeş-Bolyai University. Adrian explains the reasons behind a shift in the construal of mathematical reference, from singular mathematical terms to entire theories. There are two main arguments that have determined this major turn: the permutation argument and Benacerraf's famous identification problem. The former shows that truth-values and truth-conditions fail to fix the reference of singular mathematical terms, while the latter challenges the objecthood of natural numbers. Mathematical structuralists address these issues by moving from numbers as fundamental mathematical objects to structures. The problem of reference is correspondingly transferred to theories as a whole. In order to refer determinately to unique structures, these theories have to be categorical (i.e., have only isomorphic models). However, categoricity can be proved only in a second-order framework, but this is not tantamount to a resolution of the philosophical problems (as, most notably, Putnam's *just more theory* criticism seems to show). For the remainder of the paper, Adrian engages with one particular solution that

was proposed to the problems generated by resorting to higher-order concepts and/or theories, that is, Lavine's version of internalism. Adrian's arguments are nevertheless easily extendable to internalism regarded from a global standpoint, that is, they are forceful refutations of the internalists' idea that internal categoricity is enough to secure the determinacy of reference of Peano Arithmetic.

The next paper is written by the author of this introductive piece, who is also one of the editors of the ERGO thematic dossiers, namely Mihai Rusu. My paper, then, focuses on another vital debate of contemporary analytic philosophy, the one concerning the nature (and, perhaps, the existence) of modal knowledge. In recent years, the focal point of the debate surrounding modal notions has shifted slowly, but surely from the abstract ground of possible worlds to the epistemology of modality, and most importantly, of metaphysical necessity. I examine two well-known realist epistemologies of modality, the Kripkean picture and Williamson's counterfactual account, and I conclude that for very similar reasons, both of them fail to explain adequately our knowledge of real necessity. Both of them aim to impose excessively strong and unrealistic constraints on the exercise of our (modal) imagination. It remains to be determined if any realist theory that appeals to the imagination as a source of modal knowledge is subject to a similar critique.

Finally, Paula Tomi, a PhD candidate at the University of Bucharest, discusses yet another hotly contested issue in analytic philosophy, that of truth and its paradoxes. She argues against two deflationist treatments of the Liar paradox, that is, Dorothy Grover's prosentential theory of truth and Gupta's minimalist view. Paula holds that the prosentential theory is too restrictive and also that Grover proposes a central distinction that does not have any other function than to show why the Liar may be ignored by deflationists. Gupta favours a minimalist approach to the paradoxes, insisting that the deflationist need only concern herself with the interpretation of the truth-schema. According to Paula Tomi, ignoring the Liar, as Gupta proposes, means the deflationist has to accept that the truth-predicate applies unrestrictedly, therefore opening her theory to the paradox.

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THE FORMALITY OF PETER OF SPAIN'S THEORY OF SUPPOSITION

VLAD-LUCIAN ILE[*]

ABSTRACT. Relatively recent literature on supposition theory seems to use different modern logical tools of interpretation that can be generally described as formalizations. Since the act of formalizing may be understood as a process of changing its object in the sense of making it more formal, an assessment of this kind of approaches is necessary. Accordingly, our main goal in this paper is to analyze the formality of Peter of Spain's theory of supposition and to evaluate its interpretation as a quantification theory. Our main thesis is that although Peter's theory presents certain weak notions of formality, the formality presupposed by the quantificational interpretation is nowhere to be found in his considerations.

Keywords**:** *Peter of Spain, supposition theory, medieval logic, property of terms, quantification, form, formalization, William Ockham*

Introduction

Since its emergence in the terminist tradition, the medieval theory of supposition has suffered different interpretations. But never before, throughout the history of this theory, the interpretations were more diverse than in the last stage of its development, that of the contemporary studies[1]. By trying to explain its nature and role in medieval logic, the modern scholarship has offered different explanations; thus, the theory of supposition was considered by modern exegesis

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[1] The contemporary interpretations could be considered a constitutive stage of the development of supposition theory.

to be: a theory of reference[2], a theory related to conceptual notation[3], a hermeneutical theory/a theory of propositional meaning[4], a theory of inference[5] and last but not least, a theory of quantification[6].[7] By answering the question regarding what is the theory of supposition with one of the alternatives listed above, we immediately must face some particular problems concerning the methods of studying medieval logic. Almost in all cases there seems to be involved a type of anachronism[8]: the concepts in use seem to belong to our modern conceptual apparatus of understanding rather than to the medieval one. In fact, since the very beginning of the revival of the medieval logical studies, we can see that the exegesis was built in a large extent on the parallelism between medieval logic and post-Fregean logic. This parallelism was strongly expressed by Father Philotheus Boehner[9]. For him the principal resemblance between these two types of logic, modern and medieval, is that of being formal, to the extent that to speak about the formality of medieval logic is a *nugatio* or tautology.

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[2] Peter Thomas Geach, *Reference and Generality: An Examination of Some Medieval and Modern Theories*, Cornell University Press, 1964, Claude Panaccio and Ernesto Perini-Santos, "Guillaume d'Ockham et la suppositio materialis", in *Vivarium*, Vol. 42, No. 2 (2004), pp. 202-224, Gyula Klima, "Existence and reference in medieval logic", in Alexander Hieke, Edgar Morscher (eds.), *New Essays in Free Logic*, Kluwer Academic Publishers, 197-226, 2001. Paul Vincent Spade, "Ockham's Rule of Supposition: two conflicts in his theory" in *Vivarium*, XII, 1, 1974, pp. 63-73, and many more.

[3] Alan R. Perreiah, "Approaches to supposition theory" in *The New Scholasticism,* vol. XLV, nr. 3, 1971, pp. 381-408; "Supposition theory: A new approach" in *The New Scholasticism,* vol. LX, nr. 2, 1986, pp. 213-231.

[4] Catarina Dutilh Novaes, *Formalizing medieval logical theories*, Springer, 2007.

[5] Elizabeth Karger, "Modes of personal supposition: the purpose and usefulness of the doctrine within Ockham's logic" in *Franciscan Studies*, Vol. 44, William of Ockham (1285-1347) Commemorative Issue Part I (1984), pp. 87-106; "Conséquences et inconséquences de la supposition vide dans la logique d'Ockham" in *Vivarium*, Vol. 16, No. 1 (1978), pp. 46-55; Gareth Matthews, "A note on Ockham's theory of the modes of common personal supposition" in *Franciscan Studies*, Vol. 44, William of Ockham (1285-1347) Commemorative Issue, Part I (1984), pp. 81-86, and many more.

[6] Philotheus Boehner, *Medieval Logic: An Outline of Its Development from 1250 to 1400,* University of Chicago Press, 1952; "A Medieval Theory of Supposition" in *Franciscan Studies*, Volume 18, Numbers 3-4, 1958, pp. 240-289; Terence Parsons, "Supposition as Quantification versus Supposition as Global Quantificational Effect" in *Topoi*, Volume 16, Issue 1, 1997, pp. 41-63, and many more.

[7] The different interpretations listed above are not necessarily mutually exclusive: a theory of reference or inference may need a theory of quantification. A theory of inference, reference, quantification or hermeneutics may include a theory of conceptual notation.

[8] This anachronism was pointed out in Dutilh, 2007, *op. cit.*, regarding the interpretation of supposition theory as a theory of reference especially in Ockham's case. This consideration could be expanded to the other kinds of interpretations.

[9] Philotheus Boehner, 1952, *op. cit.*, p. xiv.

Without doubt, since then, the characterization of medieval logic has suffered various qualifications. As already a few years later, I. M. Bochénski has pointed out that beside the resemblance in formality, there is a difference that could be applied also to the medieval supposition theory, by reason of the difference between ordinary language employed in medieval logic and the artificial one used in contemporary logic[10].

This particular character of medieval logic, alongside the already mentioned tradition of considering it as being unqualifiedly formal, could be made accountable for the various positions taken in the current debate regarding supposition. Moreover, it appears that in more recent studies the distance between medieval and modern logic regarding their formality has started to fade out. What Catarina Dutilh Novaes calls the systematic approach[11], i.e., the line of interpretation that studies medieval logic with the conceptual tools of modern logic that can be generally described as processes of interpretations through formalizations, seems to take the resemblance expressed by the notion of formality as a commune trait for both types of logic, and thus, as justification for its approach. In other words, this would imply that as long as we find commune features between medieval and modern logical theories or we consider the medieval logical theories as precursors of or proto-versions of the modern theories, the interpretation of the former with the tools of the latter is justified. But this kind of reasoning begs some answers to the questions: "Is formality truly a property of supposition theory (or of medieval logic in general), or it is a property imposed by the methods of studying it?", "Can the theory of supposition be in general characterized as formal, or its formality depends on the nature of the theory in which it is interpreted?".

Although we encounter more often the systematic approach in studies on the more resourceful and mature content of later theories of supposition, such as Ockham's and Buridan's, than on the earlier ones, the question regarding the formality of the supposition theory of someone like Peter of Spain remains a subject of great

[10] Józef Maria Bocheński, *A History of Formal Logic*, Notre Dame Press, 1961, p.173. It is trivially true that that modern logic has more elaborated methods of notation since it uses an artificial language that can express the formal aspects in a more adequate manner. Its lack in medieval logic does not disqualify from the very beginning medieval logical theories from being formal. The language that they use is not merely ordinary. Medieval Latin used in universities was not an ordinary Latin, but a highly regimented version of it. Explanations concerning formal aspects of different logical theories were given in a natural language enriched with a set of concepts and a terminological framework that is nowhere to be found in an ordinary spoken language. Such being the case, the language in play could be called without hesitation a semi-artificial one. See also L. Cesalli, "What is Medieval Logic After All? Towards a Scientific Use of Natural Language", *Bulletin de Philosophie Médiévale*, Brepols, 2010, 52.

[11] Dutilh, 2007, *op. cit*., p. 8-9.

importance. The existence or absence of the character of formality in his theory can be a tool both for the assessment of the modern interpretations of supposition theory and for answering the question regarding what Peter of Spain's theory of supposition really is. In this paper our main objective will be to establish what elements of Peter of Spain's supposition theory will allow us to qualify it as being formal and in what specific sense. Our second objective is to verify if these formal elements fit the interpretation of supposition theory as a theory of quantification.

Accordingly, in a first part, we will try to summarize the possible ways in which something could be said to be formal by using recent remarks on the notions of form and formality.

In a second part, we will identify the components of Peter of Spain's theory of supposition that could allow us to consider it as being formal taken in one of the senses described in the first part.

In a third part, we will summarize Ockham's homologous theory and argue for the presence of a higher degree of formality than in Peter of Spain's case. Then, we will argue why the interpretation of the supposition theory as a theory of quantification seems not to be an epistemological process. In spite of this fact, we will point out that the quantification interpretation seems to use a type of formality more closely related to Ockham's theory than to Peter's logical considerations.

1. Remarks on the notion of form and formality

Before discussing the elements of Peter of Spain's theory of supposition that could allow us to call it formal, we must first take a short detour. Form and formality are historical concepts that have incorporated over time multiple meanings. Although we are not strictly interested in the historical mutations of those two concepts, a specification of the many senses in which something can be called formal is a necessity, since our purpose is to find in what sense Peter's supposition theory presents the character of formality. Thus, in this section we will exhibit for our aim two categories of formality. The first one is represented by the traditional and general notions of formality that sprang from the Aristotelian tradition of doing logic that could be considered in part characteristic for Middle Ages. The second one includes the specific notions of formality that can be found in recent literature on the metalogical problem of formality.

1.1. The traditional and general notions of form and formality

As John Gordon MacFarlane has already pointed out in his thesis[12], the concept of form and implicitly that of formality regarding logic has its distant origins in the Aristotelian doctrine of hylomorphism, i.e., in the distinction between matter and form accompanied by the theory of the four causes. Hints for the explicit formality of Aristotle's logic are suggested in his discussion in *Physics,* 195a 16-21, and *Metaphysics*, 1013b 19-20[13], where he points out that the hylomorphic distinction could be applied also to a syllogism, where the premises will function as a matter for the conclusion. Then, the implicit formality could be easily observed throughout his discussion of the syllogism in *Prior Analytics*. The employment of schematic letters for propositional terms, the classification of propositions according to their components and variation in quantity and quality, the identification of valid schematic forms of inference (moods classified in figures), the use of logical principles for the demonstration of validity, are all just a few uncontested examples for the formality of his logic. In addition, a presupposed argument for the difference between a logical form of a proposition and a grammatical form could be read in his entire logical work especially in *Sophistical refutations*. But regarding again the explicit formality, this aspect is reinforced in the later peripatetic tradition, by the commentators of Aristotelian logic like Alexander of Aphrodisias, John Philoponus and Ammonius[14]. Starting with them, we can speak about what MacFarlane has coined "the tradition of logical hylomorphism", "the tradition of characterizing logic as distinctively formal"[15].

It is quite clear that the medieval logic was developed under the shadow of Aristotle's logical considerations, and consequently inherited its tradition of logical hylomorphism. But there is another part of Aristotle's logic that deserves our attention. Through the introduction of peripatetic logical doctrines in the medieval universities, we can discover besides formality as use of schematic letters and formality as the existence of a form (of a syllogism, of a proposition etc.), a much broader or general sense of formality: formality as conceptual rigor and methodological coherence. This particular kind of formality, deeply reflected in the specialized university language, has emerged from the understanding of logic as an *organon* for the general activity of reasoning. Its existence can be clearly seen from the place

[12] John Gordon MacFarlane, *What does it mean to say that logic is formal?*, Phd thesis, 2000.

[13] *Ibidem*, p. 255 and Catarina Dutilh Novaes "The Different Ways in which Logic is (said to be) formal" in *History and Philosophy of Logic*, 32:4, 2011, p. 305.

[14] See MacFarlane, *op. cit.,* p. 260.

[15] *Ibidem*, p. 6.

and role of logic in the university curriculum. In this regard, logic was studied at the beginning of academic career, in the Faculties of arts, in the group of disciplines called trivium (grammar, dialectic, rhetoric). Its priority was justified by the fact that logic was considered to be a method or tool for studying and regulating other disciplines and university practices. Peter of Spain for examples, in the beginning of his *Tractatus* gives a definition of logic inspired by Aristotle's *Topics,* 100a-101b, which is nothing else but a common place of medieval conception of logic or dialectic. This definition comprises exactly those aspects mentioned above. First, dialectic or logic offers the principles and method without which other disciplines could not legitimately be called sciences in the Aristotelian way. Second, it offers the logical framework that dictates how the university disputations, mandatory practices of an academic career, should properly be made[16].

But, given that medieval logic is not a simple resumption or reinterpretation of the Peripatetic logical doctrines, its formality could not simply be reduced to the Aristotelian heritage, which otherwise does not constitute the direct object of our inquiry. *Logica modernorum* with its study of the properties of terms adds new situations for logic that beg for a study of the formality unfolded in different terms. For such an endeavor, in addition to the traditional notion of formality and the general one, both transmitted by Aristotle and summarized above, we will need a specification of the different ways in which something could be said to be formal in a more rigorous manner.

1.2. Specific notions of form and formality

After we have examined the traditional and general notions of formality, we must focus on the contemporary notions of formality. On this subject we can stress two aspects. The first one is that MacFarlane[17] and Catarina Dutilh Novaes[18] have separately and with different purposes tried to identify the ways in which logic can be said to be formal. From their studies we obtained two series of six types of formality.

[16] See Peter of Spain, *Summaries of logic,* text, translation, introduction and notes by B. P. Copenhaver with C. Normore and T. Parsons, Oxford University Press, 2014, I.1., p. 101. (I will abbreviate Peter's work with SL and William Ockham, *Opera Philosophica I - Summa Logicae,* St. Bonaventure, N.Y.: Editiones Instituti Franciscani Universitatis S. Bonaventurae, 1974, eds Boehner, Philotheus, Gál, Gedeon, 1915- Brown, Stephen, on www.logicmuseum.com with Sl)

[17] MacFarlane, *op. cit.*

[18] Dutilh, 2007, 2011, *op. cit*.

MacFarlane's first set of notions, i.e. (M1.) 1-formal, (M2.) 2-formal, (M3.) 3-formal[19], has the purpose of establishing the three ways in which contemporary logic can be properly said to be formal. A reformulation for each type of formality in a more intuitive manner is made on the basis on the concept of abstraction from content or subject matter, resulting in a description of logic as independent from: a particular domain of conceptual application for M1, particular object or individual for M2, semantic content for M3. Accordingly, M1 represents the property of logic of being applicable in any domain of conceptual activity, M2 the property of logic of treating each individual entity the same without being concerned about its individual features and finally, M3 the property of logic that makes the logical content void of factual meaning.[20] The other three notions of formality are listed in the second chapter of his book. They are considered as decoy notions, i.e. notions which fail to demarcate the logical domain from that of the non-logical: (M1*) syntactic formality[21], (M2*) schematic formality[22] and (M3*) grammatical formality[23].

Regarding Catarina Dutilh Novaes[24], we can find six different notion of formality that are used in various ways in the action of formalizing through axiomatization, symbolization and conceptual translation. They are grouped in two clusters according to two general meanings of the notion of 'formal'. The first two types correspond to 'formal' as strict application of rules (opposed to informal) and the following four to 'formal' as form (opposed to matter) as follows: (D1.) 'formal' as regimentation, (D2.) the algorithmic notion of 'formal', (D3.) 'formal' as structure and abstraction from content, (D4.) 'formal' as absence of meaning, (D5.) 'formal' as variation, (D6.) 'formal' as indifference to particular objects[25]. According to this classification, logic, formal theories or formalizations made through logic can be considered formal because: (D1) their formal language is generated by applying explicitly defined rules, (D2) the inference-making can be made by a machine by strictly applying rules, (D3) they deal with the relation between objects and not with their matter, (D4) symbols are not considered meaningful expressions but only simple objects, (D5) the logical form of an expression permits the variation of specific objects under schematic letters or (D6) objects are not considered in their particularity or accidental properties but in their property of simply being objects.

[19] MacFarlane, *op. cit.*, p. 51.
[20] See idem.
[21] *Ibidem*, p. 31.
[22] Idem.
[23] Idem.
[24] See Dutilh, 2007, *op. cit*., section 4.1.3. The notion of the formal.
[25] See idem.

The taxonomy considered by Dutilh that takes into account the formality of logic is not so different from the considerations put forward by MacFarlane. In fact, with the exception of the pejorative shade of decoy senses of formal and the transcendental import of the M1, M2 and M3 formality, we can corelate the two mentioned taxonomies: M1* - D4; M2* - D5; M3*, M3 – D3; M2-D6; M1-D1, D2. MacFarlane's syntactical and schematic formality are associated by Dutilh with the fourth and fifth type of formality[26], grammatical formality and 3-formality can be correlated with the third sense and 2-formality with the sixth. Only the formal as pertaining to rules seems to be omitted as a specific type by MacFarlane, being instead presupposed by 1-formality. In fact, our intuitions are partially confirmed by Dutilh herself in a more recent analysis of the same subject[27]. Without insisting to much on these notions, we can see that the notions of form and formality present different degrees of strength. 'Formal' as regimentation for example could arguably be considered less formal than the algorithmic notion of formality. This fact leads us to the second aspect, the notion of formalization. If form and formality are a matter of degree, then formalization is the process of obtaining a higher degree of formality or of showing the formality of an object. Axiomatization, symbolization and conceptual translation are canonical ways which are using different notions of formal to formalize objects[28]. If we put the notion of formalization in relation with that of modeling or idealization as Sven Oven Hansson does regarding philosophy in general, then formalization seems to be a process which implies a change of the object to be formalized in two steps, from common language to a regimented one and from a regimented one to a mathematical or logical language[29]. The question of whether we have the same object before and after formalization, i.e. if the object to be formalized is different or not from the product of formalization after the conceptual tools of formalization have been applied, has a direct interest to our purpose.

Many scholars have argued for the interpretation of the theory of supposition as a theory of quantification by formalizing it in different ways. If the theory of supposition can be interpreted legitimately as one of the theories suggested above, then it must be argued that:

a. the formalization used is an epistemological process of interpretation which does not change to a large extent its object of interpretation

[26] See Dutilh, 2007, *op. cit.*, p. 228, note 402; pp. 227-228.
[27] Dutilh, 2011, *op. cit*.
[28] See *Part 4 The philosophy of formalization* in Dutilh, 2017, *op. cit*.
[29] See Sven Ove Hansson, "Formalization in Philosophy" in *The Bulletin of Symbolic Logic*, Vol. 6, No. 2 (Jun., 2000), pp. 164-165.

b. the formality of the object to be formalized is not different to a large extent from the formality of the formalized object.

We will use this preliminary remark as a guide to argue for a degree of formality in the Peter of Spain's theory of supposition which would justify or not some of the instances of its interpretation in modern theories.

2. The formality of Peter of Spain's supposition theory

Regarding the interpretation of supposition theory as a theory of quantification, it seems that the analysis of the propositions into constituent elements which could be classified in a modern way as logical (pertaining to the form of proposition, or to syntax) and non-logical (pertaining to the matter of the proposition, or to semantics) was the starting point. As far as we know, one of the first scholars who made a classification of the modern interpretations of supposition theory and simultaneously thought that they present some particular problems was Alan Perreiah. His article[30] is pointing out that there is a syntactical interpretation on supposition represented by Philotheus Boehner and especially by Ernest Addison Moody which are seeing supposition as "a system regulating inferences between propositions in virtue of the relationship between their component terms"[31]. In this view, the syntactic, logical or formal elements of proposition are used to describe how a specific inference could take place from a categorical proposition with quantified general terms to an equivalent non-quantified proposition with discrete terms. Since then, we can identify almost a dozen more scholars that will agree on this matter. But for such an interpretation to take place, we need (a.) a distinction between the elements of a proposition and their function in the supposition theory such that a syntactic interpretation could be argued for and (b.) rules that will explain how the syntactic elements will facilitate the inference from one proposition to a second one that is equivalent to the first. What I will try to argue in this part of my paper is that, in a first place, although Peter of Spain makes some remarks that resemble a syntactic-semantic distinction and thus a syntactic formality, the supposition theory is not as syntactically defined as a modern interpretation would want, and that, in a second place, the rules of inference are missing, making the supposition theory something entirely different from a theory of quantification.

[30] Perreiah, 1971, *op. cit.*
[31] *Ibidem*, p. 382.

2.1. The elements of a categorical proposition and the semantic-syntactic distinction

In a first step, a semantic-syntactic distinction could be made on the basis of the distinction between categorematic and syncategorematic words that we can find in the first tract and at the beginning of the sixth one. According to Peter of Spain, the minimal structure of a categorical proposition, i.e. a composed phrase (*oratio*) that signifies the truth or falsity, contains a subject and a predicate to which it could be added a copula or other parts of proposition[32]. The subject and the predicate are called categorematic words or terms not only in virtue of the fact that they appear in a propositional context as constituent parts, but also because they can signify, i.e. they represent on their own to the hearing by convention, a universal or a particular extra-mental and extra-propositional entity. In contrast, syncategorematic words cannot signify a universal or a particular but merely co-signify something with a categorematic term[33]. If we could admit that syncategorematic words signify something, they signify only in an improper and indirect manner an intra-propositional state, the disposition *(dispositio)* of the subject or predicate term within the proposition[34]. The most notably syncategorematic terms in a simple categorematic proposition are the universal affirmative and negative signs and the particular ones (omnis, nullus, aliquis, aliquis… non). As we can see, a distinction between syntactic and semantic level starts to emerge. Syncategorematic words, the universal and particular signs and the copula, do not have an independent signification or meaning, although they are not as void of meaning as our logical symbolism is, because they are words expressed in natural language which co-signify with other words of the proposition. However, along with the categorical notions of subject and predicate they form what could be called the syntactic level of proposition. The semantical level will be then the actual categorematic terms of the proposition with their specific meaning(s). If from these remarks we can make a clear-cut distinction between semantic and syntactic levels of a proposition is an entirely different debate, but for now these will suffice for an argument for the syntactic formality of Peter's theory.

[32] See SL I.7.
[33] See SL I. 5; SL VI. 1-2.
[34] See SL 12. 5.

2.2. The definitions of supposition and the conditions of its modes[35]

In a second step, another argument for a presupposed syntactic formality could be made from the definition of the supposition and its specific modes. First, supposition is defined *as the taking of a subject term in place of something*[36]*,* but as we will see, it is also used for a predicate term that has a substantive form. This suggests that supposition might be seen as a relation between a propositional entity, the term, and a certain kind of different entity. But this relation does not have a rigorous definition after all. In fact, it is based on an analogy. In Latin *suppono*, *supponere* is a verb which describes the action of substituting an object with another object; accordingly, *suppositio* will describe in a common spoken language the relation between two physical objects: the one which substitutes (the *supponens*) and the one which is substituted (the *suppositum*). In our case the objects of the relation of supposition are not all physical. One is a propositional term, and the other is, at a first look, an unspecified entity. But if we take into account Peter's signification theory, the theory on which the supposition notion is defined, we must find an answer for the type of the second entity[37]. Since supposition is based on signification and Peter of Spain's theory of signification presupposed that the thing that could be signified is either a universal or a particular[38], then the entity for which a term stands in supposition is either a universal or a particular object. In these terms, according to this realist assumptions, the supposition could be defined as a relation between a term and an entity which is extralinguistic and extramental. This fact weakens from the very start the syntactic interpretation of supposition which considers supposition to be an inferential relation between terms. We shall next see what happens in the specification of the different modes of supposition.

Secondly, the types of suppositions that a term could have are analyzed in a series of divisions, or in other words, in a binary tree structure. The nature of the conditions for a specific supposition to take place depends on the level of the tree, marked by a distinction between types of suppositions.

The first division is that between discrete supposition (*suppositio discreta*) and common supposition (*suppositio communis*)[39]. "Discrete supposition is what is

[35] Given the space limitations, I will consider the basic features of the theory of supposition as known.
[36] See SL VI. 3.
[37] Idem.
[38] See SL VI. 1-2.
[39] See SL VI. 4.

produced by a discrete term, like 'Socrates' or 'that human'"[40]. Accordingly, in case of the first division of supposition we arguably have a syntactic or logical condition: the types of the *supponens* terms, which function as placeholders for any term of that specific type.

The second division is of common supposition into natural (*suppositio naturalis*) and accidental supposition (*suppositio accidentalis*)[41]. In this case, we have as conditions: the parent condition and (a) a syntactic condition, i.e. whether a word is added or not to the *supponens* and (b) a semantic condition, the range of *suppositum* which vary in function of the semantic value or meaning of the other elements of the proposition[42].

The third division is of accidental supposition (*suppositio accidentalis*) into simple (*suppositio simplex*) and personal supposition (*suppositio personalis*). In this case the conditions are: the parent conditions and a semantic condition, i.e. the type of objects which are the *suppositum*, a universal entity or the inferiors of a superior, particular entities[43].

The forth division is that between determinate personal supposition (*suppositio personalis determinata*) and confused personal supposition (*suppositio personalis confusa*), where the conditions are: the parent conditions and a syntactic condition, the type of sign which is added to the *supponens* term, a universal or particular sign[44].

The fifth division is not a proper distinction between the modes of supposition, but rather a distinction between the movability or immovability of a personal confused supposition that can be caused by the necessity of the sign or mode. Peter of Spain uses the notion of descent, i.e. of an inference from a proposition with a *supponens* in confused personal mode to a proposition with a term in discrete mode of supposition. The conditions are: parent condition and the possibility or impossibility to descent from a common term to its inferiors, condition that seems to be a syntactical one although it is not regulated by specific rules[45].

To summarize Peter's theory of supposition, we could point out the following aspects. The theory of supposition is a logical tool that helps to establish the type of entity for which a term can stand in a propositional context. In defining it Peter

[40] Idem.

[41] Idem.

[42] It is true that if we take into account Peter's examples for the accidental supposition and not his laconic definition, then the (b) condition can be spelled out as a weak formal condition, i.e. grammatical formality, because the only thing that conditions the changes of the *suppositum* in his examples is a grammatical aspect, the time of the verb.

[43] See SL VI.5-6 SL VI.7.

[44] Ibid; SL VI. 8-9.

[45] See SL VI. 9.

relies unfortunately more heavily on examples rather than on rigorous definitions and rules. If we rethink his theory in terms of categorical propositions and try to establish for each subject and predicate of them a kind of supposition, then we will arrive at the same result as the one partially suggested by John J. Swiniarski[46]. In the universal affirmative the subject term has personal confused and distributive (movably) supposition in virtue of the universal sign and the predicate term has simple supposition in virtue of the passage from SL VI. 6[47]. In the universal negative the subject and the predicate term have confused and distributive (movably) supposition because of the negative sign[48]. In the particular affirmative proposition, the subject term has personal determinate supposition in virtue of the particular sign and the predicate has simple supposition considering the same passage from sixth tract. In the particular negative proposition, the subject has personal determinate supposition for the same reason as in the previous case and the predicate has personal distributive (movably) supposition being that the negation confuses and distributes the term.

2.3. Conclusions

From the previous definitions and conditions, we can conclude that

1. The types of supposition that a term could have do not rely only on syntactical conditions but on semantical conditions as well. What makes the difference between the supposition of the term "homo" in "homo est currens" and "homo est species", i.e. between a personal determinate supposition and a simple supposition, is not a syntactic criterion but a semantical one, the meaning or signification of the verb that is predicated to the subject.

2. Although, the confused and determinate modes of personal supposition are defined by syntactic criteria – the type of syncategorematic words (the universal or particular sign) that is added to the common term – they inherit the sematic criteria of their parent node – the type of *suppositum* for which the common term stands, i.e. an extramental and extra propositional inferior, an individual.

3. We cannot find sufficient textual evidence to state that the modes of personal supposition are defined by the relation of descent. In fact, only in the case of the fifth level, which is not a per se distinction of modes of supposition, this notion plays a significant role. If, however, we made a concession, we would have

[46] See John J. Swiniarski, "A New Presentation of Ockham's Theory of Supposition with an Evaluation of some Contemporary Criticisms", in *Franciscan Studies*, Volume 30, 1970, p. 203.
[47] "Of simple supposition […] another is of a common term put in an affirmative predicate".
[48] See SL XII.14.

specific rules of inference for each mode of supposition that will describe how the descend will take place. In their absence, we can see that the notion of descent or of inference is used only to verify if the supposition of the term was well-chosen. And on a further note, the notion of ascent that could make the inferred proposition equivalent to the original one is missing.

4. If we were to equate in an unfaithful manner the notion of descent to that of personal supposition, so that an interpretation of it as a quantification theory could take place, then we will be forced to ignore Peter of Spain's realist thesis, and to regard the relation of supposition as an intra-propositional relation, a relation between quantified common terms and discrete terms or more exactly a relation between propositions that are containing them. If we take his theory of supposition as a whole and if we take a careful look at his examples and his conditions of establishing the modes of supposition, this thesis is hard to maintain.

3. The formality of Ockham's theory of supposition

We have already seen that Peter of Spain's classification of modes of supposition is made by a series of syntactical and semantical conditions which hinders the syntactical formality of his theory. From this point of view, his theory seems to be defined as a relation between a propositional entity, a term, and an extra-mental and extra-propositional entity, an object. If we are to blame his realist assumptions for this result, next we shall take a look on a nominalist account on supposition. In what follows I want to show that Ockham's theory of personal supposition has a more rigorous kind of treatment which makes it to be a better candidate for syntactic formality.

Ockham's first division of supposition is that between simple, material and personal supposition, but, because personal supposition is the only supposition where a term "supposits for the thing it signifies and does so significatively", we will only take this last one into account, and more precisely the confused common personal supposition (merely confused and confused and distributed) and determinate common personal supposition[49]. In this case, the formality rests on the fact that the types of personal supposition are more rigorously defined using the notion of descent and ascent, which are inferences from categorical propositions to a proposition or a concatenation of propositions where the quantified common term with a type of personal supposition is replaced with unquantified discrete terms and arguably vice versa.

[49] See Sl. 63.3-4.

Personal supposition[50] is first divided into determinate and confused supposition. Determinate supposition takes place when we can descend under a common term to singulars by a disjunctive proposition, and from any of the singulars we can ascend to the original proposition.[51]

Then, confused supposition[52] is divided into merely confused and confused and distributed supposition. Merely confused personal supposition takes place when we cannot descend to singulars under the common term by a disjuctive proposition without any modification, but we can descend to a proposition of disjunctive predicate, and it happens that we can ascend from any of the singulars to the original proposition[53].

Next, the confused and distributive supposition is defined as the type of supposition that takes place when we can descend to a proposition copulatively, if it has many things contained and from no single one thing we can formally infer or ascend to the original proposition[54].

Besides these definitions, we have specific syntactic rules for each type of personal supposition[55]. Those rules allow us to ascribe to each predicate and subject of the classical categorical propositions a specific kind of supposition

- A proposition (universal affirmative): the subject has confused and distributive and the predicate merely confused supposition
- E proposition (universal negative): the subject and the predicate have confused and distributive supposition
- I proposition (particular affirmative): the subject and the predicate have determinate supposition
- O proposition (particular negative): the subject has determinate supposition and the predicate confused and distributive supposition.

In conclusion, in Ockham's case, the general picture is more complete than in Peter's case. The latter does not formulate explicit rules that allow us to establish a classification of this sort in the terms of ascending and descending inferences. In at least two cases, that of affirmative categorical proposition, e.g. "Every man is an animal" and "Some man is an animal" or "A man is an animal", Peter rejects the possibility to descend under the predicate, and consequently to form a presupposed

[50] See Sl. 64.1.
[51] See Sl. 70.4-5.
[52] See Sl. 70.6.
[53] See Sl. 70.7.
[54] See Sl. 70. 8.
[55] See Sl. 71. 2, Sl. 73. 1; Sl. 74. 1-3.

equivalent proposition, since he considers that here "animal" has simple supposition, standing in the place of a universal entity. But even in Ockham's case we must be cautious not to make a confusion between the notion of personal supposition and the notion of descent and ascent (inferences with the aid of quantifiers). For personal supposition takes place when a term supposits for its *significatum*, whether that *significatum* is an utterance, an intention of the soul, written, imaginable or probably more importantly a thing outside the soul. The foundation of the supposition on the semantic notion of signification and especialy the last acceptance of *significatum* as an extra-mental and extra-propositional entity excludes the possibility that supposition is only a syntactic or inter/intra-propositional property. Even if we granted that the notions of descent and ascent are not used only as verification principles of the modes of personal supposition but are the supposition itself, as a quantification theory would want, we must face some serious difficulties, as we will see in the following part.

If we consider that Ockham's personal supposition theory is a theory of quantification, i.e. a theory that shows how from categorical propositions with quantified common terms we can obtain specific equivalent propositions with discrete terms, therefore, if supposition is some kind of substitution of quantified variables with individuals, as in quantified logic, then we are facing some difficulties. Many of them could be found in relatively recent literature and are ranging from general ones regarding the differences between medieval and modern logic, like the fact that medieval logic is quantifying over terms and modern quantification theory over variables[56] or the fact that one is expressed in natural language and the other in a formal one, to more specific ones like a. the problem of the equivalence between the original categorical proposition and the one which is inferred from it, b. the problem of the complete analysis of a proposition, c. the problem of the supposition of the predicates in O-type propositions and d. the problem of the priority of analysis, to name just a few.

a. The problem of the equivalence between propositions

Gareth Matthews[57] and John Corcoran and John Swiniarski[58] have pointed out that if Ockham's theory will be interpreted as a theory of quantification, there needs to be an equivalence between the categorical proposition and the proposition

[56] See Gareth B. Matthews, "Ockham's Supposition Theory and Modern Logic", in *The Philosophical Review*, Vol. 73, No. 1, 1964, pp. 91-99.

[57] See Matthews 1964, 1984, *op. cit.*

[58] See John Corcoran, John Swiniarski, "Logical Structures of Ockham's Theory of Supposition", in *Franciscan Studies*, Volume 38, 1978, pp. 161-183.

obtained by descending under the subject or predicate term according to their specific supposition. This means that for each descent from a categorical proposition to the corresponding proposition (conjunctive, disjunctive or with disjunctive predicate) there must be an ascent from that particular proposition to the original categorical one. But as the previously mentioned authors have pointed out, this equivalence is nowhere to be found in Ockham's texts, but rather is invalidated by the fact that only determinate and merely confused suppositions are characterized by a relation of ascent.

b. The problem of the complete analysis of a proposition

Another problem is that, in supposition theory interpreted as a quantification theory, the proposition will be always fully analyzed, i.e. the proposition will suffer two successive descents, one for the subject term and one for the predicate, so that all the terms will finally be discrete terms. But as follows form the previous considerations, the descent according to the supposition of the subject term and of predicate term is made independently or separately and not successively. Therefore, the entire proposition will not be fully analyzed into discrete terms. When the subject term will be analyzed with a descending the predicate term will remain unanalyzed and vice versa.

c. The problem of the supposition of the predicate in O-type propositions

Ockham is ascribing for the predicates of O type proposition a confused and distributive supposition. John Swiniarski[59] and Paul Vincent Spade[60] have pointed out that we can find instances of O-type false propositions where according to the rules of confused and distributive supposition we can descend under the predicate term but with an undesired result, because the conjunctive proposition obtained is true. This fact has made some authors like Graham Priest, Stephen Read[61] and the same Paul Vincent Spade[62] to believe that Ockham is ascribing wrongly the confused and distributive supposition to the predicate of O-type proposition, and instead he should have chosen a merely confused supposition. John Swiniarski's solution leads us to the forth problem.

[59] Swiniarski, *op. cit.*, p. 211.

[60] Paul Vincent Spade, "Priority of Analysis and the Predicates of O-form Sentences" in *Franciscan Studies*, Volume 36, 1976, pp. 263-270.

[61] Graham Priest, Stephen Read, "The Formalization of Ockham's Theory of Supposition" in *Mind*, New Series, Vol. 86, No. 341 (Jan., 1977), p. 109.

[62] Spade, *op. cit.*, p. 269.

d. The problem of the priority of analysis

To avoid the problem raised by the predicate of O type proposition, John Swiniarski, inspired by Peter Geach, is employing a priority of subject rule. According to it, the full analysis of a proposition must start with the subject term of that particular proposition. In this way, the truth of an O-type proposition will be preserved since the predicates in the proposition obtained from a descent under a subject term in an O type proposition will be in a determinate supposition. But this rule brings other problems. Although, Earline Jennifer Ashworth[63] has pointed out that a rule of priority of analysis in function of the type of supposition and not of the type of the term is to be found in sixteenth century, in the works of someone like Domingo de Soto, in the case of Ockham or Hispanus such rules are nowhere to be found. Another problem that we must face because of the rule of subject priority is that the merely confused supposition, the type of supposition that is explicitly ascribed by Ockham to the predicate term of a universal affirmative proposition, will cease to play a role in the analysis of categorical propositions, as Swiniarski is suggesting in the same paper.

From those four points we can easily see that the interpretation of personal supposition as a quantification theory comes with a price that makes us question the general benefit of such an endeavor.

4. Conclusion

The notions of supposition theory in Peter of Spain and William of Ockham are founded on the semantical notion of signification. In the first case, the specific modes of personal supposition are less syntactically defined than in the second one. This fact could make Ockham's theory a candidate for the quantification interpretation but only if we can deal with the shortcomings presented in the last part of the paper. If the formalization or reconstructions of supposition theory are employing the equivalence thesis, the full analysis, the change of supposition for the predicate of O-type proposition or a priority rule, then we have reasons to think that a. the medieval theory of supposition is not formal enough to support a quantification approach and b. the formalizations employed by modern scholars are not epistemological processes, i.e. processes that leave the object to be formalized unchanged.

Moreover, from the many senses of the notion of formality that were exposed in the first section of this paper, it seems that in Peter of Spain's theory of supposition we can identify only two. The first one, a version of formality as regimentation, sine

[63] E. J. Ashworth, "Priority of analysis and merely confused supposition" in *Franciscan Studies*, Vol. 33 (1973), pp. 38-41.

the theory tries to form from natural language a conceptual device that captures the relation between words and things in the general purpose of clarifying the meaning of a given proposition. The second one, a weak version of syntactical formality. Nonetheless, supposition remains a notion defined using the theory of signification and the behavior of its syntactical components cannot fully explain it.

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DETERMINACY OF REFERENCE, SCHEMATIC THEORIES, AND INTERNAL CATEGORICITY

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ABSTRACT. The article surveys the problem of the determinacy of reference in the contemporary philosophy of mathematics focusing on Peano arithmetic. I present the philosophical arguments behind the shift from the problem of the referential determinacy of singular mathematical terms to that of nonalgebraic/univocal theories. I examine Shaughan Lavine's particular solution to this problem based on schematic theories and an 'internalized' version of Dedekind's categoricity theorem for Peano arithmetic. I will argue that Lavine's detailed and sophisticated solution is unwarranted. However, some of the arguments that I present are applicable, mutatis mutandis, to all versions of 'internal categoricity' conceived as a philosophical remedy for the problem of referential determinacy of arithmetical theories.

Keywords: *Determinacy of reference, Peano arithmetic, permutation argument, structuralism, Dedekind's categoricity theorem, schematic theories, internal categoricity*

The central problem[1]

The central problem of this article concerns the determinacy of reference for those mathematical theories whose intended subject matter is a certain mathematical structure[2]. More precisely, the philosophical problem that we are considering is how

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[1] The philosophical issue that I will address in this paper is an instance of what Shaughan Lavine defined in his manuscript, *Skolem was wrong,* as the 'central problem'. Since Lavine's detailed and sophisticated argument will be the focus of my paper, I kept his way of naming the issue.

[2] Of course, there are mathematical theories, such as group theory, ring theory, etc whose axiomatizations are not supposed to pick up a unique structure modulo isomorphism. Following (Shapiro 1997), I shall call such theories, 'algebraic', leaving the characterization 'non-algebraic' for those mathematical theories whose axiomatization is supposed to determinately refer to a unique structure up to isomorphism, such as Peano Arithmetic, analysis, etc. For reasons of clarity (Button and Walsh 2018) contrast algebraic theories with univocal ones.

can a theory such as Peano Arithmetic (PA) manage to characterize, up to isomorphism, its intended subject matter, that is, the natural number structure that we all know and love. A few qualifications are needed in order to unpack the central problem, one methodological, and the rest philosophical.

(1) The problem arises for some profiles of positions in the philosophy of mathematics with some discernable epistemological and ontological features.

Ontologically, the problem arises for a structural realist in the philosophy of mathematics. I will call such a position platonism, although I am aware that that forces the label 'platonist'. What 'realism' means in this context is the combination of three traits, *existence*, *independence,* and *abstractness* of mathematical objects. The first two traits are formal, and concern the status of mathematical objects, while the latter is material and regards their nature. The belief that mathematical entities are *bona fide* existing objects with distinctive properties defines the *existence* trait, the belief that these objects are not our creation, defines the independence trait, and the belief that mathematical objects have a non-spatial, non-temporal, acausal nature forms the abstractness trait.

Epistemologically, the problem arises for what Button & Walsh[3] call a 'moderate' position. An easy way out of the problem of how we can determinately refer to mathematical structures or objects is to attribute to the mind some mysterious faculties, like a mathematical intuition, that enables the mind to glue the theories/ singular mathematical terms to the envisaged structures/mathematical objects. By contrast, a moderate position presupposes the rejection of any talk of intellectual or mathematical intuitions, or for that matter, any mysterious faculties of the mind, and focuses only on philosophical positions capable of offering naturalistically approved explanations. In our case, this means that the explanations have to be semantically traceable. Accordingly, from a moderate perspective, if anything fixes the reference, then the theory and its semantics ought to do it.

(2) I will talk of determinacy of reference of mathematical theories only up to isomorphism for reasons that I will develop and explore in the next two sections.

(3) I will construe the informal talk of 'mathematical structures' as isomorphism types, as is the practice of many mathematicians, thus restricting the analysis to what Button & Walsh[4] call modelism.

[3] (Button and Walsh 2018, 6.3)
[4] (Button and Walsh 2018, 38)

(4) The methodological framework in which I will conduct the analysis is the standard model-theoretic one and at times set-theoretic, customarily employed in textbook presentations of first and second-order logic. I assume that the reader is familiar with these frameworks.

In short, the philosophical setting is constituted by platonism, moderation, and modelism, and the instruments of analysis are the standard model-theoretic ones.

The 'push-through construction' and the permutation argument

There are two arguments for focusing on the referential determinacy of non-algebraic theories, rather than singular mathematical terms, and for considering structures only 'up to isomorphism' as such referential candidates. The first one is based on an elementary result from model theory, the 'push-through construction'[5], and it is known as 'the permutation argument'[6], while the second is based on technical results in set theory regarding different, but equivalent set-theoretic reconstructions of the natural number structure, and it is known as 'Benacerraf's identification problem'[7]. Let us develop the two arguments, with an emphasis on the first one.

Before outlining the permutation argument, we need to state some definitions and basic results in model theory.

In model-theoretic semantics, one typically assigns certain entities of the domain M to each item of the signature[8] $\mathcal{L}$:

i. to every constant $c_i \in \mathcal{L}$, an element $c_i^{\mathcal{M}} \in M$.
ii. to every n-ary relation symbol $R_i \in \mathcal{L}$, a subset $R_i^{\mathcal{M}} \subseteq M^n$.
iii. to every n-ary function symbol $f_i \in \mathcal{L}$, a corresponding n-ary function, $f_i^{\mathcal{M}}: M \rightarrow M$.

Variables v_i , $i \in \mathbb{N}$, are taken to range over the domain M.

Observe that these specifications can be viewed as a schematic referential explanation of the constitutive items of $\mathcal{L}$. More precisely, consider an $\mathcal{L}$-structure $\mathcal{M} = \langle M, c_i^{\mathcal{M}}, R_i^{\mathcal{M}}, f_i^{\mathcal{M}} \rangle$. The structure explicates reference in a similar manner to that of natural languages like English, by assigning to each constant $c_i \in \mathcal{L}$ ($\mathcal{L}$'s

[5] The name originates with (Button and Walsh 2016, 284).

[6] Although permutation arguments have a long history – see (Button 2013, 25) our focus will be on the permutation argument developed by (Putnam 1981, 33–5, 217–18).

[7] (Benacerraf 1965)

[8] I will only consider at most countable signatures since nothing on the arguments involved in the subsequent analysis relies on the cardinality of the signature.

correspondent of a proper name) an element of the domain M, to each predicate $R_i \in \mathcal{L}$ ($\mathcal{L}$'s name of a property/relation) a certain subset, etc. In sort, reference for singular mathematical terms is fixed by stipulation and it has a non-descriptivist character. Based on the above specifications, one then recursively defines in model-theoretic terms the notions of *satisfaction* and *truth*. For subsequent discussions, it is important to note that truth is a relation between a structure $\mathcal{M}$ and an $\mathcal{L}$-sentence φ, usually symbolized like this, $\mathcal{M} \vDash \varphi$. The more general notion of *satisfaction* is a relation between a structure $\mathcal{M}$ with an assignment s from the set of variables to M, and a well-formed formula (wff from now on), symbolically $\mathcal{M}, s \vDash \varphi(\bar{v})$, where $\bar{v}$ is an n-tuple $<v_1, v_2, \ldots, v_n>$ of free variables. In both cases, the relation $\vDash$ connects a model-theoretic structure with a proper linguistic construct. I assume that the reader is familiar with such definitions and with their generalization to $\mathcal{L}$-theories, not just particular sentences, in which case, we speak of the structure $\mathcal{M}$ as a model of any such $\mathcal{L}$-theory T. Note that an $\mathcal{L}$-model $\mathcal{M}$ of an $\mathcal{L}$-theory T, makes true – in the technical sense of model theory – all assertions in T which intuitively should be true, and false the assertions which intuitively should be false. Briefly stated, for any T-sentence φ, $\mathcal{M} \vDash \varphi$, if and only if (abbreviated *iff* from now on) φ is (intuitively) true.

Tacking stock, model theory provides explanatory referential schemas for $\mathcal{L}$ signatures, recursive definitions of truth and satisfaction, which enables the generalization to theories and models.

In model theory, one can easily construct an isomorphic copy of any such structure $\mathcal{M}$. The only requirements are that we have a set N with the same cardinality as M and a bijection $\pi : M \rightarrow N$ – but these are not serious issues since we can take $N = M$, and consider π a nontrivial permutation of M. A basic recipe for constructing an isomorphic copy is the following:

Push-through construction: Let $\mathcal{L}$ be any signature, $\mathcal{M} = <M, c_i^{\mathcal{M}}, R_i^{\mathcal{M}}, f_i^{\mathcal{M}}>$ any $\mathcal{L}$-structure, and $\pi : M \rightarrow N$ any bijection. Define another $\mathcal{L}$-structure, $\mathcal{N} = <N, c_i^{\mathcal{N}}, R_i^{\mathcal{N}}, f_i^{\mathcal{N}}>$ by:

i. $c_i^{\mathcal{N}} = \pi(c_i^{\mathcal{M}})$,
ii. $R_i^{\mathcal{N}} = \{<\pi(m_1), \pi(m_2), \ldots, \pi(m_n)> / <m_1, m_2, \ldots, m_n> \in R_i^{\mathcal{M}}\}$
iii. $f_i^{\mathcal{N}}(\pi(m_1), \pi(m_2), \ldots, \pi(m_n)) = \pi(f_i^{\mathcal{M}}(m_1, m_2, \ldots, m_n))$.

In these conditions, π defines an isomorphism, and we say that $\mathcal{M}$ and $\mathcal{N}$ are isomorphic structures, in symbols $\mathcal{M} \cong \mathcal{N}$.

Isomorphic models preserve the truth-values of all formulas (hence, in particular, of all sentences). If two $\mathcal{L}$-structures $\mathcal{M}$ and $\mathcal{N}$ satisfy exactly the same $\mathcal{L}$-sentences, we say that the structures are *elementarily equivalent*, in symbols $\mathcal{M} \equiv \mathcal{N}$.

Resuming, we can say that if two structures are isomorphic, then they are elementarily equivalent, which is a basic result in model theory often stated as a corollary of the following theorem:

Theorem 1. Let $\mathcal{M}$, $\mathcal{N}$, be any two $\mathcal{L}$-structures such that $\mathcal{M} \cong \mathcal{N}$, with $\pi : M \rightarrow N$ the isomorphic bijection. For all $\mathcal{L}$-formulas $\varphi(\bar{v})$, $\mathcal{M}, s \vDash \varphi(\bar{v})$ iff $\mathcal{N}, \pi \circ s \vDash \varphi(\bar{v})$.

The proof of the theorem is by induction on the complexity of the formulas.

Now, the permutation argument is simply a philosophical usage of the push-through construction in order to undermine the determinacy of reference as explained above i.e. in the model-theoretic semantics. Suppose that one has formulated a nonalgebraic/univocal $\mathcal{L}$-theory *T*, such as Peano Arithmetic, with an intended model $\mathcal{M}$. Obviously, stipulation alone cannot fix the reference of singular terms such as c_i, $f(c_i)$, etc., we can always specify another referential schema in which the referents of all constants c_i, predicates and functions R_i, f_i of the $\mathcal{L}$-theory *T* are different from those in $\mathcal{M}$. A far better candidate for referential glue is represented by the truth-value of sentences. Maybe the truth-value of sentences in which a certain singular term occurs imposes the reference of that singular term. It is precisely this account of the determinacy of reference of singular terms that the permutation argument dismantles. In the intended model $\mathcal{M}$, each singular term has a definite referent; for example, the referent of c_1 in $\mathcal{M}$ is a certain object $c_1^{\mathcal{M}}$. Apply the push-through construction to this intended model, with $N = M$, and π a nontrivial permutation of *M*. In the generated model, call it $\mathcal{M}'$, at least one singular term has a different referent than the one assigned in $\mathcal{M}$, say the interpretation of c_1 in $\mathcal{M}'$ is a definite object $c_1^{\mathcal{M}'}$ which is different from $c_1^{\mathcal{M}}$, the interpretation of c_1 in $\mathcal{M}$. If the truth-values of sentences were enough to glue names to referents, then some truth-values of sentences containing c_1 will differ in the two models, $\mathcal{M}$ and $\mathcal{M}'$. But the push-through construction ensures us that $\mathcal{M}'$ is isomorphic to $\mathcal{M}$, and by the corollary to the theorem 1, $\mathcal{M}'$ is elementary equivalent to $\mathcal{M}$, that is the models are indiscernible with respect to the truth-values of all the sentences. To illustrate this procedure, suppose that the signature $\mathcal{L}$ contains the names of those celestial bodies within our solar system that have been named so far, and the predicate 'is a planet'(abbreviated *P*), while the intended structure $\mathcal{M}$ has a domain *M* that contains all celestial bodies within our solar system (either named or not) and the other ingredients of the signature interpreted in the usual manner. In $\mathcal{M}$, 'Mars' refers to the planet Mars, and the sentence *P(Mars)* is true, i.e. $\mathcal{M} \vDash P(Mars)$. Consider the nontrivial permutation π

that swaps Mars with Phobos. If the story ended here[9], then the truth value of sentences containing the name 'Mars' would enable one to pick out the intended referent, because, obviously $\mathcal{M} \vDash P(Mars)$, but $\mathcal{M}, \pi \nvDash P(Mars)$, where $\mathcal{M}, \pi$ is the model obtained from $\mathcal{M}$ by the π permutation of the domain M, without any other adjustments to the predicate P. However, the push-through construction induces a reinterpretation of the predicate P. In the pushed-through interpretation, P would apply to Phobos, and all other planets minus Mars (π leaves all named celestial bodies un-swapped, except for Mars and Phobos). In this permuted model, call it $\mathcal{M}^{\pi}$ in order to distinguish it from $\mathcal{M}, \pi$, the sentence *P(Mars)* is true, as expected. Moreover, by the corollary to the theorem 1, $\mathcal{M}^{\pi}$ attributes to all $\mathcal{L}$-sentences exactly the same truth-values as $\mathcal{M}$.

The permutation argument has the virtue of being easily extendable to other logics, and one such extension to logics with modal operators was, in fact, used by Putnam[10] to argue that *truth-conditions* of sentences, not just truth-values, underdetermine the reference of singular terms[11].

Concluding, the moral of the permutation argument is simply that truth-values and truth-conditions cannot fix the reference of singular terms, and, for our envisaged philosophical position, the question of w*hat, if anything, fixes the reference of terms* remains pertinent and unanswered.

Benacerraf's identification problem

Besides the permutation argument, there is another celebrated argument that poses a problem for the determinacy of reference of mathematical singular terms, although the main target of the argument is the ontological status of the intended referents of mathematical singular terms. To be more precise, the problem addresses the belief that the natural numbers are genuine objects.

The puzzle is properly stated in a set-theoretic foundationalist setting and it focuses on the structure of the natural numbers. Suppose that one endorses the project of reducing the whole mathematics to set theory. Such a project definitely has some attractive philosophical consequences, for example, it unifies the ontology of the whole mathematics, which just by itself is a significant philosophical achievement. In short, suppose that one is committed to the following thesis:

[9] That is, without any other compensatory reinterpretations of the signature $\mathcal{L}$.

[10] (Putnam 1981)

[11] For an elaborate discussion of this version of the permutation argument and two extensions of the push-through construction see (Hale and Wright 1998).

Set-theoretic foundationalist thesis (SF): Set theory is the foundation of mathematics.

As I mentioned at the beginning of this section, suppose that one also embraces the following:

Thesis (IT): The natural numbers are bona-fide objects.

Benacerraf's identification problem is the observation that there is an irreconcilable tension between (SF) and (IT), manifest in the particular case of the natural numbers. In a standard set-theoretic framework, one can reconstruct the natural numbers system in two elementary equivalent (modulo PA-truths), but referentially incompatible ways.

The sketches of the two reconstructions presuppose that the reader is familiar with Peano systems, specified as a triple $<N, 0, s>$, and with basic set-theoretic concepts and techniques.

(A) The first reconstruction is due to Von Neumann[12], and is by far the most popular one among working set-theorists. Concisely, in Von Neumann's reconstruction, we begin with the following definitions, $0 = \emptyset$, and $s_N(x) = x \cup \{x\}$. Consequently, we obtain the following equalities: $0 = \emptyset$, $1 = \{0\} = \{\emptyset\}$, $2 = \{0, 1\} = \{\emptyset, \{\emptyset\}\}$, $3 = \{0, 1, 2\} = \{\emptyset, \{\emptyset\}, \{\emptyset, \{\emptyset\}\}\}$ and so on. Let N_N to be the smallest set containing 0 and closed under the s_N function (the Von Neumann 'successor function'). Now, it can be proved that:

Theorem 2. $<N_N, 0, s_N> \models Th(PA)$

(B) The second reconstruction is Zermelo's[13], and basically consists in defining $0 = \emptyset$ and $s_Z(x) = \{x\}$. Obviously, in the zermelian reconstruction, $1 = \{\emptyset\}$, $2 = \{\{\emptyset\}\}$, $3 = \{\{\{\emptyset\}\}\}$ and so on. Let N_Z to be the smallest set containing 0 and closed under the successor function s_Z . Again, it can be proved that:

Theorem 3. $<N_Z, 0, s_Z> \models Th(PA)$

By theorems (2) + (3), $<N_N, 0, s_N>$ and $<N_Z, 0, s_Z>$ are elementary equivalent (modulo PA-truths), although referentially distinct: for example, the set corresponding to *2* in N_N is different from the set corresponding to *2* in N_Z; moreover, there are true statements, besides those of PA, which hold in one, but not the other: for example, $3 \in 4$ is true for $<N_N, 0, s_N>$, but not for $<N_Z, 0, s_Z>$.

Benacerraf's identification problem, as it is called, may be stated simply as 'Which set-theoretic objects are the natural numbers?'

[12] Hence the subscript *N* in the subsequent notation.

[13] Hence the subscript *Z* in the subsequent notation.

Enter structuralism. Exit reference

Both the permutation argument and Benacerraf's identification problem received a lot of philosophical attention and scrutiny, and several responses were proposed. For the purpose of this paper, I am going to state briefly and selectively the relevant (for our discussion) standard philosophical countermove to these problems, but before, I will mention a widely entertained consequence of the above arguments with regard to the determinacy of reference of singular terms.

In the particular case of the permutation argument, a widely embraced response[14] was to argue that causal constraints can, and do fix reference. However, in the case of mathematics, there seems to be no such causal constrains, so, the problem of the determinacy of reference holds ground in mathematics. Consequently, the reference of singular terms is taken to be genuinely indeterminate:

> For the objects of pure mathematics, there are no contingencies and no causal connections; so the inscrutability strikes us full force. Inscrutability of reference arises from the fact that our thoughts and practices in using mathematical vocabulary are unable to discern a preference among isomorphic copies of a mathematical structure[15].

The standard countermove, especially in the recent philosophy of mathematics, to the permutation argument and Benacerraf's identification problem was to resort to a structuralist conception of mathematics. Shapiro, Resnik, Hellman, Benacerraf, developed structuralists positions with different ontological, epistemological and semantical flavors. Each of these positions have, however, some common themes, which, for present purposes, are encapsulated as follows: (I) structures are the subject matter of mathematics, and (II) the 'objects'/places in a structure have no other properties except those prescribed by the structure itself[16].

A couple of important consequences follow from (I). From a structuralist point of view, it really does not matter whether two models or two set-theoretic reconstructions of the natural numbers are referentially incompatible, as long as

[14] The literature regarding Putnam's argument is impressive, I mention only few authors who developed this line of response: (Lewis 1984) (Devitt 1983), (Field1972), (Field 1975).

[15] (McGee 1997, 38)

[16] As a caveat, one should not think that (II) entails that all structuralists are committed to the existence of mathematical objects, or even structures. The commas in 'objects', and the alternative 'places in a structure' should pinpoint in the direction of a conditional/ontologically neutral reading. However, the structuralists who believe in the existence of mathematical objects, also think that these objects have no internal nature.

they are isomorphic. All that matters is that they have the same 'structural properties'. According to structuralism, then, it makes sense to talk about reference only 'up to isomorphism'[17], thus rendering objects and mathematical reference to objects irrelevant. Discarding objects does not pose a threatening problem insofar as truth is concerned, for structuralists can argue that

> If our thoughts and practices in using the vocabulary distinguish an isomorphism class of equally good candidates for what the terms refer to, this will be enough to establish a determinate truth value for each of the sentences, even though it doesn't pin down the referent of any term. Inscrutability of reference does not imply inscrutability of truth conditions.[18]

Briefly, truth-value determinacy follows from the determinacy of structures, construed as isomorphism types. The thesis that each sentence has a determinate truth-value is known as 'semantic realism', and a theory's semantical capacity to refer to a unique structure is ensured by categoricity. So, what McGee says is that, for structuralist purposes, categoricity is sufficient for ensuring semantic realism[19].

This philosophical vein converges with the practice of mathematics: mathematicians seem to be uninterested in the ontological status and nature of the mathematical objects; they discern structures only up to isomorphism, especially algebraists, and focus on the truth of mathematical statements, rather than other ontological issues. I take these attributes to be marks of structuralism, of course, not exclusively.

Resuming, if structures are the focal point of mathematics, then all the philosophical problems related to objects are irrelevant or unwarranted. All batteries of concerns about the ontological status and nature of mathematical objects, as well as the problem of the determinacy of reference for singular terms that follows from viewing objects as such referential candidates, are benign (if not irrelevant or unwarranted) with respect to what really matters in mathematics, the truths that the structures entertain. Kreisel, as quoted by Dummett[20], aptly described this move as a move from the problem of the existence of mathematical objects to that of mathematical objectivity.

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[17] A caveat is in order here; there is a version of structuralism, developed by Stewart Shapiro called *ante-rem structuralism*, which zooms in reference up to singular terms – for more details see (Shapiro 1997).

[18] (McGee 1997, 38)

[19] I explored the details and controversies regarding the connection between categoricity and semantic realism in (Ludușan 2015).

[20] "the problem is not the existence of mathematical objects but the objectivity of mathematical statements". (Dummett 1996, xxviii)

Now, it seems that structuralism manages to answer both philosophical problems regarding reference. First, it bypasses Benacerraf's identification problem by insisting that what matters in mathematics are structures, not objects, and secondly it rejects the problem of the indeterminacy of reference of singular terms by rendering it mathematically and philosophically insignificant.

Reference's new structuralist clothes. Enter categoricity

Mathematical structuralism seems to tackle a few philosophically significant problems by shifting the focus from objects to structures. In this way, structures become the bearers of all the mathematically and philosophically relevant properties, such as, for example, the determinacy of the truth-values of sentences, which, as I have mentioned in the previous section, now fully relies on the determinacy of structures. So, a considerable philosophical and mathematical load is placed on structures, which justifies the need for decent ontological, epistemological and semantic explanations regarding structures.

I will disregard the discussions around the ontological status of structures, and, as I have stated in the first section, I will adopt a moderate epistemological position. With this background, I will address a significant semantic problem concerning structures. The problem is the old conundrum about the determinacy of reference, pitched, this time, at the level of theories: *what, if anything, fixes the reference of nonalgebraic/univocal theories*? The reader will recognize this as the central problem. In accordance with the moderation assumption, the explanation cannot invoke innate faculties or intuitions that enable one to pin down the intended reference of such a theory. The explanation, if there is one, has to rely solely on the theory's transparent semantical capacities to determinately refer to a unique structure up to isomorphism. Now, the mathematical way in which one secures that a nonalgebraic/ univocal theory pins down a single structure up to isomorphism, is by proving that the theory is categorical.

> Thus we say that any two isomorphic structures are identical up to isomorphism and it is in this sense categoricity gives us a kind of uniqueness result. It tells us that for all intensive purposes, our theory picks out a unique structure[21].

[21] (Meadows 2013, 524)

A theory *T* is categorical if any two models $\mathcal{M}, \mathcal{N}$ of *T* are isomorphic, $\mathcal{M} \cong \mathcal{N}$.

In conclusion, in order to fulfill the philosophical promises of structuralism, nonalgebraic theories have to refer determinately to unique structures, which, in turn, is secured by providing categoricity results for each such theory.

Categoricity and first-order logic

Categoricity theorems depend heavily on the logical frameworks in which they are conducted, and effectively this means moving beyond first-order logic. As it is well known, the defining properties of first-order logic make it an unsuitable candidate for proving the categoricity of theories that have models with infinite domains. Model-theoretic results characterizing first-order logic tell us that categoricity in first-order logic can only be obtained for theories with finite models. Suppose that a first-order theory *T* expressed in a language of cardinality λ, $\lambda \geq \aleph_0$, has an infinite model of cardinality κ, $\kappa \geq \lambda$. The upward Löwenheim–Skolem theorem tells us that *T* has models of every cardinality κ', $\kappa' \geq \kappa$ while the downward Löwenheim–Skolem theorem tells us that *T* has a model of cardinality $\aleph_0$. Consequently, the two theorems indicate that such a theory *T* cannot be categorical.

In the case of PA such negative results are reinforced by the use of compactness theorem in order to produce continuum-many pairwise non-isomorphic structures with the same cardinality that satisfy PA[22].

A caveat should be addressed here: of course, we can resort to first-order set theory as the metatheory in which we can prove the categoricity of PA, but the standard argument against this maneuver is that this will push the problem from the categoricity of PA to that of the first-order set theory. First-order set theory has non-isomorphic models, non-standard models, and the categoricity of PA proved in this setting only ensures the uniqueness of the referential structure of PA within each model of set theory, not across different models.

Parsons and Lavine certainly recognize this fact:

> Thus, of the set theory in which we have proved Dedekind's theorem, there will also be nonisomorphic models. And nonisomorphic models of set theory can give rise to nonisomorphic models of arithmetic. Consider now two models M1,

[22] For details regarding the construction of such models see (Kaye 1991) and the responses of Joel David Hamkins and Andreas Blass on the following thread on mathoverflow: https://mathoverflow.net/questions/92099/how-many-models-of-peano-arithmetic-are-isomorphic-to-the-standard-model-and-how.

> and M2 of set theory, and let ω1 and ω2 be their sets of natural numbers. Dedekind's theorem is a theorem of set theory; hence it is true in each of M1, and M2. But what that tells us is that within M1 any structure satisfying [PA2] is isomorphic to ω1 (with the obvious structure), and similarly for M2. But it does not tell us that ω1 is isomorphic to ω2; indeed, since non-well-founded models of set theory can be constructed […], they need not be isomorphic[23].
>
> Take two models of set theory with nonisomorphic systems of natural numbers, and the proofs of [DCT and quasicategoricity of ZFC] carried out within each one of them only shows that any models of $PA^{(+)}$ or $ZFC^{<(+)}$ within that one must be isomorphic. Those proofs do not show that the natural numbers in the sense one [sic!] of the two models need be isomorphic to those in the other, let alone that the sets in the sense of one of the two models need be isomorphic to those in the other[24].

In short, appeal to categoricity means moving beyond strictly first-order logic.

The mathematics of Dedekind's categoricity theorem

A natural medium for proving categoricity theorems is second-order logic, which has enough resources to categorical characterize not only Peano Arithmetic, but also endless mathematical structures. From now on, I will focus on the structure of the natural numbers and its standard axiomatization encapsulated in Peano systems (see below).

Moving to second-order logic with standard semantics[25], also called full second-order logic, enables us to fix categorically Peano Arithmetic (PA2)[26]. Dedekind already proved[27] in 1888 the categoricity of PA2, formulated in what we today would regard as full second-order logic. In order to have a better grasp of what the categoricity proof presupposes I will present Shapiro's[28] modern reconstruction of Dedekind's original proof restricted[29] to Peano systems.

[23] (Parsons 1990: 17)
[24] (Lavine 1999, 65-66)
[25] In second-order logic with standard semantics we allow the second-order quantifiers to range over the powerset of the domain of the first-order variable.
[26] As formulated in second-order logic, of course.
[27] (Dedekind 1901)
[28] (Shapiro 1997, 82-83)
[29] This restriction is for simplicity purposes, the rest of the operations and relations of Peano Arithmetic can easily be defined in Peano systems and proved to obey their standard Peano axioms.

Definition 1. A Peano system is a triple P = <N, 0, s > which satisfies the following conditions (PA2):

i) $\forall x \neg(0 = s(x))$
ii) $\forall x \forall y\ ((s(x) = s(y)) \rightarrow (x = y))$
iii) $\forall X(X0 \wedge \forall x(Xx \rightarrow Xs(x)) \rightarrow \forall x Xx)$, where $X \subseteq N$.

Note that the only significant change between a Peano system formulated in first-order logic and one formulated in second-order logic is the induction axiom.

Theorem 4. Dedekind categoricity theorem (DCT): If $P_A \vDash PA_2$, and $P_B \vDash PA_2$, then $P_A \cong P_B$.

Proof: Let $P_A = <N_A, 0_A, s_A>$ and $P_B = <N_B, 0_B, s_B>$ be two Peano systems. Define

$$F = \bigcap\{I \subseteq N_A \times N_B \not< 0_A,\ 0_B > \in I \ and\ if\ < x, y > \in I\ ,$$
$$then\ < s_A(x), s_B(y) > \in I\ \}$$

It is clear that *F* is not empty, for the Cartesian product $N_A \times N_B$ itself would constitute such a set, and, further, by $\prod^1_1$ comprehension such a set exists.

Now, let's prove that *F* is an isomorphism between N_A and N_B. We divide the proof in two parts. First, we show (A) that *F* is a bijective function, and then (B) that it is isomorphic.

(A) For *F* to be a bijective function $F: N_A \rightarrow N_B$, we must first show that it is a function, i.e. to show that

(1) $dom(F) = N_A$.
(2) If $<x, y> \in F$ and $<x, z> \in F$, then $y = z$.

(1) We begin by defining the domain of *F*,

$$dom(F) = \{x \in N_A \,/\, \exists y \in N_B \ such\ that\ <x, y> \in F\}.$$

By induction on $dom(F)$ we will prove that $dom(F) = N_A$. *Base case*: obviously, $0_A \in dom(F)$ [for there is 0_B such that $< 0_A,\ 0_B > \in F$]. *Induction step*: assume that $x \in dom(F)$; accordingly, there is an element $y \in N_B$ such that $<x, y> \in F$. It follows, by the definition of *F*, that $<s_A(x), s_B(y)> \in F$, which, by the definition of $dom(F)$, let us conclude that $s_A(x) \in dom(F)$. By induction, we get that $dom(F) = N_A$.

(2) As in the previous case, the proof is by induction. Define the set[30]:

$$X = \{x \in N_A \,/\, \exists y \in N_B \; such\; that < x, y > \in F \; and \; \forall z \in N_B \,, \; if \; < x, z > \in F, then \; y = z\}$$

Base case: Suppose that $0_A \notin X$. By definition, $<0_A, 0_B> \in F$, so, if $0_A \notin X$, there must be a $z \neq 0_B$ such that $<0_A, z> \in F$. Consider the set $Y = F - \{<0_A, z>\}$; clearly $Y \subset F$. We will prove that $F \subseteq Y$. (I). Obviously, $<0_A, 0_B> \in Y$ [since $<0_A, 0_B> \in F$ and $z \neq 0_B$]. (II). If $<x, y> \in Y$, then $<s(x), s(y)> \in Y$ [since by *i*) of *definition 1*, $s(x) \neq 0_A$]. By (I) and (II), $F \subseteq Y$, contradicting the fact $Y \subset F$. In conclusion, $0_A \in X$.

Induction step: From the supposition that $x \in X$, we'll prove that $s(x) \in X$. So, assume that $x \in X$. This means that there is a unique y such that $<x, y> \in X$. By the definition of F, $<s(x), s(y)> \in F$, so, if we suppose that $s(x) \notin X$, then there is $z \neq s(y)$ such that $<s(x), z> \in F$. Now, consider the set $Z = F - \{<s(x), z>\}$. As in the previous case, we will prove that $F \subseteq Z$, thus contradicting the fact $Z \subset F$. (III). $<0_A, 0_B> \in Z$ [again, $<0_A, 0_B> \in F$ and by *i*) of *definition 1*, $s(x) \neq 0_A$]. (IV). Assume that $<a, b> \in Z$. Then $<a, b> \in F$. By the definition of F, $<s(a), s(b)> \in F$. Now, there are two possibilities: either $a = x$, or $a \neq x$. If $a \neq x$, then, by *ii*) of *definition 1*, $s(a) \neq s(x)$, so $<s(a), s(b)> \in Z$. If $a = x$, then, since $x \in X$, there is a unique y such that $<x, y> \in X$, so $b = y$. But, by the assumption that $s(x) \notin X$, there is $z \neq s(y) = s(b)$ such that $<s(x), z> \in F$, so $<s(a), s(b)> \in Z$.

By (III) and (IV), $F \subseteq Z$ which contradicts the fact that $Z \subset F$. In conclusion, if $x \in X$, then $s(x) \in X$.

(1) and (2) assure us that F is a function, $F: N_A \rightarrow N_B$. Now, it remains to prove that F is bijective. This is done, as in the previous poof, in two steps, proving that:

(3) F is injective.

(4) F is surjective.

(3) Consider the set $X = \{x \in N_A \,/\, \forall y \in N_A \; ((F(x) = F(y)) \rightarrow (x = y))\}$

The proof is by induction on N_A along the same lines as in the first proof given above.

(4) Consider the set $X = \{ y \in N_B \,/\, \exists x \in N_A \wedge F(x) = y\}$

The proof is by induction on N_B along the same lines as in the first proof given above.

(B) The isomorphism of F follows directly from its definition.

[30] This set corresponds to the property that characterizes a function i.e. that there is just one element from the codomain corresponding to each element from the domain, or, as we expressed this condition, if $<x, y>$ and $<x, z>$, then $y = z$.

The philosophy of Dedekind's categoricity theorem

Dedekind's categoricity theorem, as conducted in second-order logic (SOL), is riddled with worries about its philosophical significance. The literature on the relevance of DCT is impressive and still in the making. I will only mention several philosophical worries that I discerned, emphasizing on the one that will concern us further.

There are ontological worries, based on Quine's criterion of ontological commitment[31], that adopting full PA2 means committing not only to the existence of numbers, but of arbitrary sets of numbers, in virtue of the semantics of the second-order quantifiers[32].

There are epistemological worries, first, about the infinitary set-theoretic presuppositions implied in the adoption of full PA2, and secondly, that commitment to full SOL presupposes the determinacy and intelligibility of the powerset operation, which is problematic[33].

The worry that interests us is that of the relevance of DCT insofar as it establishes the referential determinacy of PA, i.e. as it responds to the central problem.

DCT can provide a definitive answer to the central problem if the background theory in which it is conducted, SOL, is determinate. As it is well known, SOL has two distinct types of model-theoretic semantics: the full semantics, or standard semantics, in which the proof of the theorem was carried, and the Henkin semantics. Without delving too much into the technicalities and subtleties of the differences between the two types of semantics, I will present the significant differences between them, first, in terms of the fundamental feature that distinguishes the two approaches, and secondly, in terms of the difference of metatheoretical properties of SOL equipped with the two semantics.

The standard model-theoretic semantics presupposes that the second-order variables X^n, $n \geq 1$, range over the entire powerset $\wp(M^n)$, $n \geq 1$, of the corresponding domain M^n. In contrast, in Henkin semantics, this presupposition is relaxed by considering the domain of quantification for second-order variables X^n, $n \geq 1$, a subset M^n_{rel} of the corresponding powerset $\wp(M^n)$, of M^n, $M^n_{rel} \subseteq \wp(M^n)$. As one can observe, Henkin semantics are more general than standard semantics; in fact, standard semantics is just a limit case of Henkin semantics, precisely when $M^n_{rel} = \wp(M^n)$, for all, $M^n_{rel,}$ $n \geq 1$.

[31] "A theory is committed to those and only those entities to which the bound variables of the theory must be capable of referring in order that the affirmations made in the theory be true" – (Quine 1948, 33).

[32] See (McGee 1997).

[33] See (Weston 1976), (Field 2001, 352-354), (Field 1994).

As a caveat, let us note that although there is just one standard semantics, there are numerous incompatible Henkin semantics.

The central feature that distinguishes the two model-theoretic semantics, namely, the domain of the second-order quantifiers has a significant impact on the defining properties of SOL with full models or Henkin models. In standard second-order logic, the three defining properties of first-order logic, *compactness, Löwenheim–Skolem*, and *completeness*, fail, while SOL with Henkin models is characterized by all three properties. It is for this reason that Henkin models are closer to first-order logic than full SOL.

Obviously, the defining properties of SOL with Henkin models disrupt the appeal to DCT as a solution for the central problem. The situation is similar to that described three sections above, concerning DCT as proved in first-order set theory. There, we emphasized that such a result establishes the categoricity of PA only within, but not across different models of set theory, i.e. DCT is relevant modulo models of first-order set theory.

The considerations that led to such a diagnosis namely that by the three defining properties of first-order logic, *compactness, Löwenheim–Skolem*, and *completeness*, any theory couched in first-order logic (so, in particular set theory) has unintended models, apply to Henkin models also.

Now, the simple availability of two types of semantics for SOL should not be a problem for establishing the referential determinacy of PA2, if one can provide an explanation with moderate epistemological credentials as to why full models are preferable to Henkin models. But, unfortunately, it is doubtful that such an explanation is even possible. Remember, the moderate cannot appeal to any idiosyncratic capacities that would tie the mind to full models instead of Henkin models; all her available resources are restricted to theories and their semantics. So, the moderate has to explain her preference of full models by introducing more mathematical theory. However, this move is highly problematic, firstly, because the further we move from the referential determinacy of PA2, to that of the metatheoretical background in which it was proved, and to that of the metametatheoretical background and so on, the more philosophically dubious the supposed determinacies become. Secondly, such a move is vulnerable to the initial objection: the introduced explanatory mathematical theory is subjected to the same unintended reinterpretations as the previous (meta)theories were. The latter line of arguing is Putnam's *just more theory maneuver*. Speaking of Putnam, he concisely described the problem with the philosophical relevance of categoricity theorems in SOL:

> the 'intended' interpretation of the second-order formalism is not fixed by the use of the formalism (the formalism itself admits so-called 'Henkin models' […]), and it becomes necessary to attribute to the mind special powers of 'grasping second-order notions'[34]

Internal categoricity

The previous section highlighted that the use of DCT as a solution for the central problem is bound to the determinacy of the semantics or of the models of the metatheoretical background, which, in turn, is bound to the determinacy of higher order mathematical concepts and/or theories, and such a regress seems unbreakable. It is for this reason that in the '90's a somehow radical solution[35] was proposed: to reconstruct categoricity theorems in the purely 'syntactic'/deductive environment of the metatheory, thus bypassing any semantic notions. That means, for example, to reconstruct DCT as a 'pure' theorem in SOL, and refrain from engaging in semantic considerations about DCT or SOL. Such a move amounts to a certain confinement of the categoricity results within the metatheoretical framework, hence the name 'internal categoricity'. Button & Walsh describe the manifesto of this internalization movement like this:

> ***The internalist manifesto***. For philosophical purposes, the metamathematics of second-order theories should not involve semantic ascent. Instead, it should be undertaken within the logical framework of very theories under investigation. Our slogan is: METAMATHEMATICS WITHOUT SEMANTICS![36]

The plan for the rest of the paper is to focus on one such particular form of internalism, that of Shaughan Lavine, as it is articulated in *Skolem was wrong*. Here is how Lavine presents the rationale of his internalism:

> In order to escape the apparent impasse [that DCT is dependent upon the semantics of the metatheoretical background], it will be necessary to formulate and prove categoricity theorems that do not make use of a background set

[34] (Putnam1980, 481)

[35] The main figures of this movement are Charles Parsons, Van McGee, Stewart Shapiro, and Shaughan Lavine.

[36] (Button and Walsh 2018, 227)

> theory. The bulk of the rest of the book will be devoted to solving that problem, but the key idea is simple: No one ever actually compares set-theoretic universes; we compare theories of sets, which are syntactic, not set-theoretic, entities. When we ascend to the level of language and ask the question, "When are two theories syntactically theories of isomorphic structures"?, we shall see that that is a question that has perfectly clear purely syntactic sufficient condition for a positive answer that is free of any need for a background set theory[37].

In this context, I will discuss the potential philosophical uses of the internal categoricity of arithmetic related to the central problem. The philosophical achievements of this particular form of internalism are, however, applicable to internalism itself.

The interesting discussion is whether the internal categoricity results can solve in a satisfactory manner the central problem or something akin to the central problem. I say 'something akin' to the central problem, because internal categoricity does not seem to have any bearings on the central problem, as I formulated it: the central problem has a semantic character, regarding the relationship between PA and its intended referent, while the central feature of internal categoricity has a 'syntactical' character, and couples syntactic entities. Nevertheless, I will argue that the proponents of internalism advanced such arguments, thinking that internal categoricity can solve the central problem. I will argue that such a move is unwarranted. Next, I will go on to consider whether internal categoricity can establish the determinacy of PA's internal-structures. Again, the result is negative.

Schematic theories

The logical medium in which Shaughan Lavine proves an internalized version of DCT is the full schematic theory of Peano Arithmetic, $PA^{(+)}$. I should mention that all three major figures of internalism use schematic induction and comprehension to the effect of proving an internalized version of DCT, so the subsequent analysis applies in a large degree to all versions of internalism. The apparatus of the schematic theories that Lavine employs was theorized and developed to a different end by Solomon Feferman[38]. I will begin sketching the idea behind $PA^{(+)}$ by distinguishing several PA theories (schematic and ordinary). To this end, I will define in general terms the composition of ordinary and schematic theories, and then, using this definitional template I will discern and focus exclusively on different types of PA.

[37] (Lavine 1999, 39)
[38] (Feferman 1991)

Definition 2. An axiomatic theory $S = <\mathcal{L}_S, Ax_S, Rule_S>$ is taken to be specified by three sets: the signature $\mathcal{L}_S$ of S, the special axioms Ax_S of S (those in addition to the logical axioms – Log Ax($\mathcal{L}_S$)), and the special rules $Rule_S$ of S (those in addition to MP and GEN[39]).

Definition 3. An ordinary (axiomatic) theory S is one for which $Rule_S$ is empty i.e. $S = <\mathcal{L}_S, Ax_S>$

Definition 4. By a schematic (axiomatic) theory S = S(P), we mean one for which

(i) $\mathcal{L}_{S(P)}$ is of the form $\mathcal{L}_S \cup \{P\}$, for some base language $\mathcal{L}_S$, and

(ii) $Rule_{S(P)}$ consists of the single rule:

$\mathcal{L}_{S(P)}$-Subst: From Φ(P) infer Φ(φ), in symbols, Φ(P)/Φ(φ), for any Φ(P) and φ in $Form_{\mathcal{L}S(P)}$, where $Form_{\mathcal{L}S(P)}$ = the set of all $\mathcal{L}_{S(P)}$-wffs.

Let us distinguish three types of PA according to these definitions.

Let PA_0 be the Peano Arithmetic base theory defined by the usual axioms that state that 0 is a first element, the successor function is injective, and defines addition and multiplication:

PA_0– (base theory)

(i) $\forall x \neg(0 = s(x))$
(ii) $\forall x \forall y ((s(x) = s(y)) \rightarrow (x = y))$
(iii) $\forall x ((x + 0) = x)$
(iv) $\forall x \forall y ((x + s(y)) = s(x + y))$
(v) $\forall x ((x \cdot 0) = 0)$
(vi) $\forall x \forall y ((x \cdot s(y)) = (x \cdot y)+x))$

The discerning factor between several PA theories is the schematic induction axiom, formulated using a schematic variable symbol *P*:

Ind(P): $(P(0) \wedge \forall x(P(x) \rightarrow P(s(x)))) \rightarrow \forall x(P(x))$

The induction axiom is accompanied by a corresponding substitution rule, which will define a hierarchy of theories. Its basic template is:

$\mathcal{L}$-subst: Ind(P)/Ind($\hat{x}\varphi(x)$), where Ind($\hat{x}\varphi(x)$) indicates the result of substituting $\varphi(t) \in \mathcal{L}$ for each occurrence of P(t) in Ind(P), renaming bound variables of Ind(P) and φ in order to prevent collisions with the free variables of t.

[39] Short for *modus ponens* and *generalization*.

The difference between ordinary PA, schematic $PA^{(s)}$ and full schematic $PA^{(+)}$ manifests itself as soon as we consider extensions of signatures, say an extension $\mathcal{L}$ of $\mathcal{L}_{PA0}$, $\mathcal{L} \supseteq \mathcal{L}_{PA0}$:

Ordinary PA in an extension $\mathcal{L} \supseteq \mathcal{L}_{PA0}$ is: $<\mathcal{L}_{PA0}, PA_0 \cup \{\text{Ind}(\hat{x}\varphi(x)), \varphi(x) \in \mathcal{L}_{PA0}\}>$[40]

Ordinary schematic theory $PA^{(s)}$ in an extension $\mathcal{L} \supseteq \mathcal{L}_{PA0}$: $<\mathcal{L}_{PA0(P)}, PA_0 \cup \{\text{Ind(P)}\}$, $\mathcal{L}_{PA0}$-*subst* rule>

Full schematic theory $PA^{(+)}$ in an extension $\mathcal{L} \supseteq \mathcal{L}_{PA0}$: $<\mathcal{L}_{PA0(P)}, PA_0 \cup \{\text{Ind(P)}\}$, $\mathcal{L}_{(P)}$-*subst* rule>

As one can observe, the full schematic theory $PA^{(+)}$ is the only one that allows derivations of instances of induction containing open wffs from the extended signature $\varphi(x) \in \mathcal{L}$. The ordinary PA_0 contains an infinite number of induction axioms, one for each $\varphi(x) \in \mathcal{L}_{PA0}$, and is immune to extensions of the signature, while $PA^{(s)}$ contains a single induction axiom, from which one can infer only instances containing open wffs in the old signature $\varphi(x) \in \mathcal{L}_{PA0}$. It is no surprise, then, that *PA* and $PA^{(s)}$ are deductively equivalent, although different in elegance (*PA* has an infinite number of axioms, while $PA^{(s)}$ only a finite number). So, the preference of *PA* over $PA^{(s)}$ is a matter of aesthetics. Also, let us note that the induction schema with its associated generous substitution rule from $PA^{(+)}$ behaves as an open-ended induction schema that can be defined as follows:

$(Ind_{1/2})$: $(\varphi(0) \wedge \forall x(\varphi(x) \rightarrow \varphi(s(x)))) \rightarrow \forall x(\varphi(x))$, *for all* $\varphi(x) \in \mathcal{L}$ *and all* $\mathcal{L} \supseteq \mathcal{L}_{PA}$

In a similar fashion, one can adapt the second-order comprehension schema:

CS_2: $\exists X\ \forall x(X(x) \leftrightarrow \varphi(x))$, *for all* $\varphi(x) \in \mathcal{L}$ *such that* $X \notin FV(\varphi)$

to obtain:

$CS(P)$: $\exists X\ \forall x(X(x) \leftrightarrow P(x))$, $\mathcal{L}_{(P)}$-*subst rule, with the proviso that for all* $\varphi(x) \in \mathcal{L}_{(P)}$ *and all* $\mathcal{L} \supseteq \mathcal{L}_{0(P)}$, $X \notin FV(\varphi)$

In the literature around internal categoricity, this open-ended character of schemas is the focal point of discussions and critiques. Note that all instances of $(Ind_{1/2})$, or for that matter of Ind(P) in $PA^{(+)}$ are first-order. This is relevant for our moderation assumption.

[40] As one can easily observe, there is no $\mathcal{L}$-*subst* rule.

Now, Parsons[41], McGee[42], and Lavine[43] all argue for adopting a full schematic perspective as a way of bypassing all the philosophical shortcomings of PA2. The reasons for adopting a schematic perspective are both philosophical and technical. On the philosophical side, McGee and Lavine argue that schematic induction is the only one that accords with arithmetical practices.

> Note that insofar as the theory $PA^{(+)}$ differs from the theory $PA^{(s)}$, it is the former theory that is a superior codification of our informal intentions concerning arithmetic: we intend induction to apply to any predicate of numbers, not just those definable in elementary number theory. No one ever hesitated to apply induction in the context, for example, of analytic number theory, as they should have done if our intentions were better codified by the theory $PA^{(s)}$, a theory that fails to foreclose the intuitively absurd possibility of our coming to define a noninductive predicate of the natural numbers, that is, a predicate W of the natural numbers such that $W(0) \wedge \forall x(W(x) \rightarrow W(Sx) \wedge \exists x \neg W(x)$ holds on the natural numbers.[44]

Note that what Lavine is implying here is that only the full schematic $PA^{(+)}$ can prohibit the definition and incorporation of such 'an intuitively absurd' predicate, thus, that only $PA^{(+)}$ can characterize the standard model of arithmetic. This will become relevant for the argument that I will develop after the next section. McGee also insists on the virtues of open-ended schemas, arguing that in a rational reconstruction of how we learn arithmetic, a fundamental step, if not the fundamental step, is precisely mastering $(Ind_{1/2})$[45].

Now, the technical reason. The fundamental technical reason for adopting $PA^{(+)}$ is that it enables the addition of new predicates with appropriate axioms in the schema of induction. In fact, precisely this type of extensions motivate the adoption of $PA^{(+)}$. Suppose that one is trying to define by primitive recursion a function (and prove the legitimacy of such a definition), say, natural number exponentiation on a group. Then, one can do that in $PA^{(+)}$ in a series of steps:

(i) enlarge the signature so that it consists of the signature of Peano Arithmetic, PA, Group theory, GT, and two predicates, U and U' corresponding to the 'intended' domains of the two theories: $\mathcal{L} = \mathcal{L}_{PA} \cup \mathcal{L}_{GT} \cup \{U, U'\}$

[41] (Parsons 1990)
[42] (McGee 1997)
[43] (Lavine 1999)
[44] (Lavine 1999, 15-16)
[45] (McGee 1997)

(ii) relativize the quantifiers, constants, and function symbols to the predicates U and U'. The resulting theories are symbolized as PA^{+U} and $G^{U'}$.

(iii) add the axioms governing the new relation symbol *E* (For readability reasons I skipped the relativization procedure):

$\forall x\, E(0, x, e)$,

$\forall n\, \forall x\, \forall y(E(n, x, y) \rightarrow E(s(n), x, y \otimes x)$.

With this device active,

> The proof that E is a function can now be carried out in the familiar way in the theory that is the union of PA^{+U} and $G^{U'}$, and the definition of E. There is no need for any additional background theory, and the success of this hybrid theory, which requires the full induction schema, is compelling evidence that $PA^{(+)U}$ is the appropriate formalization of arithmetic: surely no one will try to claim that natural number exponentiation on groups is intrinsically set theoretic[46].

The internal categoricity of $PA^{(+)U}$

In the course of analysis of Lavine's detailed argument for internal categoricity, I am going to follow closely his presentation. This will be helpful not only for the accuracy of the analysis, but also for also for pointing precisely my critiques.

Essentially, Lavine project is to prove internal categoricity in the same manner as the one just described: enlarge the signature to include a copy of the signature of PA^{+U}, relativize the quantifiers, constants, functions to their corresponding 'domains' say U, U', merge the two theories so that we end up with a theory that is PA^{+U} U $PA^{+U'}$, and then add a relation *I* that defines an internal or syntactical isomorphism between PA^{+U} and $PA^{+U'}$.

The addition of $PA^{+U'}$ doesn't raise any consistency or satisfiability problems, for it can be easily specified in an extension by definitions of PA^{+U} thus:

$\forall x(U'x \leftrightarrow Ux)$
$0' = 0$
$\forall x(s'(x) \leftrightarrow s(x))$
$\forall x\, \forall y\, ((x +' y) = (x + y))$
$\forall x\, \forall y\, ((x \cdot' y) = (x \cdot y))$

[46] (Lavine 1999, 20)

Generally, the expansion of a schematic theory with a new relation is not uncontroversial, as Lavine himself notes[47]. Consequently, a fundamental challenge for the schematic approach to internal categoricity is precisely to formulate general acceptable conditions for such an expansion. Informally, Lavine's proposal is that the conditions of acceptability have to be such that the addition of new relations leaves the domain of the theory intact:

> It is therefore natural to ask when the addition of a theory A to a full schematic theory $T^{(+)}$ adds a new relation without changing the domain. I shall call such an addition an *acceptable addition*.

Technically, the conditions of an acceptable addition that Lavine proposes imply extending the schematic theory to include a form of inflationary fixed-point logic, particularly, inflationary fixed-point logic that includes monotone fixed-point operators defined by positive formulas. In this way, one obtains a minimal extension of first-order logic that allow closure under inductive definitions.

With this setting in place, Lavine defines *I* to be:

$$\forall x \forall x' (I(x, x') \leftrightarrow \forall y{<}x\ \exists y'{<}'x'(I(y, y') \wedge \forall y'{<}'x'\ \exists y{<}x)\ I(y, y')).$$

As Lavine remarks, 'the definition of I is a definition of a fixed point of an operation defined by a positive formula, and that it is therefore an acceptable definition'[48].

Now, in order for a relation *I* to be a *syntactic or internal isomorphism* between two $PA^{(+)}$ systems it has to satisfy the following conditions[49]:

1. $(\forall x)(U(x) \rightarrow \exists y\ (U'(y) \wedge (\forall z)(U'(z) \rightarrow (I(x, z) \leftrightarrow z = y))))$
(I is a function from U to U')
2. $(\forall x)(U'(x) \rightarrow \exists (U(y) \wedge (\forall z)(U'(z) \rightarrow (I(z, x) \leftrightarrow z = y))))$
(I is one-to-one and onto from U to U')
3. $I(0, 0')$,
4. $(\forall x)(\forall x')(\forall y)(\forall y')(U(x) \wedge U'(x') \wedge U(y) \wedge U'(y') \wedge I(x, x') \wedge I(y, y') \rightarrow s(x) = y \leftrightarrow s'(x') = y')$
5. $(\forall x)(\forall x')(\forall y)(\forall y')(\forall z)(\forall z')(U(x) \wedge U'(x') \wedge U(y) \wedge U'(y') \wedge U(z) \wedge U'(z') \wedge I(x, x') \wedge I(y, y') \wedge I(z, z') \rightarrow x + y = z \leftrightarrow x' +' y' = z')$
6. $(\forall x)(\forall x')(\forall y)(\forall y')(\forall z)(\forall z')(U(x) \wedge U'(x') \wedge U(y) \wedge U'(y') \wedge U(z) \wedge U'(z') \wedge I(x, x') \wedge I(y, y') \wedge I(z, z') \rightarrow x \cdot y = z \leftrightarrow x' \cdot' y' = z').$

[47] (Lavine 1999, 45-46)
[48] (Lavine 1999, 57)
[49] As Lavine defines them.

Conditions 3-6 define the homomorphism property of *I*, and, taken together, the conditions 1-6 define properly speaking the internal or syntactical isomorphism between $PA^{(+)U}$ and $PA^{(+)U'}$.

Now everything is in place to prove:

Theorem 5. (internal-DCT): Let T be the theory with some language $\mathcal{L}^2$ that is the union of the theory $PA^{(+)U}$ and the theory $PA^{(+)U'}$. Then one can acceptably define a new binary relation I such that I is a syntactic isomorphism.

The proof consists, basically, in mimicking DCT's proof outlined in a previous section.

This theorem is theorem 4.6 in Lavine's manuscript. He also proves using the same recipe the quasicategoricity of ZFC; that is his theorem 4.7.

The philosophy of the internal categoricity of $PA^{(+)U}$

So, the question is, 'What is the philosophical relevance of (this version of) internal categoricity?' What does Lavine expect to get from such a result? This section focuses on the analysis of Lavine's arguments for the philosophical significance of his version of internal categoricity.

The fundamental benefit of using this particular internalized version of DCT is, as Lavine emphasizes throughout his manuscript, that it involves only an uninterpreted first-order background:

> Our actual theorems 4.6 and 4.7 are theorems of the first-order predicate calculus that do not presuppose any set-theoretic notions. Unlike [DCT and Zermelo's quasicategoricty theorem], which had proofs that relied on notions of a background set theory, theorems 4.6 and 4.7 may—and indeed must—be viewed as theorems of an uninterpreted background first-order logic, one introduced without benefit of a background set theory.

This, in itself, represents an important philosophical achievement, especially in the context of a moderate epistemic position. However, this is only the start of the real philosophical challenge, which is to show if and how this particular version of internal categoricity provides a solution to the central problem. Now, as I have mentioned previously, it is a type confusion[50] to think that an internal categoricity result can provide a solution to a problem expressed in 'external' semantic terms.

[50] As (Button and Walsh 2018, 226) put it.

However, Lavine's manuscript is an elaborate argument for the legitimacy of such a connection: he articulates a general form of our 'central problem', and constructs a detailed argument for solving it, based on internalizing DCT and Zermelo's quasicategoricity theorem; as a side note, the title of the manuscript should be a significant giveaway. So, I will first argue generically that such a connection is unwarranted, then I will reconstruct Lavine's main argument for solving the central problem via the categoricity of $PA^{(+)U}$ and show that his argument fails.

Let us begin by noting that internalized-DCT is about the behavior of the predicates U, U', constant symbols, 0, 0' and function symbols, *s, s'*, +, +' etc, which all are syntactic entities. Any such system (U, 0, s, +, ·) behaving according to the Peano axioms constitutes the syntactical counterpart of a PA structure; accordingly, I will call it an internal-structure. Consequently, what internalized-DCT effectively shows is that any two internal-structures of $PA^{(+)}$ must behave in the same arithmetical way. Or, in other terms, internal-DCT shows that one cannot accept two different internal-structures inside the same $PA^{(+)}$.

Now, how is this going to help solving the central problem? Well, one line of thought is that once we have proved internalized-DCT, we can bestow a semantical dimension to $PA^{(+)}$, prove that the only model of $PA^{(+)}$ is the standard model of arithmetic and, thus, solve the central problem. Unfortunately, this strategy does not work, for as soon as one engages semantical attributes, the old problems of the semantical relativity of the metatheory come back. In this context, what internal-DCT establishes is, at best, categoricity within $PA^{(+)}$ models, not across such models. Lavine seems to engage in such considerations[51], for example when he qualifies internal-DCT as a stronger theorem than its (external) counterpart –proved as theorem 3.3 in his manuscript – or when he explicitly says that "[o]nce we have proved it, we shall be able to use theorem 4.6 in place of theorem 3.3, thereby avoiding the use of a background set theory"[52]. One can infer legitimately that the internal versions of the categoricity theorems are stronger than the external ones if one engages in semantical considerations (but not exclusively – see below another interpretation): as I have just mentioned, internal-DCT establishes categoricity within Henkin models or $PA^{(+)}$ models, so, in particular, it establishes the categoricity in 'full' models also, for full models are limit-cases of Henkin models.

[51] "Theorems 4.6 and 4.7 should not be confused with the weaker theorems that look just like them and are proved in verbatim the same way that presuppose a background set theory". (Lavine 1999, 64)

[52] (Lavine 1999, 51, fn 7)

Lavine's argumentative strategy, however, is different. The way in which he connects internal-categoricity to the central problem, if I understand him correctly, is the following.

The fundamental assumption that his argument is based on is the neutral, prior, and independent character of first-order logic. Explicitly, this assumption presupposes that we have a cogent understanding of first-order logic, prior to any semantic considerations, and that first-order logic is unproblematic[53]. From this assumption it follows that understanding first-order logic precedes any set-theoretic or model-theoretic perspectives, which are always an afterthought. It is decisive for Lavine's argument that we should carefully distinguish between 'pure', stronger results, obtained within first-order logic by deductive means alone, and their 'weak' counterparts, polluted by a set-theoretic or model-theoretic interpretation. Whenever first-order logic is embedded in a semantic environment, the pure results become contaminated, and, thus, weak – because of their dependence upon the semantic environment. It is in this way that I construe Lavine's remarks about the strength of the internal-categoricity theorems – as indicative of the distinctness and strength of the first-order results. As exegetical evidence, I will quote Lavine's eighth footnote:

> In that it is central to my solution of Skolem's problem that the categoricity theorems are outside any prior model or system of set theory and can therefore be applied to any of them, I am implicitly endorsing Wright's "diagnosis": "there is an informal set-theoretic result . . . which we can prove about this model, which is not to be identified with the corresponding result within the system when the latter is interpreted in terms of this model . . . " [Wri85, p. 132]. The result to which Wright is referring is Cantor's theorem[54].

I further interpret this prevalence and distinctness of the 'pure' results obtained in first-order logic as playing a pivotal role in the development of our various mathematical conceptions[55]. The subsequent argument that I am going to develop against Lavine's strategy for solving the central problem does not essentially depend on this latter interpretation; nevertheless, I will assess whether the interpretation

[53] "In providing a solution to the central problem I may therefore presume that there is a clear antecedent understanding of first-order logic and that first-order logic is free of unwarranted presuppositions". (Lavine 1999, 7)

[54] (Lavine 1999, 65, fn 8)

[55] In this, I take it, he follows Crispin Wright's proposal that Cantor's diagonal argument "plays a role in the formation of our conception of what the intended interpretation of set theory is. Its role is […] to lead the determination of an inchoate concept of set in a particular direction". (Wright 1985, 132-133)

can save Lavine's strategy, and show that the argument so construed is sound, but points to a different conclusion, that is, it misses its intended target, the central problem. Resuming, all the results obtained by means of first-order logic alone have a cogent character, with universal applicability, that should be sharply distinguished by the same results when interpreted in semantical terms. Allow me to emphasize this argumentative joint: because of the autonomous, cogent, understanding of first-order logic, results proven in such a setting 'can therefore be applied to any [model or system]'[56], and should not be confused with the same results after adding a semantical dimension. In particular, any first-order result concerning theories of arithmetic precedes and subverts the same result interpreted in model-theoretic/set theoretic terms. Consequently, the categoricity of arithmetic, established in first-order logic, takes antecedence to any model-based (post)interpretation.

Now, the second assumption of Lavine's argument, and I cannot overstate its importance, is that referential indeterminacy is always a byproduct of model-based considerations. It is only when we add a set-theoretical/model-theoretical dimension to a schematic theory $T^{(+)}$, that the indeterminacy of reference for $T^{(+)}$ strikes.

Thus, the argument goes, all worries regarding the referential determinacy of arithmetic, which arise exclusively from semantic considerations, dissipate, for the first-order categoricity of arithmetic is prior to any such considerations, and, as such, takes antecedence. The referential indeterminacy of arithmetic is a byproduct of embedding the arithmetical theory in different models, and, as such, is insolubly tied with the semantical perspective. But the internal-DCT, being a first-order result, undercuts the ulterior, model-based, problem of the referential determinacy of $PA^{(+)}$. As one can easily observe, the only missing piece of the argument is a first-order proof of DCT. And this is exactly what internal/syntactical categoricity of $PA^{(+)}$ is supposes to provide. This, I believe, is an accurate gloss of Lavine's argument:

> Our actual theorems 4.6 and 4.7 are theorems of the first-order predicate calculus that do not presuppose any set-theoretic notions. […] Since the theorems are prior to any choice of any system of natural numbers or of any theory of sets, they can be used to compare any proposed systems and theories whatever. The theorems thus guarantee that if we even regard it as coherent to raise the possibility that either $PA^{(+)}$ or $ZFC^{<(+)}$ could fail to characterize its subject matter, and therefore grant that it is coherent to contemplate multiple copies of $PA^{(+)}$ or $ZFC^{<(+)}$, that alone is enough to prove that the requisite characterization has been achieved. I am inclined to take the argument just

[56] (Lavine 1999, 65, fn 8)

> given at face value: I think that it does show that Skolem was wrong— $PA^{(+)}$ and $ZFC^{<(+)}$ characterize the natural numbers and the sets up to isomorphism, and do so in a non-question-begging way.

Now, I will raise two distinct types of critiques to Lavine's argument. The first type of critique regards the justifications provided for the purely internal character of DCT, and the second type regards the soundness of Lavine's argument, even conceding that internal-DCT is a 'pure' first-order result.

I will begin with the former critique. To this end, let me summarize Lavine's argument that internal-DCT is a first-order result as is developed through the manuscript. (1) He defines from the very beginning a model-theoretic semantics for $PA^{(+)}$ and proves that the only model of $PA^{(+)}$ is the standard model of arithmetic, acknowledging that the philosophical relevance of the theorem is dependent upon the semantics' set-theoretic assumptions. Consequently, he proceeds to reconstruct the proof of the theorem in a set-theoretic-free environment. (2) To this end, he engages in setting the conditions of acceptable additions (of relations and theories) to $PA^{(+)}$ so that (3) he can define the relation *I* and show that it is acceptable, and, finally, (4) prove that *I* is a syntactic isomorphism, i.e. establishing internal-DCT.

Now, depending on one's philosophical views, all steps have weak spots, but I am going to concentrate on the first two, that are more relevant for Lavine's particular version of internalism. First, Lavine's model-theoretic sketch of the proof of the categoricity of $PA^{(+)}$ is extremely dubious[57]. The proof has two parts, the first one consists in observing that the standard model of PA is a model of $PA^{(+)}$, and the second consists in proving by *reductio* that $PA^{(+)}$ cannot have a nonstandard model $\mathcal{M}$. To that effect, Lavine presupposes that $\mathcal{M}$ is a nonstandard model of $PA^{(+)}$ and then considers an expansion $\mathcal{M}[^{I}_{N}]$ for a $\mathcal{L}_{PA(+)} \cup \{I\}$ signature, where *I* is interpreted as the standard part $N \subset M$ of the domain *M* of $\mathcal{M}$. Of course, applying Ind(P) to *I*, by the corresponding substitution rule, yields that $M \subseteq N$. Contradiction.

This proof, I must confess, confounds me, for if one has at her disposal a predicate *I* which determinately refers to the standard part *N*, then why the detour through schematic theories and/or induction in order to establish the categoricity of PA? One can just add the predicate *I* with its intended interpretation to PA1 and prove in whatever metatheory she prefers the categoricity of arithmetic, by rejecting all nonstandard models. The point is that once one has at her disposal the means for referring to the standard model of arithmetic, one also has free of charge the referential determinacy of PA, so the argument based on the proof begs the question. It is like including in the logical vocabulary the predicate *N* with its intended

[57] This line of critique is similar to the one presented by (Field 2001, 355) in another context.

interpretation; of course, this maneuver will single out the standard model of arithmetic, but nothing substantial was proved, you already had the referential determinacy of PA.

The second point of the critique is two-folded. First, there is the issue of the justification of the choices that led to the particular formulation of the conditions of an acceptable addition to $PA^{(+)}$, and then that of their accurate statement or definition. The driving idea that underlines the choices for what constitutes an acceptable addition to $PA^{(+)}$ is to singularize the standard model as the unique referential structure of $PA^{(+)}$. This explains why Lavine considers informally that an acceptable addition of a relation should preserve the domain of the model. This is also why he specifies formally[58] that sets of universal formulas (i.e. formulas that are of the form $\forall\bar{x}\phi(\bar{x})$) are acceptable additions to a schematic theory: for universal formulas are preserved under substructures, and, obviously, the standard model is the smallest model of all possible models, i.e. is the initial segment of all models. So, it is clear that all the choices involved in setting the conditions of an acceptable addition to $PA^{(+)}$ were *a priori* biased in favor of the standard model. Again, a case of begging the question. And, again, it has less to do with schematic theories and more to do with the model-theoretic ways in which we beefed up schematic theories for a particular goal.

The model-theoretic means employed in specifying the conditions of an acceptable addition are the subject of my second critique. As one can easily observe, in all instances, the formulation of the conditions of an acceptable addition is set-theoretic and the proofs involved are model theoretic. Lavine acknowledges this as a shortcoming of his approach and solves it by appeal to another schematic theory, PAPR (Peano arithmetic with primitive recursion), which combines PA with primitive recursive arithmetic. Now, the assessment of that solution constitutes the topic of another paper, and I am not going to add anything to that discussion here. The issue is a fragile joint of Lavine's argument, for it is extremely problematic to maintain the 'pure' syntactic first-order character of internal-DCT, fundamental to the argument, yet, in proving the result to rely extensively and heavily on model-theoretic or set theoretic specifications. Here is how Lavine summarizes the discussion:

> For present purposes, [the criteria for determining what can be added to full schematic theories] are to be regarded merely as *ex post facto* justifications, and perhaps generalizations, of principles concerning acceptable additions that we take as basic, intuitive, and well-established parts of mathematical practice:

[58] in his theorem 4.3

> We can add any universal theory consistent with arithmetic to arithmetic, and we can add fixed points of operations defined by positive formulas to any full schematic theory. […] The notion of acceptability is an intuitive one that cannot be made mathematically precise without set-theoretic apparatus to which I am not entitled at this stage of the argument, but all I shall use in the rest of this book is that the definition of a fixed point of an operation defined by a positive formula is an acceptable addition to any full schematic theory.[59]

So, Lavine argues that the model-theoretic/set-theoretic infused formulations and proofs of the conditions of an acceptable addition are to be seen as mathematically rigorous articulations of intuitive principles of mathematical practice, but this is far from being a sound or even convincing argument. I must confess, I find it difficult to base the intuition behind the standard model of arithmetic on the intuition behind the acceptability of adding to a schematic theory T^+ sets of universal formulas consistent with the base theory T, or the intuition behind the model theoretic/set theoretic devices that allow formulations of inductive definitions. The history of mathematics shows pretty clearly that the structure of the natural numbers is the source of our concepts of induction and recursion, not the other way around. However, he deploys another dodging maneuver: even though he is not entitled to set-theoretic resources in this stage of the argument, he can in the last resort, prove the quasicategoricity of ZCF^+ and then safely use the set-theoretic apparatus needed for the formulations and proofs of the conditions. For example, he states that after proving the internal quasicategoricity of set theory,

> one can just introduce the other intended structures using familiar second-order axiomatizations, with the second-order quantifiers now explained without circularity in terms of the set theory that has already been introduced. Thus, set theory is the central case.[60]

This is somehow ironic. Lavine's main argument of the manuscript is that the categoricity of arithmetic can be proved independently of any set theoretical background. Nevertheless, it seems that in his own project, in order to prove the categoricity of arithmetic, one has to establish first the categoricity of set theory. Besides the irony, the point of my critique is that once one has proved the quasicategoricity of set theory, the categoricity of arithmetic follows immediately, but that has nothing to do with schematic theories, nor with the pure syntactical first-order-logic character of the proof. Once we have established the quasicategoricity

[59] (Lavine 1999, 54-55)
[60] (Lavine 1999, 40)

of set theory, we can prove DCT easily in any adequate background we like, including in a set theoretical background. This will erase the difference between the latter 'traditional' proof and Lavine's internal one: for proving the categoricity of arithmetic, both take the detour through the quasicategoricity of set theory. Nothing significant has been achieved. Before concluding this type of critique, let me point to another difficulty related to the last remarks: the conditions of an acceptable addition are used in the proof of the quasicategoricity of ZCF^{+}, and there one can conspicuously perceive their circularity, for there isn't any other theory whose categoricity once established allows the use of the resources in discussion.

The second type of argument regards the relevance of Lavine's argument granting that he successfully proved the internal categoricity of $PA^{(+)}$ in a non-question begging way, using only first-order logic resources. Well, if my gloss of Lavine's argument is accurate, then, I will argue that Lavine's particular solution of the central problem fails.

I start by reiterating the fundamental assumptions of Lavine's argument, 1) the prior, autonomous, semantic-free character of first-order logic, and 2) that referential indeterminacy is a byproduct of ulterior, model-based considerations. To this skeleton, add the meat of producing a first-order proof of the internal categoricity of $PA^{(+)}$. The result is that the internal-categoricity of $PA^{(+)}$ takes precedence, so that the indeterminacy-inducing interpretations derived from embedding $PA^{(+)}$ in a set theoretic or a model-theoretic environment have no effect. It is this last part of the argument that I find highly problematic, so much so, I will argue, that it leaves the central problem unanswered. I begin my argument constructing a scenario involving a schematic theory $T^{(+)}$ and a model of set theory. Consider an unaware inhabitant of such a model that accepts $T^{(+)}$. She endorses Lavine's assumptions about the prior and autonomous character of first-order logic, and of the ulterior model-based referential indeterminacy of $T^{(+)}$. She proves the internal categoricity of $T^{(+)}$, thus assuring herself that $T^{(+)}$ manages to refer to a unique intended structure. However, in light of the model-based considerations that proliferate deviant, nonstandard models and structures, she would like to expose the referential mechanism by which $T^{(+)}$ pins down its referent. Note that she is not driven by skepticism regarding the referential determinacy of $T^{(+)}$, she firmly believes that $T^{(+)}$ manages to successfully refer to its unique intended structure. She just wants to explain how $T^{(+)}$ accomplishes this. Of course, the mechanism of reference should not appeal to enigmatic faculties of the mind, but be restricted to moderate-approved resources, i.e. those that the theory and its semantics consist of. The moderate means by which $T^{(+)}$ selects the intended structure from all deviant referential competitors consists in utilizing the first-order proof of the internal-categoricity of $T^{(+)}$. Now, the central problem shows

its teeth, for the internal categoricity of $T^{(+)}$ is consistent with there being many models with non-isomorphic structures as perfectly legitimate referential candidates. She cannot resort to the first-order character of the proof of internal categoricity, for this is also consistent with the existence of models of set theory containing non-standard models of $T^{(+)}$. That is, nothing in Lavine's assumptions or argument precludes the possibility that she is living on such a set-theoretic multiverse.

Mathematically, in such a set-theoretic multiverse, everybody could easily establish internal-DCT for $PA^{(+)}$, thus, establish the isomorphism of all the structures inside their models corresponding to $PA^{(+)}$, without establishing external, 'true' isomorphism. In fact, this is the distinctive mark of internal categoricity as Jouko Väänänen[61] defines it.

So, although she buys everything Lavines argues, she still cannot exclude, by any referential means offered by the internal categoricity in first-order logic, the set-theoretic possibility of there being more than one up to isomorphism structure as the referent of $T^{(+)}$. Note, again, that she does not doubt that $T^{(+)}$ refers to the intended structure, and that all other concocted structures are deviant, non-intentional ones. She is not motivated by skepticism. She just wants to clarify the referential means by which $T^{(+)}$ accomplishes this selection task. It is at this point that she acknowledges that all the available referential mechanisms fail to glue $T^{(+)}$ to its intended referent. The reason, again, is that the available referential mechanisms are consistent with a scenario in which $T^{(+)}$ refers to a concocted nonstandard structure, even though she recognizes the artificiality of the nonstandard structure and its dependence on the standard one in its construction.

Let me conclude my critique by presenting the gist of the argument in other terms. One can illustrate the point of my argument using Kripke's[62] Wittgensteinian paradox involving plus-quus, or Goodman's[63] green-grue puzzle. I will choose the former. Suppose that someone has learned in a standard, normal, way, how to perform additions. She is confident that her use of 'plus' or '+' denotes the standard mathematical function of addition. This stage of my illustration corresponds to learning that $T^{(+)}$ has a first-order internal categoricity proof by a corresponding character. Returning to Kripke's example, imagine that by an encounter with a bizarre skeptic, our heroine learns about the deviant referential candidate of '+', name it 'quus'[64], a function that agrees with addition up to the largest number used in her past computations, but deviating form addition for all other larger numbers. At this stage of the illustration, the corresponding character from my argument

[61] (Väänänen 2012, 98-99), (Väänänen and Wang 2015, 125)
[62] (Kripke 1982)
[63] (Goodman 1955)
[64] I follow Kripke's baptism of the deviant function.

learns about the existence of deviant, nonstandard, but adequate referential candidates for $T^{(+)}$. Returning to Kripke's example, the non-skeptical problem that she begins to contemplate is what is the referential mechanism by which '+' denotes the addition function and not the quus function. Again, she is not skeptical, she doesn't believe that the referent of '+' is quus, she just wants to provide an explanation for the referential relation between '+' and addition. But all the moderate-available means at her disposal could not pick addition as the sole referent of '+'. There is nothing in the usage of '+' that could discern between addition and quus. Similarly, all the referential moderate means– the internal categoricity of $T^{(+)}$ in first-order logic – available to the corresponding character are consistent with many non-isomorphic referents of $T^{(+)}$. The point is that the afterthought concerning referential determinacy always comes back to haunt the pre-established harmony of internal categoricity.

Now, I have to tie one more loose end. Remember, in the interpretation that I proposed above any result obtained in first-order logic informs and permeates our conceptions and our subsequent considerations, because first-order logic is this prior, autonomous, unproblematic, devoid of any semantical assumptions, medium. I don't believe that resorting to such an interpretation solves the conundrum of the referential determinacy of arithmetic. In fact, it misses the target, and leaves the conundrum posed by the central problem unanswered. What Lavine accomplished, at best, is to indicate that the natural number structure is a presupposition, and not a philosophical thesis to be argued for. In mathematical practice, the standard model is regarded as a presupposition, $\mathbb{N}$ just is the structure for which induction holds for all $X \subseteq N$. This, of course, is a resolution by stipulation, and in that quality, it needs no further justification. Well, if this is so, then what Lavine's argument shows is that our conception of arithmetic is from the very beginning bound by certain constraints to admit just one structure. That may be so, but then, how can such an argument solve the central problem? The central problem is about how the resources of a theory of arithmetic can pin down the structure of the natural numbers, not about how our conception of arithmetic is so shaped that the uniqueness of the natural numbers is already built in.

In conclusion, Lavine's detailed and sophisticated argument misses its intended target, the central problem. First, the argument fails to adequately respond to the challenge raised by the central problem. Secondly, the argument is riddled with philosophical question-begging or relevance difficulties, which, I argued, are insurmountable.

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MODAL EPISTEMOLOGY, REALISM ABOUT MODALITY, AND THE IMAGINATION

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ABSTRACT. The main aim of this paper is to provide a critical discussion of the relation between realist epistemologies of modality and the imagination. Two prominent realist accounts of modal knowledge are examined: a Kripkean one and Williamson's counterfactual account. I argue that the constraint that Kripke believes should be imposed on the imagination in order to obtain, but also defend metaphysically necessary truths is too strong. This either makes it ineffective, or leads to serious doubts about Kripke's famous examples of necessary *a posteriori* truths. The conceptual tension between a modal epistemology that follows Kripke's suggestion and classicized Kripkean tenets in the philosophy of language is evinced in the analysis of Soames' version of Kripkeanism. Williamson's account follows the same line of imposing very strong constraints on the way we form or acquire knowledge of metaphysical necessity, which ultimately leads to similar doubts about its effectiveness. While this critique motivates some sceptical conclusions, it leaves the discussion about the force and extent of modal scepticism open.

Keywords: *modal epistemology, necessary truth, metaphysical modality, Saul Kripke, Timothy Williamson, counterfactual.*

1. Introduction. A terminological preliminary

Recent work in modal epistemology has focused more on explaining and characterizing our knowledge of metaphysical possibility, and much less on discussions of the epistemological status of metaphysical necessity. The fact that the two notions are interdefinable may obscure the fact that giving an adequate explanation of

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knowledge of necessity is a different (and arguably a more difficult) task than accounting for our knowledge of possibility. If nothing more, we are in possession of some unproblematic knowledge of real possibility, as everything that is actual is also possible, by any account.[1] The issue of the relation between conceivability and metaphysical modality occupies a central place in the literature, but it has been usually paired with the acceptance of Kripke's examples of *a posteriori* necessities as uncontroversial.[2] This has, in turn, led to one dominant concern of modal epistemologists, that is, to show why the seemingly conceivable counterexamples to Kripke's *a posteriori* necessities are not to be taken as indicative of genuine possibility. The idea that Kripkean cases of metaphysical necessity may themselves be in need of epistemological justification has eluded concern in many accounts.[3] Yet, showing that some proposition *p* may not count as a genuine possibility is not tantamount to showing that whatever *p* is supposed to be a counterexample of is necessary (and known to be so). An adequate and robust modal epistemology is still needed, that is, we are still in search of an account that explains not just some form of modal knowledge, but our knowledge of metaphysical necessity as a distinct type of modality that is not reducible to any sort of conceptual content.

The endeavour of this paper is mostly negative. I will first argue that the most obvious epistemological account that one can take out of Kripke's works on modal matters is untenable. I will then attempt to offer a more in-depth perspective of why certain types of realist theories of modality are bound to fail by discussing Williamson's views on modal epistemology.

At first, we need to make some conceptual and terminological clarifications. To date, there is no agreement on the differences between *epistemic possibility* and *conceptual possibility*. Some philosophers (Chalmers, Soames) don't distinguish between the two, while others (Fiocco) insist on separating them.[4] For Jackson, the demarcation line is not obvious, but he argues in favour of the 'conceptual possibility' terminology.[5] In a similar and related note, the distinction between *imagining* and *conceiving* seems to be imprecise, at least in what concerns modal matters. Some philosophers (Chalmers, Kung, Yablo) hold that modal conceivability can be accounted for in terms of the imagination, and the deliverances of the imagination (usually a special

[1] Van Inwagen (1998) emphasizes the epistemological distinction, but doesn't pursue it.

[2] Famously expounded in Kripke (1980).

[3] Not in all accounts, however. Gutting (2009), Lowe (2007), Salmon (1986), and Tahko (2009) raise important epistemological doubts about Kripke's cases.

[4] See Chalmers (1996, 2002); Soames (2011); Fiocco (2007a).

[5] Jackson (2010: 87-88).

kind thereof) are trustworthy guides for assessing real possibility and necessity.[6] At the same time, other philosophers insist on the undependable nature of our imagination as a modal guide.[7] While one of the options is to discard the modal role of conceiving along with that of the imagination (which appears to be an acknowledgement of the interdependence of the two notions, perhaps even of their identity), one may also maintain that modal conceivability is connected to a different and more reliable faculty than the imagination.

However, there seem to be strong reasons behind the two conflations. It is true that, traditionally, conceiving is taken to be more 'objective' than imagining. Many philosophers treat concepts as some sort of abstract objects which are independent (or at least not entirely dependent) on minds. Consequently, some of our purported acts of conceiving should fail in relation to certain objects and their properties. E.g., it might be pointless to attempt to conceive water that is not H_2O according to a view of this type, if 'being H_2O' is somehow part of the (shared) concept of <water>. This is, basically, viewing concepts as meanings (and viewing meanings in an objectivist manner).[8] But this is not to say that someone cannot *imagine* water being something else than H_2O, if we take imagination to be something else than conceiving, that is, a faculty much less constrained by thinker-independent rules and content. But this is not the only sense of 'concept' in philosophical literature. Many contemporary philosophers support, for instance, a representational theory of the mind, and treat concepts as mental representations.[9] The senses are different, and correspondingly, the constraints imposed on conceiving are different. On views with less objectivist import, the boundary between conceiving and imagining is naturally rather blurry, but even on a general note, it is not clear that imagining is really something else (whether less or more) than a conceptual activity. This doesn't mean that conceiving and imagining are one and the same thing, but a demarcation between the two is also rather hard to trace, especially if one tries to specify it by looking at the way these notions have been used in recent philosophical work. Typically, we associate the imagination with some sensory-like processes, but philosophers have also theorized non-pictorial types of imagination. Yablo, for instance, makes an important distinction between *propositional imagination* (imagining that *p*) and *objectual imagination* (imagining some objects "as endowed with certain properties").

[6] Chalmers (2002); Kung (2010); Yablo (1993); Kripke (1971, 1980).

[7] See Bealer (2002); Byrne (2007); Ellis (2001); Fiocco (2007b) for just a few examples of explicit skepticism about the modal powers of imagining/conceiving.

[8] See Peacocke (1992) and Zalta (2001) for views of this type.

[9] See Fodor (2003) and Millikan (2000) for just two contemporary instances of this traditional view in the philosophy of mind.

Taking such a distinction into account, it is only natural to inquire how much sensorial content is needed for some mental act to count as an imagining. Yablo explicitly rejects the idea that we need sensory-like images for adequately imagining something.[10] Again, this makes distinguishing between imagining and conceiving a difficult task, leaving open the question if imagining is nothing more than a form of conceptual activity.

I think it is for similar reasons that some philosophers don't acknowledge a firm distinction between epistemic possibility and conceptual possibility. Not all thinkers are happy with this lack of precision. Fiocco has written a very insightful and informative paper devoted precisely to specifying the adequate distinction between these two notions.[11] Epistemic possibility is traditionally defined as possibility in relation to a certain subject's body of knowledge. A proposition *p* is epistemically possible if *p* is consistent with what *S* (the subject) knows. Alternatively, as in Yablo's weaker definition of epistemic possibility, it is just the possibility of *p* that needs to be consistent with what *S* knows. Epistemic possibility is rejected in both guises by Fiocco as a legitimate source of knowledge of metaphysical possibility, if one acquiesces to a robust view of the nature of modal reality. Fiocco argues that conceptual possibility, defined as the compatibility of the concepts contained in a proposition, is also ill-suited as a purveyor of robust modal knowledge. Nevertheless, conceptual possibility should be distinguished from epistemic possibility, according to Fiocco. He construes the former as objective (because concepts are also objective) and *a priori*, whereas epistemic possibility is relative to a subject and has an *a posteriori* dimension, as it depends on the actual knowledge a subject possesses. But this understanding of conceptual possibility relies upon a preferred theory of concepts and, on a wider note, on the semantic and epistemological views one espouses. Epistemic possibility is defined as the consistency of a proposition with other propositions forming a subject's body of knowledge. We cannot attempt to re-explain this condition as metaphysical compossibility as it would beg the question against the ones that hold that metaphysical possibility should be defined in relation to epistemic possibility. But consistency is basically conceptual possibility.

Epistemic possibility could be therefore construed as a specific form of conceptual possibility, more precisely, conceptual possibility in relation to a subject's body of knowledge. Let me take an example to make things clearer. Soames has argued that Kripke outlines two routes to necessary *a posteriori* truths, and only one of them is correct, namely the one that proceeds by way of essential properties.[12]

[10] Yablo (1993: 27, n. 55).
[11] Fiocco (2007a).
[12] Soames (2002; 2006; 2011).

I will simplify Soames' account here for my current purposes, but I will discuss it in more detail in the next chapter. In Soames' version, Kripke's essentialist route to the necessary *a posteriori* starts from an initial state of ignorance concerning the actual possession of some purportedly essential property, like composition or origin. In this state, it is epistemically possible for, say, a table to be entirely made of wood, but it is also epistemically possible that the table be entirely made of iron, or plastic, or what have you. Each of the following propositions:

> *p**: The table in front of me is entirely made of wood.
> *p***: The table in front of me is entirely made of iron.
> *p****: The table in front of me is made of 50% wood and 50% iron.

is epistemically possible for a subject, because there is nothing the subject knows that precludes it. Yet, the subject already holds various more or less implicit modal beliefs involving the concepts used in the propositions, which may count as knowledge. For instance, she believes that the table must have a (physio-chemical) composition, even if she doesn't know precisely what that composition is. She also believes that the table could have been in another room, even if it is actually here. More importantly, while *p**, *p***, *p**** are all compatible with what the subject knows, every one of them is incompatible with every other, if composition is indeed essential to an object. In a Kripkean account, this is due to the *a priori* (i.e. conceptual) background of metaphysical necessities. Some material objects cannot have a (entirely) different composition than the one they actually have. It needs to be stressed that this is a conceptual affair: we already know *a priori*, according to Soames, who claims to be following Kripke, which types of properties are essential. In our initial state of ignorance, we have many candidates that are epistemically possible, but once we have determined the actual property the object has, then…well, then the account becomes a little complicated, as we will see in the following chapter. Soames holds that this is the moment we obtain metaphysical necessity, so to say. We find out that, to continue with our example, the table is actually made of wood. But this empirical discovery also provides us with a modal truth. Because the table is actually made of wood, then it must be made of wood in any metaphysically possible situation, i.e., it is metaphysically necessary that the table is made of wood. Whatever our concerns or objections, a process such as the one described here is regulated by conceptual (*i.e.*, *a priori*) rules. The epistemic possibilities regarding the composition of the table are the ones afforded by our concepts (<composition>, <table>, <wood>, <iron>, etc.) in relation to what we know regarding the table. Now, the question is: isn't the metaphysical necessity of the table being made of wood also an epistemic/conceptual necessity in the end?

I will explore some answers to this question later on. For now, I just use Soames' example to show how epistemic modality can be regarded as conceptual modality. The precise differences and relations between the two types of modality are difficult to determine, as Soames' version of Kripkeanism, whether correct or not, seems to show quite vividly (if it need be shown) that knowledge also shapes our concepts, and therefore our conceptual possibilities.

In conclusion, even if the choice might be disputed, I will opt for talking about *epistemic modality* and *imagination*, and leaving *conceptual modality* and *conceiving* out of the discussion. Even though the differences between the two pairs of concepts may be of some importance for the topics of this paper, I will not explore them further here.

2. A Kripkean account

Modal epistemology is almost absent from *Naming and Necessity*. Remarks hinting at explanations of our modal knowledge in Kripke's most popular work are scarce. We may speculate on the reasons for this lack of concern on Kripke's part: probably, he took at least some forms of modal knowledge as largely uncontroversial (we have modal knowledge and it is obvious we have it). However, we won't concern ourselves with these matters here. It is rather clear that modal epistemology is not a chief concern of Kripke in *Naming and Necessity*. Yet, at least one type of view on the epistemology of modality is explicitly present, albeit in an undeveloped manner in Kripke's work. This view has been notably interpreted as Kripke's preferred modal epistemology by Soames and Kung.[13] It has also been developed more thoroughly by the former.[14] I will show in this chapter why this view of modal knowledge should be disputed, even by Kripkeans. To do so, I will start from Soames' account of how we acquire knowledge of metaphysical modality according to a Kripkean framework.

Soames argues that there are two attempted routes to the necessary *a posteriori* in Kripke's work and only one of them is sound, namely the essentialist one. I will not evaluate the reasons behind Soames' rejection of the other route here, as they are not of very much interest for my current purposes. As said in the previous chapter, the essentialist route starts from an initial state of ignorance concerning the possession of a purported essential property by some object. But this is not an absolute ignorance, as we already know that whatever that property

[13] Soames (2002; 2011); Kung (2016).
[14] In Soames (2002; 2006) and, especially, in Soames (2011).

is (say, origin or composition), it must be essential, that is, true of that object in every metaphysically possible world. However, in the state of ignorance various versions are coherently conceivable, and therefore epistemically possible (the table could be made of wood, ice, plastic, etc.). Each of these epistemic possibilities engenders its own system of metaphysical possibilities. While there are propositions that belong to multiple possibility systems (e.g., it is metaphysically possible for me to see the table at the worlds where the table is made of wood, but also at the worlds where the table is made of iron or plastic or what have you), there are propositions that belong to a single system of metaphysical possibility (precisely those about composition, in our example). To wit, no world where the table is made of iron can belong to the system of metaphysical possibility engendered by the epistemic possibility that the table is made of wood. The plurality of epistemic possibilities concerning essential properties is needed because otherwise necessary truths regarding them wouldn't be *a posteriori*. The fact that various versions are conceivable means we don't have knowledge of certain essential properties *a priori.*

What we do know *a priori*, according to Kripke, is that certain types of properties and relations are essential to the objects that bear them. However, we need empirical evidence precisely in order to rule out all those states that are coherently conceivable, but are in fact metaphysically impossible. We know that composition is essential for material objects. At a certain moment, we may entertain various metaphysically incompatible, but coherently conceivable stories concerning the composition of a certain object. When we find out how the world actually is, we do away with all these rival epistemic possibilities and are left with metaphysical necessity. The table is necessarily made of wood, because it is actually made of wood. The correct system of metaphysical possibility is singled out – it is the one containing the worlds where the table is made of wood and all the other worlds that are possible in relation to those worlds. This is Soames' picture of Kripke's underlying epistemology of metaphysical modality.[15]

The picture raises some theoretical difficulties which I will discuss in this chapter. These difficulties are not treated by Soames, who is more concerned with distinguishing between the two Kripkean routes to the necessary *a posteriori*. Nevertheless, Soames' preferred essentialist route has problems of its own.

The main problem is, simply put, that there is no apparent exit from the space of epistemic possibility to that of metaphysical necessity. The epistemic possibilities are never truly eliminated from the modal space – they are still there. Or if they are done away with, the newly discovered necessary truth should also be

[15] See Soames (2011: 80-87) for the complete development of Soames' view on this issue.

construed as an epistemically necessary one. This is very similar to what Frank Jackson notes in the first part of his critique of what he calls the 'two-spaceism' of Lycan and Soames.[16] Two-spaceism is the idea that there are two spaces of possibility, metaphysical and epistemic (Jackson uses the term 'conceptual possibility'), and the space of metaphysical possibility is a proper subset of the space of epistemic possibility. Jackson is very much at odds with the idea that there are epistemic possibilities that are metaphysically impossible. To argue for his point of view, Jackson discusses various cases of widely accepted examples of metaphysically necessary truths and their metaphysically impossible, but epistemically possible alternatives. The strategy behind Jackson's examination of these cases is the same. The first example is that of a simple identity statement "Mark Twain = Samuel Clemens". According to many, this is a metaphysically necessary truth. But, if two-spaceism is correct, there should be worlds where "Mark Twain ≠ Samuel Clemens" is true. Those worlds should be metaphysically impossible, but epistemically possible. Jackson argues that there are in fact no such worlds. The reason is simple: if Mark Twain is Samuel Clemens at w_1, but Mark Twain is also different from Samuel Clemens at w_2, then Mark Twain at w_1 must be different from Mark Twain at w_2. Identity is a transitive relation, which means that if there is transworld identity, Mark Twain at w_2 is identical with Samuel Clemens at w_1 (because he is identical with Mark Twain at w_1); but then, he should also be identical with Samuel Clemens at w_2, as the two Samuel Clemens are assumed to be identical. The contradiction is obvious. Giving up transworld identity and introducing some sort of similarity relation, such as the counterpart relation, doesn't help, as the other worlds would not be worlds where *our* Mark Twain and Samuel Clemens are not identical. If Mark Twain is Samuel Clemens, then whatever makes the counterpart of Mark Twain at, say, w_3 similar enough so as to represent Twain at that world should also make him the counterpart of Samuel Clemens at the world in question. Therefore, at any world, the same propositions will be made true or false regarding both Mark Twain and Samuel Clemens.

A similar moral applies to essentialist cases. If what makes water water is being H_2O, then it is also conceptually impossible for water not to be H_2O. If what makes water water is being the liquid that fills the oceans and rivers, that falls from the sky, etc., then it is also metaphysically possible for H_2O not to be such a kind. Jackson finds the idea of worlds that are metaphysically impossible, but conceptually possible "deeply obscure."[17] He summarizes the crux of his argument very eloquently when discussing the case of composition:

[16] Jackson (2010: 88-92).
[17] Jackson (2010: 90).

> Many who hold that the constitution of an object is an essential property of it argue that some particular object's not being made of wood, in the case where it is in fact made of wood, is metaphysically impossible. Suppose they are right. Should we then say that a possible world where this very table – the one I am now writing on, which is made of wood – is not made of wood is an example of a world that is conceptually possible but metaphysically impossible? No. For what makes the table, in the claimed conceptually possible world where it is not made of wood, this very table? If a table's constitution is an essential property of it, part of the answer must be its being made of wood. But then the world said to be conceptually possible is no such thing. A table made of wood not being made of wood is conceptually impossible.[18]

An argument such as Jackson's can be pushed toward more radical conclusions, ones that perhaps Jackson, and surely orthodox Kripkeans, would not endorse. Suppose we accept that there are no conceptually possible worlds where objects do not have their essential properties, i.e., essential properties are inseparable even from a conceptual standpoint from the objects that possess them, as Jackson holds. The reasoning seems to be sound: the table could not have existed without being made of wood. Then, whenever I imagine something concerning that table, I must rule out all scenarios where the table is not made of wood. Tables of a different constitution, even if they are in the same place, have the same appearance, have a very similar history, etc., are simply different tables. Yet, there is something here that should disturb a very fine Kripkean ear. If it is not conceptually possible for an object to lack an essential property, this means that knowledge of the possession of that essential property by that object should be *a priori*. This, of course, jeopardizes Kripke's famous examples of necessary *a posteriori* truths. The least we can say is that necessary truths seem to create the very same effects for our conceiving/imagination that *a priori* truths engender.

There are various places in Kripke's two famous works on the topic of modality that seem to show that Jackson's perspective is well-founded and, more importantly, that the process whereby we attain modal knowledge is bound to lead to a restriction to our imagination in the absence of which the imagination is inefficient in delivering us modal truth. I choose one fragment from *Identity and Necessity* to illustrate this point, but there are other passages in *Naming and Necessity* that convey the same idea: "[G]iven that [the lectern] is in fact not made of ice, is in fact made of wood, one cannot imagine that under certain circumstances, it could have been made of ice."[19]

[18] Jackson (2010: 92).
[19] Kripke (1971: 153).

The problem that is ignored by many philosophers is that not only the proposed restriction on the imagination is unnaturally strong, but also that it should lead to something very much like *a priori* knowledge. This, of course, imperils Kripke's famous cases of *a posteriori* necessity. If the restriction on our imagination is the way we recognize metaphysical necessity or an immediate effect of this recognition, then Kripke's examples of *a posteriori* necessity are compromised, as they make use of our intuitions concerning this type of modality. Kung uses the term "Error theory" to refer to the theory of modal imagination that can be drawn out of the cited remark or from similar ones by Kripke. The idea is straightforward: whenever we think we imagine an object without one of its essential properties, we are in error. The object we imagine is a different one, even if similar in many respects, to the one we consider. This engenders the so-called modal illusions that are brought up as counterexamples against metaphysical necessities. Now, it is to be debated if this is or was Kripke's undeveloped epistemology of modality. Due to the sketchiness of Kripke's remarks on the subject matter, a definitive answer is hard to put forward. What is, however, much clearer is that such a theory forces the Kripkean into a very un-Kripkean stance. To see this better, let us return to Soames' proposed model for an epistemology of modality.

According to Soames, at first, we entertain various epistemic possibilities regarding the possession of certain (types of) properties by certain objects or kinds. Then, we discover the actual property the object possesses. At this moment, the rival epistemic possibilities are done away with, one way or another, and we are left with metaphysical necessity. The arduous matter is to determine precisely how are these rival epistemic possibilities done away with. One natural solution is something like the Error theory: whenever we imagine objects or kinds without their essential properties, we are not imagining the object or kind in question at all, but some different object or kind. The proposal seems very natural when we consider only what happens after we obtain a certain piece of knowledge concerning an essential property, but it is already very strong. *From now on*, you cannot imagine water as being something else than H_2O. If the process works the way the picture suggests, something in the texture of our concepts, whatever that is (and whatever our preferred theory of concepts is) must be changed, and this change is not only based on *a priori* principles, it should also lead to *a priori* knowledge, if it is to be efficient. If we cannot imagine water that is not H_2O in any circumstance, then it seems that *being* H_2O is associated with the concept of <water> in a very robust manner – otherwise, it would not be able to constrain our imagination and/or intuitions so strongly. However, this is not all. Given that the table is in fact made of wood, Kripke's example goes, then one cannot imagine it

could have been made of something else. A very natural interpretation of this remark is that the restriction should also work in retrospection, that is, it should affect imaginings that are prior to the moment of the discovery of the actual property in question (which is also the moment when the real modal property is determined, or at least, determinable). No distinction between moments of time is or should be made. This means that Soames' route to the necessary *a posteriori* is not operational, at least not in the way Soames describes it. If there are no metaphysical impossibilities that are epistemically possible, then the initial moment of ignorance doesn't contain the various epistemic possibilities regarding the essential properties of the object or kind considered. What we actually entertain are various scenarios concerning very similar, but different objects or kinds. Only scenarios where the Queen is the daughter of her actual parents are epistemic possibilities regarding the Queen, only possible worlds where water is H_2O are epistemically possible worlds containing *our* water, in all other worlds there are different substances filling the role of water, etc. This is a view that extends the epistemology of mathematical modality to all types of real modality. One may believe one imagines, for instance, that the number 99,999,921 is divisible by 11 (whatever that takes), but this is not an epistemic possibility regarding this number, given that the number has the property it actually has.

While there is nothing obviously wrong with this epistemological theory, I contend that the proposed restriction is much too strong, and consequently it doesn't work, at least not for the way agents usually construe and perform with the modal imagination. To see this, we need only reflect for a little while on why Soames' essentialist route doesn't seem wrong or unnatural at first glance. There is no principled restriction on acts of the imagination that vary on essential properties: while essential properties are not on an epistemic par with ordinary properties, scenarios wherein objects or kinds possess properties incompatible with the purported essential properties they actually have can be legitimately entertained. There is no functional epistemological restriction on these types of scenarios in our current practices. Imagine for instance that it is a hot summer day, I am lying down in my room in front of my TV set, and I imagine that if the temperature were to go up by one degree, the TV set would melt in front of my eyes. What the error theorist would tell me is that this is not really possible – the constitution of my TV set would not allow it and, therefore, it is neither epistemically possible. I am not actually imagining my TV set melting in front of my eyes. But this is very peculiar. The natural answer is: of course I am imagining my TV set melting, how can someone or some theory say that I am not? The one thing that may be disputed is if my imagining has any modal force in this case.

The example of the TV set may be seen as problematic, but other examples are easily adduced. At any given time, communities of speakers – including communities of specialized speakers – or large parts thereof hold various mistaken beliefs about the essential properties of objects or natural kinds. E. g., there were people who thought whales were fish, there still are many such people, probably. Yet, to hold that someone who thought whales could have gills or could lay eggs was not actually thinking about whales is a very implausible position. For all we know, the person who discovered how whales reproduce might have set out looking for whale eggs at first, much like Columbus went searching for the Indies. The object we imagine things about is many times right there in front of us – it seems very strange to hold that it disappears from our imagination whenever we, knowingly or unknowingly, envisage a situation that is incompatible with its essential properties. Sometimes, examining or dealing with the implications of our erroneous beliefs is what makes us realize they are wrong in the first place. The nature and value of this process seems lost if we hold these beliefs cannot be about the same object.

The view that we cannot imagine metaphysical impossibilities, which was seemingly expressed by Kripke, is therefore too strong and seems to work against other more well-known Kripkean tenets, such as the existence of the necessary *a posteriori*. On a natural interpretation, much in the vein of Jackson's remarks, the essential properties should become robustly associated to our concepts, so as to preclude conceptually possible, but metaphysically impossible propositions. If this happens only after we determine an essential property, or before (and concepts should be strongly dependent on the nature of the objects they are about, despite our ignorance), that is not ultimately very important. According to the traditional view, being *a priori* is a matter of principle, as in the case of mathematical propositions. The proposed restriction on our imagination / conceptual faculties blurs the distinction between *a priori* and *a posteriori* knowledge to the point of making it inoperable. This doesn't save, however, Soames' modal epistemology. Soames still has to explain how it is that we manage to get metaphysical modality out of the space of epistemic possibility. The solution given by the Error theory is simple, but implausible and incompatible with Soames' route. Because the route starts with various epistemic possibilities, it is imperative to explain how we manage to do away with these epistemic possibilities and single out metaphysical necessity. A nice metaphor for this process would be the birth of Athena from Zeus' head. Yet, so much should be preserved from Jackson's remark: the epistemic possibilities are still there, and if this is a cognition process, it is difficult to say how we tell apart this now useless epistemic possibilities from the one epistemic possibility that is also a metaphysical necessity.

I would argue the problem is not so much with Soames' version of Kripkeanism, but with a tension that lies at the very heart of a Kripkean account, or more precisely at the intersection of the philosophy of language, epistemology, and metaphysics seen from an orthodox Kripkean perspective. On the one hand, we have non-trivial modal truths – especially necessary truths – which constitute modal knowledge. Whether knowledge of metaphysically necessary truths is the sole result of knowledge of essential properties (as Soames would want it), or not (as more traditional Kripkeans hold), the problem remains the same. We need a justification of our knowledge of modal truths, one which is preferably aligned with the metaphysical theory and use in language.[20] This theory should naturally include a description of the faculty and processes whereby we acquire modal knowledge. But on the other hand, we have probably the most famous Kripkean stance, pertaining to the philosophy of language. According to the Kripkean account, names and possibly natural kind terms should work as tags, that is, they should be separable from any descriptive content, and *that includes the essential properties that may be attributed to them*. The fact that there are expressions of natural language whose function is to stick to their referents in whatever circumstances (even if that function is not always guaranteed) is designed to help us keep track of objects, most importantly in situations of ignorance, poor knowledge or error that might affect our cognitive relation with the objects and kinds of our world. But naturally, we might be in ignorance or error concerning purportedly essential properties, too. The very permissive, perhaps idiosyncratic, limits of modal imagination reflect this underlying mechanism that allows us not to lose touch with objects, even when we are ignorant or mistaken about their properties. The independence of names and possibly natural kind terms from descriptive content is mirrored by the freedom of our imagination.

The question that emerges at this point is whether the moral extracted from the failure of the Soames-Kripke epistemological account may be extended to other realist accounts that attempt to combine the objectivity of modal truth with an explanation of modal knowledge that relies on epistemic modality / modal imagination. A general argument against this coupling is perhaps difficult to develop, and there are notable attempts to configure theories of modal knowledge based on the imagination that are acceptable to the realist.[21] Nevertheless, there seems to be a deep incompatibility between theories that consider imagination as the purveyor of modal truth and realist modal metaphysics. Descriptions of the process of singling out metaphysical necessity from the space of epistemic possibility appear to outline

[20] This reconciliation of metaphysics and epistemology (which we may supplement with a language unity requirement) is what Peacocke (1999: 1) calls "the Integration Challenge."

[21] See Geirsson (2005); Kung (2010; 2016); Yablo (1993).

something that looks very much like *a priori* knowledge, as in the case of the Error theory. In the next chapter, I will examine a differently built modal epistemology, Williamson's counterfactual account.[22] Williamson's theory and the Kripkean picture have a common philosophical trait: an underlying ontological realism. To a large extent, Williamson's account also relies on the imagination as a source of modal knowledge (Williamson's examples are largely imagination-based), but Williamson holds that this is not the only means of developing counterfactual suppositions. Williamson's theory is in many respects different from Kripke's perspective or Soames' version of Kripkeanism, but I will attempt to draw a parallel between the two views which shows they suffer from a similar problem and the remedies they propose are also similar and ultimately ineffective.

3. Williamson's counterfactual epistemology

The epistemology of modality that Williamson has outlined has been the subject of much debate. This has a lot to do with the sketchiness of the account, but even if some objections may be answered satisfactorily by a more developed theory, there still remains a deep, underlying problem which seems to be quite similar to the one that the Kripkean epistemology faces. Moreover, this problem is even more stringent as Williamson eschews appeal to the *a priori* for his modal epistemology. In order to clarify my stance, I will proceed by summarizing the most important criticisms that Williamson has received concerning his counterfactual account and the way the criticisms have been countered in the literature. This will provide us with a clearer picture of the gap that still needs to be filled by the theory.

Williamson argues that our capacity to handle metaphysical modality is a byproduct of our naturally developed ability to develop and entertain counterfactual suppositions.[23] To this end, he presents the two following equivalences between modal concepts and counterfactual conditionals:

(N) $\Box A \equiv (\neg A \mathrel{\Box\!\!\rightarrow} \bot)$
(P) $\Diamond A \equiv \neg (A \mathrel{\Box\!\!\rightarrow} \bot)$

That is to say, "we assert $\Box A$ when our counterfactual development of the supposition $\neg A$ robustly yields a contradiction" and "we assert $\Diamond A$ when our counterfactual development of the supposition A does not robustly yield a

[22] Formulated in Williamson (2007).
[23] Williamson (2007: 162).

contradiction."[24] The gist of Williamson's theory (and also its ambivalence) is captured by the following passage: "modulo the implicit recognition of this equivalence, the epistemology of metaphysically modal thinking is tantamount to a special case of the epistemology of counterfactual thinking."[25]

Now, the major question that arises in regard to Williamson's account is how substantial is his epistemology of modal notions. In the first phase of the debate surrounding Williamson's theory, the major criticisms it has drawn seem to proceed under the (not entirely unmotivated) assumption that this theoretical attempt is indeed a robust form of epistemology, more precisely, a reductive account, whereby knowledge of modal notions is reduced to knowledge of counterfactuals. Following Deng's account (but modifying it slightly), we can subsume the objections against Williamson's theory under two categories: circularity objections and explanatory power objections.[26]

Consider the first type of charge – circularity. According to Williamson, we recognize a metaphysical necessity □A by the particularity that any counterfactual development of ¬A leads to contradiction. To give a picture of how this is supposed to work, Williamson uses the following example:

(1) Gold is the element with atomic number 79.

If this is a metaphysically necessary truth, then the supposition that gold is not the element with atomic number 79 should yield a contradiction. However, this is not readily apparent. There is no contradiction that follows immediately from entertaining this hypothesis. Williamson solves this difficulty by simply claiming that constitutive facts are to be held fixed across any counterfactual simulation:

> If we know enough chemistry, our counterfactual development of the supposition that gold is [not] the element with atomic number 79 will generate a contradiction. The reason is not simply that we know that gold is the element with atomic number 79, for we can and must vary some items of our knowledge under counterfactual suppositions. Rather, part of the general way we develop counterfactual suppositions is to hold such constitutive facts fixed.[27]

Boghossian is one of the proponents of a circularity criticism to Williamson's account.[28] The question is in virtue of what we hold constitutive facts fixed and, ultimately, what makes certain facts constitutive, that is, immune to variation in

[24] Williamson (2007: 163).
[25] Williamson (2007: 158).
[26] Cf. Deng (2016: 484-489).
[27] Williamson (2007: 164).
[28] Boghossian (2011).

any counterfactual development. The projected answer seems to be that we already recognize these truths as metaphysically necessary, so counterfactual simulations are useless, and explanations of modality v*ia* counterfactuals run in a circle. While some of the remarks of Williamson - such as the one from p. 158 cited above - may lend themselves to a substantial interpretation, I agree with Deng that Williamson should be able to defend himself from circularity charges by simply pointing out that his account is not a reductive one, therefore we don't have an analysis of modality by way of counterfactuals. Williamson also emphasizes in a reply to Boghossian that statements such as (1) are not modal or required to be so.[29]

While the circularity charges can indeed be avoided, I want to argue that the explanatory power criticisms should be taken into account. Peacocke, Roca-Royes, and Tahko have all expressed various concerns about the account's capability of providing an adequate explanation of our modal knowledge.[30] Deng rejects the counterarguments of Peacocke, Roca-Royes, and Tahko arguing that their requirements on Williamson's theory are way too strong in relation to Williamson's explicit goals. Then, Deng goes on to provide his own criticism of Williamson's account, by arguing that Williamson's examples of counterfactual development are always about causal possibility and never about a distinct type of metaphysical modality (i.e., one that is not natural, mathematical, logical, etc.).[31] While I am sympathetic to Deng's conclusion, I think he dismisses the explanatory power critiques much too quickly. I will only focus here on Roca-Royes critique of Williamson's counterfactual account and use it in order to build my own argument against Williamson's proposals.

Deng answers just one of the arguments that Roca-Royes levels against Williamson, namely her worry that Williamson's account doesn't provide an elucidation of modal epistemology, the reason being that counterfactuals are actually dependent on background knowledge of the constitutive. According to Roca-Royes, the problem is consequently transferred from modal knowledge to knowledge of constitutive facts, *via* counterfactuals. Basically, Deng defends Williamson by arguing that scientific knowledge provides us with the wanted knowledge of constitutive facts. However, scientific truths (even as laws) are not modal in content, even if they may have modal implications.

I am not quite certain that this is enough to respond to this type of counterargument. While this doubt doesn't tell against our ability to acquire modal knowledge, it raises a serious concern about the utility of the counterfactual account. If we have knowledge of constitutive facts, then counterfactuals are dispensable,

[29] Williamson (2011).
[30] Peacocke (2011); Roca-Royes (2011); Tahko (2012).
[31] Deng (2016: 489-493).

precisely because these constitutive truths have modal implications that we are or may become aware of. Perhaps Williamson may defend his account successfully by insisting here again that his is not a substantial account, neither as reduction, nor as explanation/elucidation.

Matters of perceived weakness or strength aside, I will focus here on another thread of Roca-Royes' critique. More precisely, Roca-Royes compares two epistemologies of counterfactuals, a Williamsonian one (W) and one (EC) which is very similar to Williamson's account, with the exception of not requiring that some constitutive facts be held fixed across all counterfactual scenarios. According to (EC), we can amend our background knowledge, even if these constraints should be minimal, and use our sense of how nature works, just as in Williamson's account. What is important is that we don't need constitutive knowledge in order to develop efficient counterfactual suppositions. I will not go into the details of Roca-Royes' arguments here. I am concerned with just one of her theses here, namely that "from a naturalistic perspective, (EC) is more plausible for *e*-counterfactuals than (W)."[32] Now, it is true that this statement needs some kind of direct justification, and this explanation is not fully provided by Roca-Royes. To wit, we would need to investigate the way counterfactual scenarios are actually entertained, but Williamson doesn't provide us with a justification either. It is not clear at all that we naturally proceed the way Williamson thinks we do, that is, by blocking any variation on constitutive facts. This puts some of the worries of the critics of Williamson, such as the importance of providing the *correct* account of constitutive knowledge, into perspective. If there is no quasi-automatic introduction of constitutive facts in counterfactual scenarios, then it is very important how we come to know constitutive facts, but most of all, how we are able to distinguish them, i.e., how we know something (and not something else) is constitutive.

The requirement of holding some background knowledge, namely constitutive facts, fixed in counterfactual suppositions mirrors Kripke's proposed constraint on the imagination. The success of the counterfactual explanation is dependent on the presence and pervasiveness of this procedure. Otherwise, this account cannot vindicate our knowledge of metaphysical modality – while we may get some appraisal of possibility at the end of counterfactual developments, there is no guarantee that we have singled out metaphysically necessary (or metaphysically possible) truths. The question remains if pieces of *a posteriori* knowledge can play this role – if they can impose such a strict constraint on our imagination (and on whatever other faculties and capacities are included in developing counterfactual suppositions).

[32] Roca-Royes (2011: 551). *E*-counterfactuals are defined by Roca-Royes (2011: 538) as "counterfactuals that have a metaphysically possible antecedent and a logically consistent consequent."

Before formulating the conclusions of this paper, I would like to make one final, small note about Williamson's account of modal knowledge, that I hope to develop elsewhere more thoroughly. If we examine closely Williamson's rejection of the role of understanding in linguistic competence, on the one hand, and his epistemology of modality, on the other, we should notice there is an underlying tension between the two. Williamson considers some examples that seem to show that understanding a term is not essential for correctly using that term, thereby endorsing a social externalism of the type proposed by Burge.[33] Deviant understandings of a term may exist and even be professed by speakers, yet, as those speakers are part of a community, successful linguistic exchanges with members of that community ensure that they use that term competently.[34] However, Williamson also holds (as we have just seen) that substantial constraints should be, and indeed are, imposed on the way we develop counterfactuals. If the way we know modal truths is in any way related to this process, then these constraints should be reflected in the content of our modal notions. But modal notions are expressed by modal terms in language, so, when Williamson insists that users may have various incompatible understandings of the same term without this amounting to a separation between competent and incompetent users of that term, he must accept that this also happens in the case of modal expressions. But what is the correct and what are the deviant understandings of metaphysical modalities? The answer must be that the way the expressions are predominantly used in the linguistic community is the decisive criterion. Now, if we think about Roca-Royes' more permissive view on the epistemology of counterfactuals and accept that the dominant notion of metaphysical possibility is shaped along the lines of her (EC), then robust realism about metaphysical modality appears to be in trouble. It simply is not enough to provide us a strong and, more importantly, correct notion of real possibility.[35]

[33] Burge (1979).

[34] See Williamson (2007: 95-98) for more details on Williamson's arguments and examples.

[35] Supplementing or replacing a criterion of predominant use with a principle of division of linguistic labour, along the lines of Putnam (1975), will not necessarily get the counterfactual account out of trouble. For one, it is not clear whose counterfactual practice should be upheld. It may be that scientists proceed differently from philosophers in counterfactual thinking and, consequently, they might accept incompatible counterfactual simulations about the same contents. Secondly, it is not clear that there is widespread consensus even inside one group of experts about the right way of developing counterfactuals, as debates between philosophers seem to confirm.

4. Concluding remarks

The aims of this paper are mostly negative. My main goal was to show that imagination (traditionally conceived) is not enough for providing knowledge of metaphysical modal truth, in accordance with the demands of a realist framework. This thesis was illustrated and argued for mainly with regard to the Kripke-Soames epistemology of modal necessity. The constraint this epistemology attempts to impose on the imagination is unnaturally strong and ultimately ineffective. However, even if it were effective, this constraint would jeopardize Kripke's famous examples of necessary *a posteriori* truths that are linked to his widely accepted views on referential terms. While Williamson's account is more nuanced, purporting to make room for the application of many more cognitive capacities than the imagination, it gives way to the same quandary. In order to result in adequate assessments of metaphysical necessity, counterfactual developments must lead to contradiction. The process is, however, way too simple: we just hold constitutive facts fixed. Yet, it is unclear that counterfactual suppositions proceed this way, which makes a counterfactual account powerless (derived, at most, from more fundamental knowledge). The failure of one epistemology in accounting for modal knowledge mirrors the failure of the other.

What is then the correct modal epistemology? The answer to this question is beyond the scope of this paper. The epistemology of essence seems to be a promising option for the realist. Other alternatives recover the role of imagination, but it is hard to see how these elucidations are to proceed without favouring a conceptual(ist) dimension. Whatever the options, the freedom of the imagination appears to remain intact.

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DENYING THE PROBLEM. DEFLATIONISTS AND THE LIAR PARADOX

PAULA-POMPILIA TOMI[*]

ABSTRACT. Deflationary theories of truth had two different types of responses to the Liar. A first class of deflationists considers that this paradox does not represent a problem for their theories. On the other hand, other deflationists find the Liar to be a serious issue. This article focuses on the first class.

Both Grover and Gupta consider that the Liar does not represent a problem for a deflationary theory of truth. For Grover, the paradox is demolished through the construction of the theory and for Gupta, the Liar is not the problem of the deflationist, but rather it concerns a specialist.

Dorothy Grover (2005) is an advocate of the prosentential theory of truth. This theory considers that truth works as a prosentence. The sentence resulted by adding the truth predicate to a referring expression has the same content as the sentence picked out by the initial referring expression. A prosentence does not have a meaning by itself; it takes its meaning from its antecedent. Grover considers that the truth predicate used in the Liar fails to pick up an antecedent, thus it does not have operative meaning. The operative meaning comes from using a word in a specific context.

Gupta (2005) considers that a specialist – not a deflationist – should give the proper answers to the paradoxes. A deflationist should not be concerned with how the paradoxes can be avoided. His only interest is how the T-schema should be interpreted in order to give the meaning of the truth predicate and how the deflationary conclusions are reached. Paradoxes do not count in as an issue for deflationists, because they are able to answer to their main questions without facing paradoxes. Therefore, the Liar is not a real issue for the deflationist.

The main aim of this article is to offer some counterarguments for these two views. Grover's difference between dictionary and operative meaning seems to make a distinction between accepted and restricted sentences. This distinction is needed in order to escape the problem of paradoxes. If this is the case, the Liar is an issue, but it is solvable. This is quite different from what Grover claims. On the other hand, Gupta's approach may ease the deflationist's work but it might destroy his theory.

Key words*: truth, paradoxes, the Liar paradox, the prosentential theory of truth, D. Grover, A. Gupta*

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Introduction

Different truth theories tried to offer a solution to the Liar paradox. This paradox is a semantic and self-referential one. A paradox is a sentence or inference that seems sound, but leads to a contradiction. Self-reference is utilized to denote a statement that refers to itself. Semantic paradoxes rely on the semantic notions, in this case, on truth.

The Liar antinomy may have different forms. The most common one is (L) 'This sentence is false'. If we assume that the sentence is false we will have: if (L) is false, then because of what it said, it is true, thus (L) is true. Therefore, starting from the assumption that (L) is false, it is determined that (L) is true.[1] On the other hand, if it is assumed that (L) is true, then, again, because of what it said, it is false; hence (L) is false.[2] Consequently, starting from the assumption that (L) has a certain truth value; the conclusion is that it has the other truth value.

The self-reference is preserved even if, for example, Epimenides, who was a Cretan, said: 'All Cretans are liars'. In this form, the antinomy is solvable if we assume that the statement is false. If the statement is false, and Epimenides is lying, there must be at least one honest Cretan. That one Cretan does not have to be Epimenides. If he is lying, while knowing at least one honest Cretan, the sentence is false.[3] In order to have a paradox there should not be an honest Cretan. If it can be ascertained that there is at least one honest Cretan, then Epimenides' utterance is not paradoxical anymore, it is just false.

However, the antinomy may be slightly changed, thereby not allowing this kind of simple solution. For example, a form of the Liar that cannot be resolved in the way presented above is: 'What I am saying now is a lie'.

Another[4] contingent Liar paradox can be found in Field (2008, p. 24), and has the following form:

'What is being said by the person in this room with the lowest IQ
is not true'.

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[1] $(\sim L \supset L) \supset L$

[2] $(L \supset \sim L) \supset \sim L$

[3] 'All Cretans are liars' can be formalized using the universal quantifier:

$(L_C)\ (\forall x)(Cx \rightarrow Lx)$

In order to invalidate this sentence is sufficient to validate the following sentence:

$(\sim L_C)\ (\exists x)\ (Cx\ \&\ \sim Lx)$

There is no need to validate a sentence of the form ('All Cretans are honest'):

$(H)\ (\forall x)\ (Cx \rightarrow \sim Lx)$

[4] The original version presented above – the one involving Cretans – is also a contingent one.

In this case the antinomy arises only if the one who says the sentence is the person with the lowest IQ in the room and that is all that is said by that person. The antinomy can also be obtained by multiple sentences.

Even more, there are forms of the Liar that do not imply self-reference at all. Yablo's paradox (Yablo, 1985, 1993) is such an example. Yablo's paradox has the following structure:

S_1: For all m > 1, S_m is false.
S_2: For all m >2, S_m is false.
S_3: For all m > 3, S_m is false.
…
S_n: For all m > n, S_m is false.

There are two main deflationary attitudes towards the Liar. One is claiming that the Liar does not represent a real problem for a deflationary theory of truth. On the other hand, some deflationists accept that the Liar raises a serious problem for their concept of truth. Grover's (2005) and Gupta's (2005) responses are included in the first class. Horwich (1998, 2010) is among the deflationists that accept that the Liar represents an issue. His approach, the minimalist one, considers the Liar a problem for the theory and tries to solve it without rejecting the aim of the theory (i.e. deflating truth). This article will be focused exclusively on the two already mentioned approaches that reject the Liar as being a proper issue for their theories.

Denying the problem

Dorothy Grover is an advocate of the prosentential[5] theory of truth[6]. According to this theory, truth is not a property-ascribing predicate (Grover, 2005, p. 196), it is considered a predicate which has a prosentential function. The role of prosentences is quite similar with the role of pronouns. For example:

(1) Mary is at the grocery store. *She* is buying apples because *she* believes *they* are delicious.

[5] The structure of the theory's name is following the structure of other anaphors, as, for example, pronouns. Pronouns are used to refer to previous used nouns, in the same way as 'true' is going to be used to refer to previous sentences.

[6] The theory was first presented in (Grover, Camp, Belnap Jr., 1975)

In this case, 'she' stands for 'Mary'; respectively 'they' stands for 'apples'. The meaning of those anaphors is not fixed, it is relative. In the already presented example, the meaning of 'she' and 'they' is taken from the previous nouns used in the sentences. It seems that the same situation is applicable for 'true' and 'false'. When truth is added to a referring expression it does not add anything more than the reiteration of the sentence or sentences picked out by that referring expression. Let us consider 'S' (the referring expression) the name for 'Snow is white' (the denotation of the referring expression). According to the prosentential theory of truth, 'S is true' means nothing more than 'Snow is white'.

In order to provide a concrete example, we can imagine a conversation between Andrew and Anna. Andrew states 'Snow is white'; then, Anna says 'This is true'. In this situation what Anna is saying – according to the prosentential theory of truth – is nothing more than exactly what Andrew said, that is 'Snow is white'.[7] This means that 'this is true' has the role of a prosentence and it inherits its content from the antecedent statement, in the same way as a pronoun takes its reference from the previous singular term (or noun). This theory is considered a deflationary one because 'x is true' and 'x' always have the same content. This means that those anaphors do not have a content of their own. Neither pronouns nor prosentences have a meaning without a specific context in which they are used.[8]

According to the advocates of this theory, it is the Liar that fails to pick a specific antecedent, for this it is neither true nor false. As it was already mentioned, a prosentence takes its content from its antecedent. Thus, (L) has content only if its antecedent does. In this case, because (L) is its own antecedent, it has content if and only if (L) has content. But prosentences do not have independent content, in

[7] The prosentential theory of truth can easily be extended to falsity. In this situation, 'This is false' is also referring to an antecedent sentence and it has the same (semantic) content as the denial of that sentence. Keeping the same example, if Anna would have said 'This is false' she would have meant that 'Snow is not white'. Thus, Anna's sentence has the same (semantic) content as the negation of what Andrew said.

[8] At this point, the prosentential theory of truth seems quite similar with the redundancy theory. Even if the first theory claims that there is no difference in the semantic content between the two already mentioned sentences, the theory considers that there is a pragmatic difference. In this case, if Anna, instead of saying 'This is true', would had said 'Snow is white', then she would have said the same thing semantically. On the other hand, pragmatically, she would have not acknowledged Andrew's previous sentence. Instead, using the prosentence, she expressed her agreement with what Andrew said. In this case, the main difference between the prosentential theory and the redundancy one is that the first one claims that there are cases when the truth predicate cannot be eliminated without loss. In the already presented example, the loss would be Anna's acknowledgement of what Andrew had said.

this situation, (L) lacks content. Thus, the relation between an anaphor – in this case a prosentence – and its antecedent is a non-reflexive one; therefore, it holds only between two distinct things.

When it comes to the Liar, Grover considers that "there is no threat; there is nothing to resolve" (Grover, 2005, p. 177). In order to sustain her point, she makes a distinction between dictionary meaning and operative meaning. The dictionary meaning is based on the history of uses of a specific word.[9] On the other hand, the operative meaning is "the use that a token of a word has in its context" (Grover, 2005, p. 183). This means that if a word (or sentence) is not used in a specific context in a communicatively significant way, it does not have an operative meaning, even if that specific word (or sentence) has a dictionary meaning.

Grover states that the Liar is not used in a communicatively significant way. Even if its component words have dictionary meaning and it is well-formed, this does not contribute to its operative meaning. This means that the sentence that expresses the Liar is not used. The token 'it is false' can be used. But to be in accordance with the prosentential theory of truth it can be used only with a correlated antecedent. That specific antecedent must be different from the prosentence, because, as it was already mentioned, this relation holds between two different things. This means that 'this is false' may be used only to refer to another sentence with the aim of affirming the negation of that specific sentence.

In order to be able to determine if the Liar has operative meaning, one must know something about the context of the discourse in which such a sentence was uttered. Grover based this part of her argumentation on the distinction between formalized and natural languages. Even if both of them were created by humans, they have different purposes. The natural language has an openness and flexibility that formalized languages lack (Grover, 2005, p. 179). The formalized languages are used for specific tasks and they are not suitable for an everyday use. In this situation, the Liar, being a part of the natural language, should have a meaning when it is used in a specific context. It seems that when the Liar is uttered in the natural language it is not properly used, it is only mentioned. In this situation, it does not have an operative meaning.

There might be some counterarguments against Grover's point of view. For example, she mentioned the Kripkean risky cases and the use of the Liar in inferences (Grover, 2005, starting with p.185).

[9] As the name suggests, this is the meaning that can be found in a dictionary.

It might be argued that the Liar might be used in inferences[10], such as (Grover, 2005, pp. 185-186)[11, 12]:

1. L= 'L is false' (stipulation)
2. L is false v L is true[13] (classical logic)
3. *L is false* (hypothesis)
4. 'L is false' is false (3, substitution)
5. 'p' is false iff ~p (falsity schema)
6. 'L is false' is false iff ~(L is false) (5, substitution)
7. ~(L is false) (4,6, classical logic)
8. L is true v L is false (classical logic)
9. L is true (7,8, classical logic)
10. L is true & L is false (3, 9, classical logic)
11. *L is true* (hypothesis)
12. 'L is false' is true (11, substitution)
13. 'p' is true iff p (truth schema)
14. 'L is false' is true iff L is false (13, substitution)
15. L is false (12, 14, classical logic)
16. L is true & L is false (11, 15, classical logic)[14]
17. L is true & L is false (disjunction elimination, 1-15)
18. (L is false) & ~(L is false) (5, 13,[15] 17, classical logic, substitution)

[10] Grover drew a sharp line between inferences in natural languages and in formalized ones. An inference in a natural language is more complex than just a syntactic structure that is required by a formalized language.

[11] A similar demonstration is given for the Strengthened Liar. For more see (Grover, 2005, pp. 191-192)

[12] The content of the demonstration is the same with Grover's; however, I changed the form of the demonstration in order to make it easier to follow.

[13] This seems rather an instance of bivalence, which is not generally accepted as a principle of classical logic. The law of excluded middle is such a generally accepted principle. Both (2) and (8) are rather instances of bivalence, not of the law of excluded middle. The problem may be solved, because (2) and (8) may be deduced from the law of excluded middle, bivalence and modus ponens. I have to thank Matti Eklund for the discussion we had on this demonstration.

[14] This seems to be obtained similarly to (10), through the rule of conjunction introduction. Thus, (16) is obtained from (11) and (15) using classical logic.

[15] (5) and (13) are the lines of the truth schema and the falsity one. Grover decided to use them even if they were part of the sub-proofs. This does not represent a problem, because they could have been reintroduced at any line.

According to Grover, in order for the Liar to be able to lead to contradiction, it must have operative meaning. Stipulating 'L is false' in the inference does not imply it has operative meaning. In order for it to have such a meaning, it must not only be used, but also the terms that compose it have to be used in the way they have been used historically in other contexts (Grover, 2005, p. 187). Only if those conditions are fulfilled, it can be said that (L) has operative meaning in (1)-(18).

In this situation, accepting both (1)-(18) and that (L) has operative meaning, leads to contradiction. The solutions – according to Grover (2005, pp. 189-190) – are either to reject a line from (1) to (18), or to reject that (L) has operative meaning. All the lines from (1) to (18) are based on rules of classical logic; in this situation they are generally accepted. The only remaining strategy is to deny that (L) has operative meaning. Going even further, this means that at least one of the words in the Liar is used in a new way, differently from how it was used in other past contexts; or that (L) is not properly used in presented inference. Grover adopts the second alternative. Thus, (L) is not used; this means that it does not have operative meaning.

If it had been accepted that (L) has operative meaning, it would have also been accepted that the syntactic structure reflects the semantic structure. Because Grover claims that syntax can outstrip semantics, she denies that the Liar could have operative meaning (Grover, 2005, p. 190). The Liar paradox may be associated with division by zero. If either the Liar or division by zero is used in a natural language, it leads to incoherencies. Thus, Grover concludes:

> "We do not regard division incoherent on the ground that inconsistency would seem to threaten if we were to counterfactually assume we could divide by zero. So, also, we should not regard truth-talk incoherent on the ground that inconsistency would seem to threaten, if we were counterfactually to assume the liar could be used in inferences." (Grover, 2005, p. 201)

An anaphor is considered ungrounded if there is not an appropriate antecedent. In this situation, as it was already said, the anaphor fails to have operative meaning. The Liar is supposed to affirm the contradictory of its antecedent, but it is its own antecedent. This means it is ungrounded. This happens because there is no proper antecedent with operative meaning. Because the Liar cannot be used to say anything, it does not represent an issue for the prosentential theory of truth.

Let us conclude what Grover achieved so far. She answered the first possible counterargument for her theory: the use of the Liar in inferences. Her answer is twofold. She showed that the Liar is not used in inferences not only

from a prosentential perspective, but also from a property-ascribing perspective.[16] From both perspectives the whole criticism is built around the fact that the Liar does not have operative meaning.

Risky cases represent another possible counterargument for the answer the prosentential theory of truth provided to the Liar. Grover focuses on this risky case:

> "It is said that Russell once asked Moore whether he always told the truth, and that he regarded Moore's negative reply as the sole falsehood Moore had ever produced. (…) Yet he apparently failed to realize that if, as he thought, all Moore's *other* utterances were true, Moore's negative reply was not simply false but paradoxical." (Kripke, 1975, p. 691-692)

Grover's answer to this kind of situations is that even Russell would clarify his assumption, or that it was a mistake. In the case of mistakes, most of the time, the context provides enough information for the audience to be able to figure out what a speaker intended to say. The fact that one is able to guess what a speaker really wanted to say, despite his mistake, does not imply that his words had operative meaning. Applied to the situation presented by Kripke, Russell's words lacked operative meaning.

This might be the case. The real difficulty seems to be the other example Kripke (1975, p. 691) provided:

> (1) Most of Nixon's assertions about Watergate are false. – Said by Jones
> (2) Everything Jones say about Watergate is true. – Said by Nixon

If Nixon made an equal number of true and false sentences about Watergate and all that Jones said about Watergate is (1); both (1) and (2) are paradoxical. In this example, both Jones' and Nixon's statements seem to have operative meaning. They both imply a prosentence and they also both have a proper antecedent from which they take their meanings. In this case, from a prosentential point of view, it must be accepted that they have operative meaning. In this situation, it seems that Grover's argument fails.[17] It might be suggested that there is no proper antecedent at least for Jones's statement because it implies another prosentence. If

[16] In other words a 'property-ascribing perspective' means a substantive theory of truth. Such a perspective accepts truth to be a genuine property of sentences.

[17] If this is the case, her argument fails when it comes to formulations of the Liar based on multiple sentences and also to Yablo's paradox.

this is the case, then, similar situations that do not imply paradoxes should be rejected. For example:

> 'What Anna says right now is true' – said by Andrew
> 'What Andrew says right now is either true or false' – said in the same time by Anna

In this situation, there is no paradox involved. I assume that an advocate of the prosentential theory of truth would accept such a situation. If she accepts this, it means she accepts that prosentences used in it have operative meaning. If this is the case, on what grounds she could reject a similar situation that involves paradoxes? If the paradoxes are the cause, then the Liar is far from being inoffensive for the theory. It seems then that they have to solve it. If the Liar is not the cause of rejecting these situations, then they must accept that those situations – paradoxical or non-paradoxical – must be rejected based on the fact that the implied prosentences do not have operative meaning. In this case, it seems that their theory leaves outside a lot more than it intended and that it is quite restrictive. The theory is restrictive also because it requires that the antecedent should be different from the prosentence – banning sentences as the Truth-Teller.

In conclusion, it seems that Grover's arguments have their weak points. I think that her answer might work – with some further distinctions in order to avoid being too restrictive – if it is accepted as a solution to the Liar. If the distinction comes outside the scope of solving the Liar, it seems that it might be too restrictive and it seems to be arbitrary. On the other hand, if it is taken to reject only the paradoxical situation, then I found it to be quite plausible. But in this situation the Liar must be accepted as a problem for the theory. This problem might have quite a satisfactory solution through the distinction between the dictionary and operative meaning.

According to Gupta (2005) paradoxes do not represent a special threat to deflationism. A deflationist does not have to try to solve these paradoxes. He can and should let them be the specialist's concern.

The T-schema represents the central claim of many deflationary views about truth. Gupta argues that the Closure principle implied by the T-schema is undoubtedly true. Therefore:

> "The Closure principle: The following two rules of inference, TI and TE, hold for categorical affirmations:
> (TI) A; therefore 'A' is true
> (TF) 'A' is true; therefore A" (Gupta, 2005, p. 134)

This principle does not hold in the case of hypothetical reasoning. Because of its weakness, the principle does not yield inconsistencies when it comes to paradoxes. If the Closure principle was not restricted to categorical situations, it would definitely imply inconsistencies. Supposing 'The Liar is not true' would imply 'The Liar is true' and the other way around. But this is not a categorical context, it is a hypothetical one. Consequently, Gupta claims that:

"The Closure principle ought, therefore, to be respected by all theories of truth, deflationist and non-deflationist alike." (Gupta, 2005, p. 135)

In order for the Closure principle to work, a notion of weak truth is needed. Assuming this notion of truth, the two sides of the biconditional have always the same truth value. If A has a specific truth value, ''A' is true' has the same truth value.[18] In this situation the biconditional is correct for the unproblematic instances. When it comes to the paradoxical ones, Gupta considers that there are enough reasons to accept both of the possibilities: the biconditional may or may not be correct. This is because the Liar has a special type of semantic instability. According to Gupta:

> "The Liar remains puzzling even after we recognize that its T-biconditional is not true. Our attitude towards the Liar paradox is quite different from that towards other popular puzzles and paradoxes. With the latter, our perplexity disappears completely once we concede that some crucial idea or presupposition that we brought to the puzzle is false. But with the Liar this is not so." (Gupta, 2005, p. 136)

It seems that a possible solution could be to reject the T-schema for the paradoxical situations.[19] The problem with this solution is that, if some instantiations of the T-schema are considered illicit, then the truth predicate cannot stand anymore for its generalization function. Gupta argues that a theory of truth needs all the instantiations of the T-schema, thus, the previous solution is rejected. The only remaining[20] solution is to accept all the instantiations of the truth biconditional. This might be realizable through a better understanding of the connective 'if and only if'. The solution should sustain the Closure principle. It should also imply the material biconditional for non-paradoxical instances and should not imply contradiction.[21]

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[18] For example, if A is true, then ''A' is true' is also true. On the other hand, if A is neither true nor false, then so is ''A' is true'.

[19] This solution was the one that Horwich endorsed. For more see Horwich (1998, 2010).

[20] Gupta also rejects the Inconsistency View. This view wants to keep the intuition that the instances of the T-schema are correct. In order to do so, this kind of approach states that the principles governing truth are inconsistent. (Gupta, 2005, pp. 137-138)

[21] This means that the instantiation of the T-schema for the Liar should not imply the corresponding material biconditional. (Gupta, 2005, p. 139)

Deflationists consider that the T-schema fixes the meaning of 'true'. Meaning may be understood as extension, intension or sense. The first one is considered a weak manner of understanding meaning. The second one is an intermediate way. Finally, the last one is a strong understanding. It seems that deflationists take the meaning in a relatively weak sense. The problem is that if one takes meaning as extension, he cannot point the objects of which the predicate is false. This issue develops if the predicate is gappy or n-valued.

Gupta introduced the Signification thesis.

"The Signification Thesis: The T-biconditionals fix the signification of the weak notion of truth. Or, more fully, given the non-semantic facts that obtain in the actual world, the T-biconditionals fix the actual signification of truth." (Gupta, 2005, p. 140)

This means that the instances of the T-schema fix the total extensional information about a term. It includes the extensional meaning, but it is richer. This thesis should also be preserved by a theory of truth and paradox. From this point, if a deflationist wants to adopt a stronger reading of meaning, he does not have to worry. Paradoxes – according to Gupta – do not threaten the Signification thesis, thus they also do not threaten meaning taken as intension or sense. If Gupta's claim is accepted, then the Liar does not represent a problem for the deflationary claim that T-schema fixes the meaning of the truth predicate.

Gupta claims that a theorist of truth and paradox should not let the Liar dictate him a specific logic. Such a theory has to be given from a neutral position regarding logic. Moreover, Gupta says:

> "(…) an account of the paradoxes (…) should not attribute a special logic to sentences containing 'true'. Logical resources (e.g. negation, conjunction, and quantification) should interact with 'true' in just the way that they do with the other predicates. In our ordinary reasoning with sentences containing 'true', we do not hold them to be above the usual logical laws." (Gupta, 2005, p. 143)

Thus, the author points out some desiderata which have to be satisfied by truth theorists. To sum up, those are:

1. T-schema and its instantiations are correct and they fix the meaning of true.
2. The instantiations of non-pathological sentences imply the corresponding material biconditionals.
3. The Closure principle must be maintained.
4. The instantiations of the T-schema must not imply contradictions.
5. The instantiations must be logic neutral.
6. The logical rules of the language apply uniformly to sentences containing 'true'. (Gupta, 2005, p. 144)

In conclusion, Gupta's approach sustains that deflationists have to be concerned only about the interpretation of their claim. They need an interpretation that establishes the conclusions they reach for. Also they have to verify if the initial claim is correct, assuming that specific interpretation. The paradoxes and the list of desiderata mentioned above are not their problem. The specialist should try to give answers to those.

The generalization problem forces minimalists to deal with the Liar. In order for the truth predicate to fulfill its function as a generalization device, it has to be applied unrestrictedly. In this situation, I do not see a way out for a deflationist, except facing and trying to give a solution for the paradox. I do not think that such a deflationary theory of truth may be built around the paradox, without trying to give at least an explanation for it. I strongly believe that rejecting the instantiations of the T-schema that imply paradoxes is not the right solution for the deflationist. On the other hand, the situation when the deflationist completely ignores the paradox seems even worse. In the first case, the deflationist was able to avoid the paradox, but he lost the generalization he aimed for. The whole function of the truth predicate – according to minimalism – is its generalization function. If some instances of the T-schema are rejected, truth seems to lose its role. In Gupta's solution, the whole theory seems to collapse.[22] The theory seems to fail because if the problem of paradoxes is put aside and they are not considered a real issue, then the truth predicate will be applied unrestrictedly. However, if there is no explanation for the paradoxical sentences[23], they have to be treated in the same way as the unproblematic ones. If this is the case, according to the minimalist approach, they have to be assigned one of the two classical truth values. This would lead to contradiction. Thus, the coherence of the theory would be destroyed. In this situation, far from being perfect, any of the deflationary[24] solutions seems more appealing. The minimalist theory of truth provides two possible solutions to the Liar. The first one is to restrict the application of the T-schema to the

[22] A possible solution would be for a deflationist to accept the Inconsistency View or dialetheism. But Gupta rejects both of them. This solution was proposed by Armour-Garb and Beall in various articles. For more see Armour-Garb (2001, 2004, 2010) and Armour-Garb and Beall (2003, 2005)

[23] The explanation is given outside the theory, by the specialist – according to Gupta. This means that the core of the theory does not provide any explanation regarding the paradoxes. The problem is just ignored.

[24] By 'deflationary', here, I refer to Paul Horwich's theory, the minimalist approach. Horwich provided the first answer in *Truth* (1998). After receiving critiques, Horwich presented a development of the first answer (Horwich, 2010). Horwich's solutions go beyond the aim of this paper.

paradoxical sentences. The second one – also based on the idea of restricting the instantiations of the T-schema – applies the T-biconditionals only to grounded sentences.

Secondly, I do not fully understand what Gupta means referring to 'the specialist' that should be concerned with giving all the answers. It might be accepted that a deflationist is not interested in fulfilling all the desiderata mentioned by Gupta. But he should at least explain how his theory avoids the Liar paradox. If the theory cannot avoid it, then it should either cope with it (as the dialetheist did), or solve it.

Conclusions

Thus, in this article I tried to argue that the idea that the Liar paradox does not represent a problem for the deflationist does not seem to be sustainable. The prosentential theory of truth seems to give a solution to the Liar without accepting it as a real problem. Gupta's approach, on the other hand, aims to ignore the paradox and leaves the 'specialist' to handle it. This 'specialist' has a lot of work to do; he has to check many desiderata in order to be able to give an account of truth that solves the problem of paradoxes. The deflationist, however, is freed from this job. I tried to argue that both theories have weak points.

The prosentential theory is too restrictive, especially when its distinction between dictionary and operative meaning is going to be accepted outside the scope of giving a solution to the Liar. This would mean that the distinction is accepted without a proper scope. On the other hand, Gupta's answer is moving the problem outside the deflationary account. However, the deflationist is not able to avoid this easily the Liar.

Both Grover (2005) and Gupta (2005) consider that paradoxes are not an issue for a deflationary account of truth. I argued that their views have some weak points. Grover seems to offer a solution to the Liar, while claiming it is not a problem for her theory. Gupta considers that a minimalist does not have to worry about the Liar; the paradox should represent the problem of the specialist. It seems that deflationists have to admit that the Liar represents a problem for their accounts. The issue that rises is that they have minimal resources to solve it. However, this is a subject that may be developed on another occasion.

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VARIA

THE CHANGED NATURE OF WORK AND VALUES

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ABSTRACT. This article explains the connection between work and life. In order to be able to understand the concept of work and its meaning for life in detail, the design possibilities of the work must first be explained and put into context with free time. It shows that work, as the basis of food production and livelihood, is the crucial factor in the lifeworld and thus strongly influences the life forms of society, since work shapes social values. For this analysis, it is therefore essential to examine the changes in the values of modern society in the course of changing forms of work. The aim of this study is to show that the more radically the forms of work undergo change, the greater the change in values. Finally, it will be discussed what significance this changed nature of work and values has for today's society.

Keywords: *work, labor, life, economic rationality, values, leisure*

Introduction

Until the 20th century *work* is associated with the biological cycle and life.[1] In order to better understand the concept of *work* related to life, it is worthwhile to resort to very early religious and spiritual traditions. According to the Book of Genesis of the Old Testament, God's creation in Hebrew is a pun between *adamah* for arable land and *adam* for man[2]. Here, man is first associated with the soil from

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[1] Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, Piper Verlag, München, 2002, p. 29 ff.

[2] Die Bibel, *Stuttgarter Bibel der Buchmalerei*, Die Einheitsübersetzung mit Meisterwerken mittelalterlicher Buchkunst; Belser Verlag; Stuttgart, 2. Auflage 1996, Anmerkungen zur Textgestaltung und Textüberlieferung; p. 1314; Das Buch der Genesis; 2, 7.

which he was created and, moreover, supplies him with his food. A second statement taken from the Bible is that after the creation of heaven and earth, after completion of work, God rested on the seventh day.

> "Then God blessed the seventh day and made it holy, because on it he rested from all the work of creating that he had done."[3]

So God has made the seventh day to rest through the canonization[4] and the other six days to be active. Here "earthly" or "worldly" determinations and actually functional motives of "production" are sacralized and together form the "imaginary" that apparently gives society or social life its "sense" from which value arises.[5] C. Castoriadis explains that the number seven actually assumes an economic function and is interwoven with the "logic" of social life, but when religion is grouped around an "imaginary", rituals, ceremonies and customs are introduced, but as an institution "sanctions" are also set up.[6] According to this view, the institutions produced by a culture, which have emerged from their functions, are the (symbolic) representations of the stages of social development. This means that all material and ideal productions of a culture have a specific function, task or role in the overall social system: life and are symbolically embodied and asserted by institutions, because on the one hand they fulfill "vital functions" and on the other hand or particularly they embody the "imaginary" by linking and communicating symbols, meanings and rituals of a society.[7] The imaginary is thus the cornerstone of a society for the creation of symbols and rituals that, together with the social functions, create the social institutions and embody the stages of development of a culture. Another symbol of the unity of life and work[8] is found in the *curse* of God imposed on Adam and Eve for the Fall. Eve must give birth in pain while Adam has to procure his food under hardships.[9] Here Hannah Arendt notes that the curse comprises

[3] Ibd., *Das Buch der Genesis*; Die Anfänge 2, p. 17.

[4] "Resting on the holy day" means not affecting nature - Jewish: the Sabbath from Friday afternoon to Saturday evening; in the Christian tradition Sunday is scheduled as a rest day.

[5] See Cornelius Castoriadis, *Gesellschaft als imaginäre Institution*, Suhrkamp Verlag, Frankfurt am Main, 1984, p. 220-221.

[6] Cf. Ibd., p. 221.

[7] Cf. Ibd., p. 197 - 198, p. 199-200 f.

[8] Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 19, 33, 39, 86.

[9] Die Bibel, *Das Buch der Genesis*, *Der Fall der Menschen* 3, p. 18-19; 3, 16-19: „Under pain you bear children. [...] Under hardship you will eat of him / all the days of your life, [...] in the sweat of your brow, you shall eat your bread." Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 135.

only pain and hardship, but that fertility and work have always been conditions of human existence.[10] Man was created as a conditioned being that has to work for his own and his descendant's existence.[11] The word *leawod* means to serve in the biblical context and then becomes the Hebrew word for work.[12] Serving God would mean translated, working for God. In Middle High German the word *arebeit* was rather rare, because it means hardship and plague, as in the *Niebelungenlied*. The French *travail* allegedly derives from the latin word *tripalium*, a torture instrument,[13] and carries the same meaning of torture and suffering in the Slavic words *monca*, *moka*, *maka* and is comparable to the Slavic word *muka*.[14] Thus, the concept of *work* or in particularly the word *labour* and its hardships are also connected with the seriousness and severity of life, and consequently are contrary to the "game".[15]

I. Work for life - life for work

According to Arendt and the entire occidental tradition, work was generally considered a tiring and exhausting activity.[16] Although in the Benedictine monasteries the concept of "ora et labora", pray and work was valid, nevertheless this did not make the work, according to W. Reinhard, the content of life, but repentance, which acquired a certain spiritual dignity and only then did it acquire value.[17] Charles Taylor notes

[10] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, siehe Anmerkung 53; p. 444.

[11] Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 139 and cf. John Locke, *Über die Regierung,* Dorothea Tidow (übers.), Peter Cornelius Mayer-Tasch (Hg.), Philipp Reclam, Stuttgart, 2005, Cf. Sections, 26, 34, 35, Sections 56: "[...] the natural law of Adam and Eve, and after them obliges all parents to preserve, nourish, and educate their children, not as their own work, but as the work of their own Creator, the Almighty to whom they should be responsible for them." See also sections 58.

[12] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, see Footnote 53; p. 444: "God took man and put him in the garden of Eden, to serve him and guard him, from this the service can be derived."

[13] Wolfgang Reinhard, „Die Bejahung des gewöhnlichen Lebens", in Hans Joas/ Klaus Wiegandt (Hg.), *Die kulturellen Werte Europas*, Fischer Taschenbuch Verlag, Frankfurt am Main, 2005, p. 268.

[14] [https://dexonline.ro/definitie/munc%C4%83], accessed on 08. 10. 2015, at 13. 15 h.

[15] Cf. Agnes Heller, „Das Ideal der Arbeit vom Blickwinkel des Alltagslebens", in Ernst Bloch/ Dietrich Garstka/Werner Seppmann (Hg.), *Marxismus und Anthropologie: Festschrift für Leo Kofler*, Germinal Verl. – Ges., Bochum, 1980, p. 35 f. and Cf. Johan Huizinga, *Homo Ludens*, Rowohlt Taschenbuch Verlag, Hamburg, 2011.

[16] Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 103, 126, 134, 139-140, 153.

[17] Wolfgang Reinhard, *Die Bejahung des gewöhnlichen Lebens*, p. 268, Cf. 269: "Thomas Aquinas saw in the work the following four goals: 1. the acquisition of livelihood - not the increase of wealth, 2. avoidance of idleness, 3. restraint of carnal desires, 4. the acquisition of the necessary means

that working in the Christian community was considered a "normal" virtue, saying that;

> "The Christian life is identified with a 'normal' morality, for example with a self-paced 'work ethic' and 'family values' [...] and 'this morality' has largely been translated into action in a 'Christian' community."[18]

Reinhard, on the other hand, notes that the first state of the old European society was the clergy. The latter, especially the monks, was given the leisure for prayer, meditation, and then intellectual activity, writing books, and writing off what eventually developed into modern science, which, until recently, was guided by the principle of creative leisure.[19] Leisure means in Greek σχολή, in Latin *schola* and in the German *school* (*Schule*), and represents the term with which we designate the places of education and training. Today, leisure means as much as free time. Interesting in this context is also that the Greek word for the bustle of the working day, so the tidings do is translated by "being idle" ά-σχολΐα and in Latin *neg-otium*, which also designates the rest.[20] The Christian - Western doctrine of the *vita contemplativa* ties in with the Aristotelian thought of *politics*, in which "leisure is the pivotal point around which it turns", he writes in his *Metaphysics*: "We work to have leisure". Literally this means: "We have no leisure or we have to be idle in order to have leisure." "Wir sind unmüßig, um Muße zu haben."[21] Hobbes regarded leisure as a high human good, for the sake of preservation and protection of which it was worthwhile to abandon the free, but warlike, state of nature and join the social contract submit.

> "The desire for leisure and sensual pleasure brings people to like to submit to communal power and, therefore, to renounce the power they might gain through their own efforts; […] The desire for science and the arts, which flourish only in peace, moves to submission to a collective power, for it also contains at the same time the desire for leisure, which can't be achieved without the protection of a foreign power."[22]

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to give alms. He saw the highest value in the Visio beatifica, in the permanent intuition of God, that is, in a kind of eternal state of leisure of contemplation." *op. cit.* Thomas Aquinas, Summa Theologiae, 2II, q. 187, a.3.

[18] Charles Taylor, *Ein säkulares Zeitalter*, Suhrkamp Verlag, Frankfurt am Main, 2009, p. 1118.

[19] Wolfgang Reinhard, *Die Bejahung des gewöhnlichen Lebens*, p. 269: "Have leisure and realize that I am God," it says in Psalm 45: 11.

[20] Josef Pieper, *Muße und Kult*, Kösel Verlag, München, 2007, p. 48-50.

[21] Ibd., p. 49-50.

[22] Thomas Hobbes, *Der Leviathan*, Anaconda Verlag, Köln, 2008, p. 108-109.

That would mean that the *leisure* is the free time, which should be used meaningfully. For example, Hobbes recommends dedicating it to science and the arts, which since antiquity have always been opposed to work, and whose work has had little esteemed value and which was characterized by hard and necessary work to secure life. The worker reproduces his own life by producing his food.[23] In order to be able to live, one must therefore work to be able to draw from his work life again. Only then can you pass on and receive life. The resulting permanent cycle thus represents the condition of life.[24] In order to be able to better define the concept of work, human economics must be distinguished, on the one hand in the sense of money and market economy, or of large-scale production by machines such as (world) trade and on the other hand by the physical work in agriculture and manufacturing trade, which has accompanied the man since its beginnings. In particular, physical work and monetary economy were long attributed to separate groups of the population, as in the estates and caste societies of East Asia, India and the European Middle Ages; Farmers, craftsmen and merchants were separate social groups with different social status.[25] Wolfgang Reinhard notes that in pre-modern societies, the most highly valued forms of life as a whole, and those elements of culture that embodied values in themselves, constituted the life form of the highest layers, which possessed property but had nothing to do with work. Although they were well aware of the necessity of the work and appreciated their products, but the work is still not estimated as a *self-fulfillment existence*.[26] According to W. Reinhard, the modern principle of self-realization through activity appears in Giovanni Pico della Mirandola's Treatise on the *Dignity of Man* (*De hominis dignitate*) as early as 1487. According to this, man, as an image of the creator god, was not only declared the creator of the world, but even the creator of himself.[27] In this context, it is interesting to observe how the concept of work and its appreciation has changed throughout history until it has become the highest human good in modern society, while leisure has been proportionally devalued in proportion to its own Meaning lost. The reason for this appreciation or devaluation lies in the necessary ratio of work and free time. The non-working time as the "real" time of life does not mean

[23] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, see Footnote 37; p. 441.

[24] John Locke, *Über die Regierung*, Philipp Reclam Verlag, Stuttgart, 2005, Sections 33, 34, 35, p. 27: "God commanded him to work, and his needs compelled him to do so."

[25] Wolfgang Reinhard, *Die Bejahung des gewöhnlichen Lebens*, p. 267.

[26] Ibd., p. 268: "Work was associated with the common man and the saying was: work makes one common and not *work ennobles*. A nobleman automatically lost his profession in the sixteenth century when he worked."

[27] Ibd., p. 284–285.

free time. As soon as the non-working time is concerned with the reproduction, for example the procurement of food or the household, the regeneration (sleep, body care), this means free time for recreation, but not *free time* in the sense of leisure. For this reason, working time and non-working time must be equally differentiated from free time. In comparison to the rhythm and the fixed chronology of the life of a monk, one can say: prayer is free time as leisure and is today understood as free time or leisure time, work is considered as working time and recovery or regeneration as a time without work.[28] This rhythm, which marked the beginning, the middle and the end of the day and bound certain activities to their temporality, was initially oriented to the rhythm of sunrise and sunset and was later tied to a place such as the village or town church and its chiming of the bells which marked the religious units of the day. In the Middle Ages, the Benedictines took an important step further by indicating the time to work and to eat, also by bells ringing as the hour of prayer.[29] The church bell as a timepiece or time announcement was replaced with the advent of the urban economy by the mechanical tower clock, which now made the temporal measurement of work as working time.[30] This was replaced again in the middle of the 18th century by the widespread use of pocket watches, which allowed the relative independence of time from space, since from now on objectively precise information was independent of the proximity of a church tower over time.[31] Of course, the innumerable church holidays and their celebrations for the division of time belonged to the life of the estates.[32] This was to be radically changed by the invention and diffusion of electricity and the radical restructuring of work in the epoch of industrialization. With the onset of modern times, as Arendt states, the split of body and mind means that there is a shift of values between these two figures. Until then, a high value was attributed to life itself, this changes in the course of rationalization processes due to the secularization and (technological) modernization of Western societies, all of which are due to the modern separation of matter and mind: the work is no longer means for the purpose of life, but a means for the purpose of capital accumulation and takes the highest priority in modern human life. This replaced the work of the mind and the

[28] Wolfgang Reinhard, *Lebensformen Europas*, *Eine historische Kulturanthropologie*, C.H. Beck, München, 2006, p. 429.
[29] Cf. Richard Sennett, *Der flexible Mensch*, Berliner Taschenbuch Verlag, Berlin, 2008, p. 45.
[30] Wolfgang Reinhard, *Lebensformen Europas*, p. 429.
[31] Richard Sennett, *Der flexible Mensch*, p. 45.
[32] Wolfgang Reinhard, *Lebensformen Europas*, p. 429.

real life and with it the highest goal of life, the *Eudaimonia*,[33] through the work of capital accumulation. Thus, as one could see in real communism in particular, work has taken on the significance of life itself, and matter thus has replaced the state of mind. The repression of the spirit in favor of the revaluation of matter is therefore crucial for the changed consciousness of modern man and should have particularly devastating consequences for today's societies. The neglect of spirit and idealism in favor of materialistic value orientations is partly responsible for the exploitative conditions of capitalist societies and contributes to the gradual decay of human existence. The reason for this is that the soul[34] and the mind of man, as the "immortal" and "eternal" and as the place where reason and virtue have their seat, were not properly "maintained". As a result, the soul and the spirit of man lose the role of lord and master over the material and transient world. Man himself is guided only by material, bodily, instinctual and perishable things, because the material receives all his attention and thus gains the upper hand over the "eternal". In Plato's *Phaedo* will be warned not to neglect the soul and the spirit, as they are indeed the immortal and eternal of men and were therefore appreciate much higher than matter, body or *physis*. After all, it is the soul and spirit that stop and control the transient and inferior physical impulses and desires:

> "So if death occurs to man, mortal man dies, as it seems, but the immortal and imperishable withdraw safely from death. [...] And so is this, you Men, well worth noticing, that if the soul is immortal, it needs care as well, not for this time alone, which we call life, but for the whole time, and the venture shows itself just now terrible if someone wanted to neglect them." [106 St- E-107 St.1 A].[35]

In the following, the concepts of labour, crafting/working, and acting, as the three forms of the Vita activa, will now be considered more closely.

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[33] Platon, *Symposion*, Philipp Reclam, Stuttgart, 2009, [205a], p. 103 and see Footnote Nr. 93, p. 176 „Happiness, in the framework of the eudaimonistic theories of ancient philosophy, is the ultimate goal of human endeavor, the goal which, unlike all other goals, is sought for its own sake." Cf. Aristoteles, *Nikomachische Ethik*, Reclam Verlag, Stuttgart, 2003, I. Book.

[34] Walter Rothholz, Die politische Dimension des Seelischen bei Platon, Universität Szczecin, p. 16: „[…] was ist Seele […] ?" (Gorgias, 504b) **– „Geist**, Anima, Intellekt […] alles, was im Tode den Körper verlässt. Der Körper bleibt leblos zurück. Das wird im Gorgias nur angedeutet." Cf. Platon, Phaidon, übers. v. Friedrich Schleiermacher, In: W. F. Otto/E. Grassi/ G. Plamböck (Hg.), Sämtliche Werke 2, Rowohlt Taschenbuch Verlag, Reinbek/Berlin, 2004. "[…] what is soul […]?" (Gorgias, 504b) **–**"**spirit,** anima, intellect [...] everything that happens in death Body leaves. The body remains lifeless. This is only hinted at in the Gorgias."

[35] Ibd. Platon, *Phaidon*,.Cf. Platon, *Politea*, 442a-b.

II. The design possibilities of the work

This section first identifies the connection between life and work in order to better illustrate the design possibilities of the working world of capitalistically developed economies, and thus to better define the basic concepts for further understanding of this research. The research focuses on the basic concepts of Hannah Arendt's work *Vita activa*. The crux of the next section is the consideration of the spatial and temporal shifts of work in relation to the "lifeworld" – "Lebenswelt".[36] In terms of spatial displacement, the conceptuality of space is used as a reference to the ancient Greek understanding of the public space of the free *polis*.[37] In the area of the polis, acting people can be politically active, as human needs have been shifted to the private, non-free space of the *oikia*. The ancient understanding of political freedom and economic bondage is juxtaposed with today's spheres of space and activity of political and economic forms of organization of society. The present article is conceptually based on Arendt's thesis that modern free space has been shifted to the private sphere. On the other hand, economics, which with modernity formerly fell in the capitalistically developed countries into the non-free (private) space of necessity, has already advanced to the public sphere of political administrative acts. Arendt's study is based on the two basic concepts *animal laborans* and *homo faber* of *Vita activa*. Hannah Arendt uses these two terms to define the forms of human labor. The term animal laborans is used for the person who uses his body to generate labor. The person producing or creating with his hands is referred to as a homo faber and represents a craft form of work. Both types are explained in more detail below. Afterwards it will be shown how the historical meaning of the common working world of animal laborans and homo faber changed in the course of the rationalization processes and which consequences this has for the present working world and the conception of leisure.

II. 1. Animal laborans – labour

Animal laborans (lat. of laborare) is the animal that works with his body.[38] The working animal uses the physical power of the body to obtain food. His workforce

[36] Cf. Jürgen Habermas, *Strukturwandel der Öffentlichkeit*, Suhrkamp Verlag, Frankfurt am Main, 1990.

[37] Eric Voegelin, *Order and History*, Volume II., *The World of the Polis*, *Hellenic Polis*, University of Missouri Press, Columbia and London, 2000, p. 182 f. Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 248-250.

[38] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 99, see p. 435: lat.- *laborare*, fra.- *travailler*, eng.- *labour*, dt.- *arbeiten*; „In all cases, only in the words for labour does the connivance of need and effort become clear. In German, originally only serfs who work in agriculture are said that they *labour.*" See p. 428-40.

invests in food to sustain his own life. The food is the necessary thing to live. Animal laborans works for necessity and life itself, it is subject to its own necessity. The product of his labor is the food. Their consumption means to consume food in order to restore the lost energy to the human body. Consequently, the working product of animal Laborans survives only a very short time. Arendt sees this production of animal laborans as unproductive work, since the labor force is only invested in one's own life and disappears as a result of consumption. In addition, the animal laborans not only have to take care of themselves, but also his family,[39] so he must do more manpower and invest more time to produce even more food. In order to produce more than he can consume by eating and converting into energy, his body has to make a surplus of energy. Only the surplus power means productivity, because what has been worked out does not immediately disappear from the world. When the workforce is exhausted, the animal laborans can no longer be productive. If it is no longer productive, the homo faber comes to help with his work.

II. 2. Homo faber - production

Homo faber is the manufacturer who "*works*" with his hands. Manufacture derives from the Latin word *faber*, which comes from *facere* and designates the making art of the artist or craftsman. This works hard material such as wood, stone or metal.[40] In Latin, the word *ars* (in English and French *art*) referred first to craft and later to science and the arts.[41] In German, art originally meant craftsmanship and was not associated with aesthetics until the Renaissance.[42] The homo faber makes things by destroying nature, to use the material of nature and to shape and create the environment and the household of the people.[43] Things and everyday objects are set into the world through their production and form the *world of things* surrounding humans.[44] According to Arendt, the labor power of the homo faber is reflected in the representational things he produces.[45] Items and tools are the products of homo faber. These products are used and used by the world, so their lifespan is long and the work of homo faber is considered productive. Homo faber's products have certain

[39] Ibd., p. 108.

[40] Ibd., p. 451; p. 99, see 435: lat.- *facere*, *fabricari*, fra. - *ouvrer*, eng.- *work*, dt. - *werken*. "In German you originally say that the craftsmen were working/crafting."

[41] Wolfgang Reinhard, *Lebensformen Europas*, p. 428.

[42] Ibd.

[43] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 165.

[44] Ibd., p. 161-162: "*Thus gives the world a durability and permanence*"; and is called a human home but even these things finally expire or decay.

[45] Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 451.

durability and a certain value, which are prerequisites of ownership and can appear on the market and be exchanged.[46] The origin of the manufactured things is the *idea*, according to Plato, *eidos* means form or appearance.[47] Without having a picture or an idea, you can not make an object. The idea is only captured in matter and objectivity and thus reproduced from the world of ideas in the world. The homo faber reproduces his ideas and reifies them, which makes him a *world designer*. Related to this is the Greek concept of *poiesis*, which, according to Plato, has many meanings; for he writes in the *Symposium* that:

> "every creative activity is the cause when something transcends from nonbeing to being, [c] so that the productions in all the arts and crafts are also creative acts, and all the masters in them are" poets" in other words creators."[48]

This idea can be multiplied by taking the manufacturing process. The homo faber repeats his work for profit by re-reproducing it, and according to Plato, he masters the art of acquisition.[49] The homo faber refers to a tool-fabricating creature that designs devices to facilitate and mechanize the work of animal laborans and contributes to the construction of a thing-world.[50] New forms of work emerged with the upper classes. Thus, in addition to the dependent work of the peasants, the animal laborans, and the various servants in aristocratic, urban and rural households, there were also the apprentices and the journeymen or fellow craft masons, along with the assisting family members of the craftsmen and masters, as well as the new form of unskilled wage laborer without opportunities for advancement. This type was found first in the construction and textile industries as well as in the mining and home industries and later particularly frequently in the textile industry.[51]

II. 3. The end of homo faber and animal laborans

The animal laborans produces according to Arendt for the purpose of consumption, which serves its life.[52] If his workforce is exhausted, he can no longer

[46] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 161–162, in detail in J. Locke, *Über die Regierung*.
[47] Ibd., p. 167-168.
[48] Platon, *Symposion*, [205b, c], p. 103, see also, p. 176: „The term ποίησις (poiésis) denotes every form of creative activity: as well as the baking of a cake, as well as the poetry of an epic and poetry is the most common meaning of the word."
[49] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 169-170.
[50] Ibd., p. 170: „toolmakinganimal".
[51] Wolfgang Reinhard, *Lebensformen Europas,* p. 429.
[52] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 169-170.

work. When the work of animal laborans ceases, his food production ceases, and consequently his energy supply, which he needs for life, and to reap new manpower. According to Arendt, the homo faber makes devices that help the animal laborans not only to increase their natural labor, but also to continue their work steadily. Homo faber has steadily developed and improved the manufactured instruments and tools until he manufactured machines.[53] Not only did these machines simplify the work of animal laborans, but also reduce his physical exertion, but they were able to replace manpower.[54] The *animal laborans* now only serves the production machine. In this activity, the tact of the machine dominates the movements of his body; the mechanical process[55] takes the place of the self-determined physical movement and the "body rhythm".[56] A distinction between man and tool becomes more difficult as the mechanical and technical work process or the automated work process replaces the natural work process.[57] The work and the manufacturing are transformed into a machine-dominated process, whereby the function of the process itself takes the place of the benefit of this process.[58] The question is:

[53] Ibd., p. 169, 170, 171, 172.

[54] Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 143.

[55] Ibd, p. 173-176; see 186-187: „Homo faber, degrades all things to fulfill his purpose, to realize, to a means, thereby everything loses, the earth itself its value, the growth of meaninglessness, in whose process all purposes are devoured, to serve again as means, which also would devour man, he wouldn't have been declared for the end purpose." Cf. Johann Eberhard Dewald, *Reiseerinnerungen und Reflexionen eines rheinischen Gerbergesellen*. 1836/38. In: Themenportal Europäische Geschichte (2006), Siehe a.: Biedermeier auf Walze. *Aufzeichnungen und Briefe des Handwerksburschen Johann Eberhard Dewald 1836-1838*. Hg. v. Georg Maria Hofmann, Berlin 1936. Auszugsweise abgedruckt bei Fischer, Wolfram, Quellen zur Geschichte des deutschen Handwerks. Selbstzeugnisse seit der Reformationszeit, Göttingen 1957, p. 123-135, online abrufbar: [http://www.europa.clio-online.de/2006/Article=31.], am 12. 05. 2016, um 12. 46 Uhr.

[56] Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 174 and cf. Johann Eberhard Dewald, *Reiseerinnerungen und Reflexionen eines rheinischen Gerbergesellen*. *1836/38*. In: Themenportal Europäische Geschichte (2006), online abrufbar:[http://www.europa.clio-online.de/2006/Article=31.], am 12. 05. 2016, um 12. 46 Uhr: "Zudem gefällt mir das Arbeiten nit, dieweil jeder den langen Tag die gleiche Arbeit verrichten muss und dabei das Ganze aus den Augen verliert."

[57] Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 171-177, 179, 180, 181, 186-187; 177-178: Nature: lat. *nasci*: to be born, gr. *physis*; the grown-up; Seed is already the tree itself and dies as soon as the growth process comes to an end; automatic: when movement types have started and continue on their own. See Karl Marx, *Das Kapital, Kritik der politischen Ökonomie*, Ungekürzte Ausgabe nach der zweiten Auflage von 1872, Mit einem Geleitwort von Karl Korsch aus dem Jahre 1932, Anaconda Verlag, Köln, 2009, p. 92.

[58] Ibd., p. 179, 180, 181.

> "Whether the machine is still in the service of the world and its thingness, or whether on the contrary, it has not begun to dominate the world, to withdraw the objects it produces into its own automatic process and thus destroy its materiality."[59]

The work of man, which serves to preserve the life of his species[60], developed from a Marxist perspective through *modernization in production* to a huge automatic production machine of life and becomes *social work*.[61] Consequently, this production machine would secure the life support of man; it would be his conservation machine. Through the entry of capitalist modes of production, the bureaucratic rule practices and the use of technically and scientifically calculated control and optimization instruments, man himself was rationalized and increasingly "alienated" himself from an organic, naturalistic image of the world and of himself,[62] by equating his labor power with that of the machine equated and the human being itself was instrumentalized by that. Here took place the alienation and simultaneous the rationalization of the human being, which is no longer treated as a living being, but as a matter of the state or a state artifact. Hobbes metaphorized pointedly the state with the shape and function of a machine:

> "Because life is nothing but a movement of the limbs, which is inwardly based on some excellent part of the body - why should one not be able to say that all automatons or machines, which, like for example, the clocks are set in motion by springs or by an internally applied train of wheels, they also have an artificial life? [...] The great leviathan (that's what we call the state) is a work of art or an artificial human being - although in scope and strength far greater than the natural man, who is thereby to be protected and made happy."[63]

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[59] Ibd., p. 179, cf. here Hans Jonas, *Das Prinzip Verantwortung. Versuch einer Ethik für die technologische Zivilisation*. Suhrkamp Verlag, Frankfurt am Main, 1984, p. 31-38.

[60] Ibd., p.125-126: „Marx saw labour and procreation together - through labour he produces himself, by procreation he produces others "- according to the commandment -" Be fruitful and multiply. "

[61] Cf. Friedrich Kambartel, „Arbeit und Praxis", in Axel Honneth (Hg.), *Pathologien des Sozialen, Die Aufgaben der Sozialphilosophie*, Fischer Taschenbuch Verlag, Frankfurt am Main, 1994, p. 123-139.

[62] Cf. dazu auch Wolfram Fischer, *Das Handwerk im Umbruch am Beginn des Industriezeitalters*. In: Themenportal Europäische Geschichte 2006, online abrufbar unter - URL: [http://www.europa.clio-online.de/2006/Article=115], accesed on 12. 05. 2016, at 12. 24 h.

[63] Thomas Hobbes, *Der Leviathan*, Einleitung, p. 17.

One of the causes of this "world-alienation and self-alienation of modern man is the changed relationship to nature that began with enlightenment, which not only developed new political systems, but also gave rise to new forms of work and production, that create new ways of life and consequently new ways of thinking. In summary, this can be described as the "process of rationalization" of modern man, which went hand in hand with the reformation of the church and the process of secularization and reached its climax through positivism. In this context, the working forms were also "rationalized". Two important aspects and consequences of these changed forms of work and production, which have arisen as a result of processes of rationalization and secularization, are the spatial and temporal shifts that have changed the socio-cultural system of modern society.

In order to better understand the importance of the rationalization process of modern societies for the transformation of work, the focus must be on the spatial shifts that have arisen due to the capitalistically organized working methods and brought about social changes. These social changes were to shape the twentieth century and lay in the emergence of a rational conception of the modern man toward the world, associated with the altered work organization of capitalist modes of production and can be understood as a "practical rationalism of world domination" by modern man.[64] The invention of the electric telegraph, developed by Samuel Morse in 1837, is considered a milestone in communications technology,[65] revolutionizing much more than just the world of communications, and can be seen as the technological catalyst of globalization processes, communication and information societies and thus began the "Nihilization of the space".[66] Along with the discovery of petroleum by Edwin Laurentine Drake in 1859 near Pennsylvania, the invention of the combustion engine powered by gasoline by Karl Benz in 1879, and the beginning of automobile production in 1886[67], Western societies catapulted themselves into modern and rationalized age of capitalism. As a result of these historical processes and the inherent coherence of a *network of causes*,[68] the capitalist state of Western European countries is gaining more and more power as

[64] Wolfgang Schluchter, „Rationalität- das Spezifikum Europas?", in Hans Joas/ Klaus Wiegandt (Hg.), *Die kulturellen Werte Europas*, Fischer Taschenbuch Verlag, Frankfurt am Main, 2005, p. 263.

[65] Jeremy Rifkin, *Die Empathische Zivilisation*, *Wege zu einem globalen Bewusstsein,* Fischer Taschenbuch Verlag, Frankfurt am Main, 2012, p. 276.

[66] Ibd., p. 281-282; Cf. "Paul Julius Reuter gründete 1851 den ersten Nachrichtendienst."

[67] Ibd. Cf. p. 276-277.

[68] Cornelius Castoriadis, *Gesellschaft als imaginäre Institution*, Suhrkamp, Frankfurt am Main, 1. Auflage, 1990, p. 84.

a result of increasing industrialization and is beginning to administer the population through education[69] in the course of urbanization.[70]

II. 4. The reversal of the space

According to Arendt's thesis, the understanding of space in the ancient world separated the space of political freedom from the space of economic non-freedom or bondage. Thus, the public space was the area of the free *polis*[71] in which acting people could be politically[72] active.[73] Arendt concludes that, in the ancient understanding of private space, the unfree *oikos*,[74] human needs were fulfilled. In ancient Greece, the distinction of life was marked by two different terms that expressed two different types of life and thus assumed different forms and were awarded to different premises. The term *zoe* refers to the "natural" life and "the simple fact of life that is common to all living beings (animals, humans and gods), whereas *bios* refers to the form or manner of life peculiar to a single or group".[75] Aristotle then makes a tripartite division in a Platonic manner[76] and

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[69] Wörterbuch Latein-Rumänisch, see lat. *urbanitas,-atis*; City life, elegance, courtesy, spiritual language; and lat. *urbane*, *-ae*: civilized, selected or elegant.

[70] Cf. Michel Foucault, *Wahnsinn und Gesellschaft. Eine Geschichte des Wahns im Zeitalter der Vernunft*. Suhrkamp Verlag, Frankfurt am Main, 1978, p. 75 ff.

[71] Hannah Arendt, *Vita activa oder vom Tätigen Leben*, 2002, p. 35: „Polis ist der Bereich der menschlichen *Angelegenheiten*." - „Polis is the area of human *affairs*." See p. 39-43.

[72] Ibd., Cf. p. 22, 23, 35; gr. βιοςπολιτικος: that means the second life outside the οικια; which was coined by Aristotle in the sense of the Vita activa; at Augustine referred to as the vita negotiosa, acting in lat. also called vita actuosa, means strength or passion, and means the life devoted to public-political matters; only related to the field of politics; above all to action, as the actual political activity, as a way of life in which freedom manifests itself; comes from the three Aristotelian ways of life of the beautiful -βιος.

[73] Cf. Orlando Patterson, *Freiheit, Sklaverei und die moderne Konstruktion der Rechte*, see 3 *Der Ursprung der Freiheit im antiken und mittelalterlichen Abendland*, in Hans Joas/Klaus Wiegandt (Hg.), *Die kulturellen Werte Europas*, Fischer Taschenbuch Verlag, Frankfurt a. M., 2005, p. 168-174, see also the concept of oligarchic freedom by Kurt A. Raaflaub, *Democracy Oligarchy, and the Concept of the „Free Citizen" in Late Fifth- Century Athens*, Political Theory 11/4, 1983, p. 517-544.

[74] Hannah Arendt, *Vita activa oder vom Tätigen Leben,* cf. p. 43; gr. Οικια: the house, that means the entire household and private life in antiquity; ιδιον designates in the life of the Greeks what the citizen called his own."

Cf. Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, p. 99, see 435: lat.- *laborare* , fra.- *travailler*, eng.- *labour*, dt.- *arbeiten*; „In all cases, only in the words for labour does the connivance of need and effort become apparent."

[75] Giorgio Agamben, *Homo sacer*, *Die souveräne Macht und das nackte Leben*, Suhrkamp Verlag, Frankfurt a. Main, 2002, p. 11.

separation of the "qualified" bios and its various "forms of life" and their sages, in which he distinguishes between *bios theoretikos* - the contemplative life of the philosopher; *bios apolaustikos* - the life of pleasure and delight and *bios politikos* - the political life.[77] Consequently, the private space is to be understood as the area of *animal laborans*[78] and *homo faber*[79], which are both under the power of the *paterfamilias*.[80] The economic sphere in ancient society was organized in the family. In the modern age of the capitalistically developed countries there is a shift in space that opposes the ancient understanding. The free space of action is shifted from the public to the private, and thus also reduced in size. By contrast, the ancient oikos of economics and necessities became a public domain of political administration in Western Europe from the mid-eighteenth century onwards and is thus expanding. Until the industrialization and the entry of the dictatorships, the household in Europe had been the center of economic activity, as families in the countryside largely produced themselves what they consumed. In the cities, craft was practiced in the house of a master, with the apprentices, apprentices and master's family sharing meals because all activities such as eating, sleeping and working were done in the same room. According to Herbert Applebaum, wages in the form of money accounted for only a fraction of this; Daniel Defert calls this form of connected life and work a "domus economy" – "Domuswirtschaft", which is replaced by wage slavery.[81] With the modern age, capitalist countries have developed into a society of bourgeois, capitalist and late capitalist organization through an administrative state apparatus. The processes of modernization in the Occident consisted of the interaction of state, as a new political and organizational form of controlling

[76] Platon, *Philebos*, in W. F. Otto/E. Grassi/ G. Plamböck (Hg.), *Sämtliche Werke 3*, Rowohlt Taschenbuch Verlag, Reinbek/Berlin, 1994, [23 St.2 c – d] ff.

[77] Cf. Giorgio Agamben, *Homo sacer*, *Die souveräne Macht und das nackte Leben*, Suhrkamp Verlag, Frankfurt a. Main, 2002, p. 11; Aristoteles, *Nikomachische Ethik*, Book I, p. 9 f, [1095a32-b19], [1095b 19- 1096a 9]. Cf. Dirk Jörke, Politische Anthropologie, Eine Einführung, VS Verlag Für Sozialwissenschaften, Wiesbaden, 2005, p. 16-35.

[78] Cf. Hannah Arendt, *Vita activa oder vom tätigen Leben*, p. 99, cf. Footnote 3 and 5 page 435: Animal laborans is the animal that works with his body to obtain food; from lat.- *laborare*, fra.-*travailler*, eng.- *labour*, dt.- *arbeiten*.

[79] Ibd., see 451; p. 99 and Footnote 1 p. 451 and cf. page 435: see lat. *homo,-minis*; Mensch/ human; see lat. *facere*, *fabricari*, fra. - *ouvrer*, eng.- *work*, dt. - *werken*. Manufacture derives from the Latin *faber*, which comes from *facere* and defines the nimble making of the artist or craftsman who works hard material like wood, stone or metal. In German one says originally the craftsmen *crafted*. „Im Deutschen sagt man ursprünglich die Handwerker *werkten*".

[80] Ibd., p.38; *Paterfamilias* was really *dominus* over his slave household and his family, even the power of the tyrant is less powerful, since in the political sphere unassailable power was considered a "*contradictio in adiecto*".

[81] Richard Sennett, *Der flexible Mensch*, p. 41.

society, with the progress of industrialization, trade and banking, thus creating a capitalist and thus new epoch in human history.[82] In the course of industrialization in the service of modernization, work and manufacturing were determined by the power interests of the ruling regime. Animal laborans and the homo faber merge into the "worker" and his serialized, streamlined activity in the industry. Instead of securing necessary needs through work or through the creative manufacturing process, work has become an anonymous and unified form of employment for workers. The new bourgeois "public" of capitalistically developed countries thus consisted of the regulation of civil society and the safeguarding of trade in goods on the one hand, and the so-called "workers emancipation" on the other, which served the purpose of making the changed working conditions and working forms socially acceptable and legitimized, because the worker received his social equality only in the wake of the Western modernization processes.[83] The women emancipated themselves at the same time with the workers, since they were also integrated from the private space in the new and now public work system, which entailed a profound change in social conditions, since family structures and thus social relations radically changed.[84] On the basis of the changed forms of industrialization and their employment relationships, it becomes clear how the economic system affects the political and social structure and thereby changes the way of life and the hitherto existing ways of life of man through a process of rationalization. The inclusion of women in the now "publicly" organized economic system takes on a double professional character in capitalism and explains one aspect of the enormous "progress" of capitalist societies. On the one hand, the inclusion of women in the public and the public workforce has doubled the workforce of adults and increased productivity. This was unthinkable before the Western industrialization process. On the other hand, the securitization of women's labor rights was accompanied by achievements such as universal suffrage and health and safety at work. The disadvantage of the achieved increase in productivity, through the integration of women into labor markets, lies in the disproportionate decay of social and family structures. The housework, or even the "double shadow economy", is exercised free of charge, but contributes just as much to the increase in productivity, since this is social reproduction work.[85] Thus, the weaker the position of women in a society is, the weaker is the economic and political structure in a society. Or vice versa: the more developed the economic and consequently the political system,

[82] Cf. Fernand Braudel, *Jocurile Schimbului*, Intreprinderea Poligrafica, Sibiu, 1985, p. 23- 26; 39-48, 63, 68 f.
[83] Cf. Hannah Arendt, *Vita activa*, p. 276.
[84] Jeremy Rifkin, *Die empathische Zivilisation,* p. 292.
[85] Cornelia Klinger, *Krise war immer*, p. 82-105, see p. 91.

the more emancipated is the social family structure and with it the position of the woman. The modernization of forms of work is not only accompanied by women's emancipation, but above all by a spatial shift, which together create a social change in the family structure. These changes contribute in a circular fashion to the constant modernization of society and are consequently of great importance for the economic productivity of national market economies. Another significant and at the same time devastating consequence of the process of rationalization on the life forms and ways of life of modern man goes back to the concept of "economic rationality", which on the one hand used the dictatorships of the 20th century and on the other hand determined the present thinking of neoliberal societies. How the "economic rationality" expresses itself and what effects this has on today's society will now be discussed in more detail below.

III. Rationalization processes and its economic rationality

The process of rationalization of the processes of production and of life progressed steadily at the beginning of the twentieth century to the planned and rational distribution of all goods and commodities. After the world economic crisis of 1929, it culminated in two forms of economic systems, each with a totalitarian political regime. One was the planned economy under communist dictatorship and the second was the capitalist market economy in the leading industrialized nations, which were developed under democratic governments, but quickly developed into National Socialist dictatorships. One of the devastating consequences of these advancing economic and political processes of development and rationalization was the "alienation" of the "working" population, because identification with one's own work or work itself became increasingly impossible, since the individual's understanding of the functional mechanisms of the whole apparatus withdrawn by "the rationalization of all areas of action drives their internal differentiation". Gorz says that:

> "As the state, economic, administrative and scientific systems continue to differentiate and lead to the emergence of complex apparatus their development and functioning require an ever-increasing subdivision of competencies and task fields: an ever-differentiated organization of increasingly specialized *functions*."[86]

Due to the complexity of these huge industrial aggregates and their rationalized organizational forms, the individuals working in them no longer understand the functioning of the entire system mechanism and can't anticipate

[86] André Gorz, *Die Kritik der ökonomischen Vernunft*, See p. 65.

their own role: "The sense and purpose of their interaction are mostly unknown to them and organizationally predetermined."[87] This complex system can't and must no longer rely on the "self-motivation" or self-reliance, "personal inclinations," "abilities," and "goodwill" of the cooperating individuals, therefore "their reliability is ensured through formal codification and regulation of their behavior, tasks, and work relationships."[88] Gorz calls this *functionality*, which he defines as "a rationality," which defines a certain course of action from the *outside* and prescribes it to the actor through the overarching organizational structure."[89] Gorz describes the totality of specialized, "externally" organized and coordinated activities as a *heteronomy sphere*. Within this heteronomy sphere, all actions and tasks are alienated, as in an externally controlled machine.

> "Individuals and even complex collectives must function as the cogs of a large (industrial, bureaucratic, military) machine whose size deprives them of the opportunity to shape their interaction through self-determined or self-governing (*autogestion*) cooperation procedures."[90]

Gorz defines two types of external control. The first type of external control describes a dynamic process that has become independent and controls serialized actions, "causing the totalization of the material field, which externalizes a variety of separate actions and alienates them from the actors as an overall process". As an example, Gorz refers to the *market*, which can be described as a self-directed system[91] and which is subject to *spontaneous* external control, as they are found today in the capitalist societies under neoliberal rule. The second type of external control is "based on organized planning […] and the totalization [is] the result of an elaborate organizational structure [...] to make a product of individuals unable to communicate with each other or to realize a collective action that is neither intended

[87] Ibd.

[88] Ibd. p. 65-66.

[89] Ibd. p. 66.

[90] Ibd. p. 67.

[91] André Gorz, *Die Kritik der ökonomischen Vernunft*, p. 69: „In reality, the market is a "systemic mechanism" (see Jürgen Habermas, *Theorie des kommunikativen Handelns*, Bd. 2, Suhrkamp Verlag, Frankfurt am Main, 1999, p. 226) which enforces its laws on individuals from outside. They are forced to direct their behavior and their plans towards an external, statistical and completely unintended result. For them, the market thus presents itself as spontaneous external control without a control center. (Gorz borrowed this expression: spontaneous external control - hétérorégulation spontanée from Edgar Morin, *La vie de la vie*, Paris 1980).

nor even perceived by them at all", and is called *planned* external control.[92] This form of planned external control of the economic system is encountered in the totalitarian regimes. In summary, Gorz states:

> "As economic rationality led to the emergence of immense technical facilities, it gave greater weight to the subsystems of planned external control: that is, to the industrial and administrative apparatuses in which individuals are prepared, adapted as the organs of a machine, for purposes that are mostly unknown to them and different from the purposes they have set themselves for their own pursuit."[93]

For this reason, there is "control media" that must motivate the workers to work for foreign purposes, which in turn can be divided into external control via *incentives*, so-called *initiative control media* and external control over *provisions*, named *prescriptive control media*.[94] The current economic system under neoliberal forms of government uses initiative control media and according to Gorz, for example:

> "Material and symbolic incentives such as money, security, prestige and/or power that are connected in a hierarchical gradation with the respective functions and ensures a functional integration of individuals, while the prescriptive control media oblige individuals to comply with the functional patterns of action required by the organization, due to provisions and under threat of sanctions, in the process, prescriptive control is usually regulated and formalized in the form of procedures."[95]

According to Gorz, the economic rationality that manifests itself through subsystems of spontaneous or planned external control uses different control media. Spontaneous external control takes place via incentives that use initiative-based media and can be assigned to more capitalistically organized societies with a democratic

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[92] André Gorz, *Die Kritik der ökonomischen Vernunft*, p. 67, 69, 71: "In practice, every modern society represents a complex system based on the interaction between the subsystems of "communicative" self-organization, spontaneous and planned external control."

[93] Ibd., p. 71.

[94] Ibd.

[95] Ibd.: „materielle und symbolische Anreize wie Geld, Sicherheit, Prestige und/oder Macht, die in hierarchischer Abstufung mit den jeweiligen Funktionen verbunden sind und eine funktionale Integration der Individuen gewährleistet, während die präskriptiven Steuerungsmedien die Individuen durch Vorschriften zwingen, unter Androhung von Sanktionen, die von der jeweiligen Organisation verlangten funktionalen Handlungsmuster zu befolgen, dabei ist die präskriptive Steuerung meist in der Form von Verfahren reglementiert und formalisiert."

leadership style, while the planned external control, which operates via regulations and prescriptive control media, is more likely to be found in dictatorships and totalitarian forms of power. It follows that, despite the attempts to expand the control of these totalitarian systems over both "public space" and "private sphere", their "equality policy" of planned external control could't hold together the social system and therefore had to collapse. So one can say that this creates the postindustrial world of work in which the flexible system of neo-liberalism dominates the everyday life of modern society. Flexible work in the age of neo-liberalism is a "flexible" form of work,[96] aiming for quick work and adaptable work subjects, with a flexible division of labor and flexible working hours. The flexible work system consists of accelerated production possibilities, flexible market and consumption orientation. It aims to speed up work instruction, increase the division of labor, increase flexibility and support technical achievements.[97] The flexible work system is designed to have as few permanent workers as possible in the labor market, and thus to hire more workers, who can be quickly introduced to working practices and can be dismissed quickly and for free. So the trend is moving towards "flexible workers" with "temporary" jobs instead of workers on permanent jobs and in fixed occupations.[98] This creates a permanent uncertainty for the service provider or the employee due to the awareness of the substitutability of his workforce. Today's workers, while working less hard, are sacrificing more and more time. The consequence of this loss of time is an inner loneliness and cultural emptiness. This loneliness arises out of the impossibility to use time useful or in the sense of the Greek *Eudaimonia* and the cultural emptiness arises due to the lack of time for leisure. Although today's worker no longer works like the animal laborans, he is still far from being free from the necessities of life, since he continues to be subject to the outward determination of his life and actions through the imperatives of a social production apparatus and a social order which produce indiscriminately necessitates of life and superfluous, economic and anti-economic, productive and destructive.[99] On the one hand, the perceived uncertainty towards the temporary workplaces in the population evokes the need for material balance and generates a kind of consumption pressure, which is pursued during the non-working time; on the other hand, the noticeable loss of time due to the work is compensated for. The reward and recovery from work is the consumption of goods and the collection of items that are available on the international market, but also as

[96] David Harvey, *The condition of Postmodernity*, p. 58.
[97] Ibd., p. 152.
[98] Ibd., p. 152.
[99] André Gorz, *Kritik der ökonomischen Vernunft*, p. 260.

transient as their lives themselves. The impossibility of finding the *Eudaimonia* in perishable things thus leaves to create a consumer society in which the belief in *durability* no longer exists. Thus, the principle of leisure *couldn't be lived* in modern society, since neither the economic, political nor socio-cultural system gives it incentive or space. The reason for this kind of lifeworld-like emptiness - "lebensweltlicher Leere", which exists when work dominates everyday life but does not make much sense or has no meaning, leads to a self-estrangement, a general alienation or a missing as well as little cultural creative power. The reason for this is that subjects are endowed with articulation ability and "depth" and are able to view or evaluate situations of choice from different perspectives and from different viewpoints. That makes them valiant subjects. However, their perspectives and viewpoints are characterized by loyalty, for example to a particular employer, and their choices are influenced by the claim to maintain or confirm their loyalty. In summary, this means for our analysis that when individuals can no longer identify with their work and "alienates" a loss of loyalty occurs, for example due to an insufficient or unsatisfactory work outcome. This impairs their way of life, because "work" can't go beyond the mere sphere of necessity and remains the only reason for exercising work. This situation is aggravated by lack of social support, weak social structures, lack of trust in the community or due to restrictive or anti-social policies. In this way, life no longer has any significance due to the fulfillment of the duties of work, since work is not meaningful and lacks the basis for *creative periods*.[100] The premises of action are thus not characterized by the possibility of increasing the quality of life, but by coping with necessity. As a result, individuals lose the ability to recognize and evaluate their own desires, the ability to reflect and to exercise their own will, and ultimately their ability to act. By the loss of individuals' ability to act, the "loss of meaning" of life occurs, which can be called an "existential crisis," since life without meaning contradicts the "nature" of human existence.

IV. Conclusions

The "reality" of modern society, constructed by the modern rationalization process and the secular sciences, has declared "work" in preference to free time

[100] "The only meaningful life, according to Taylor, is that deepened by the fulfillment of these obligations, through the end of the barren periods, to create the basis for the creative periods." Cf. Charles Taylor, *Negative Freiheit*, Suhrkamp Verlag, Frankfurt am Main, 1992, p. 26 f.

and all other human spheres of activity to be the sole meaningful source of human life, with material values taking precedence over spiritual values. This means that today's value of human equality is measured by the economic capacity of its work. The less a person deserves, the more "unequal" he is to a well-earning employee.[101] J. Habermas characterizes flexible work organization as an ideology of possessive individualism and achievement orientation.[102] Assuming that "ownership as the substrate of legal recognition emerges from the work processes, and that in the recognized product of labor instrumental action and interaction are linked to it," this is a democratic deficit or an undemocratic principle. If possession is seen as the substrate of legal recognition, but some have more possessions than others, their claim to legal recognition becomes less than that of those with more possessions. The next problem arises from the modern, highly technological work process of the service society, since no recognized or recognizable product of the work emerges and thus also the substrate of the possession or the sense of ownership of the working subject dissolves and a state arises that in the meaning of Marx's fetish character can be described as "alienation", whereby the appreciation of one's own work, but also against one's own wages decreases and only the consumption as a substitute for the invested strength and time in the work remains. By not recognizing one's own work product, this is no longer regarded as the basis for the acquisition of possession and property[103] and a consumer society is created. By contrast, Gorz describes this "alienation", in the Marxist and Weberian sense, as an "identity crisis of the working society" because one not only experiences the phenomenon of "alienation from work" due to the division of labor in which today's service provider is no longer a working or producing human being, but is part of a working society of consumption, whose parts are always replaceable in their function. Another problem is the fact, that increasingly less wage labor is needed in itself, creating a permanent insecurity of the workers of today's societies. On the other hand, the work itself has still not become "meaningful". This brings with it several consequences that on the one hand delegitimize the political system and on the other destabilize the socio-cultural system - "the lifeworld - Lebenswelt". The consequences of the (flexible) work system are, on the one hand, that the private sphere is taken up by the public space of the working world. The employee thereby remains deprived of his private freedom. This deprivation of privilege and

[101] Wolfgang Reinhard, *Lebensformen Europas*, p. 443.

[102] Jürgen Habermas, *Legitimationsprobleme im Spätkapitalismus*, Suhrkamp Taschenbuch Verlag, Frankfurt am Main, 1973, p. 111

[103] Jürgen Habermas, *Technik und Wissenschaft als Ideologie*, Suhrkamp Verlag, Frankfurt am Main, 1969, p. 33-34.

private leisure by flexible work organization and the systematic use of control mechanisms through technical communication media or "opportunistic adaptation of consumers to the market strategies of monopolistic competition […]" create a number of problems. These problems are, on the one hand, legitimacy problems of the political system and, on the other hand, problems of the socio-cultural system like the "loss of meaning". The phenomenon of "existential crisis" becomes particularly clear through the flexible work system.

The legitimacy problems of the political system of today's democracies arise from the seizure of the "socio-cultural system" by the world of work, which leaves no room for the employee to be able to turn to other activities besides his work for the necessary and thus the "lifeworld - Lebenswelt" is destabilized and thus arise the second problem. Without the systemic compensation, such as a decent wage, the necessary free space for the employed in the private sector and the necessary free time of work, today's worker in the neoliberal labor system can no longer devote himself to acting and political activities, except those determined by the necessities of life. The socio-cultural space of modern society is, or remains, (continues to be) occupied by the work system, whereby real free time – leisure - is not available, with the possibility of devoting oneself to activities other than (life) necessities. The working system seizes free space by allowing or promoting the accelerated production system of the flexible working world, which is market and consumer oriented and uses the control mechanisms of technical communication and dissemination media, thus to be able to maintain its own power and the flexible working system of the late capitalist world and withstand international pressure. The political organization provides the economic system with the necessary legal and institutional framework. The adoption or taking of the socio-cultural system by the economic system has two consequences: an internal crisis of stability, from which emerges a second external crisis in the form of a political legitimacy crisis of democracy. The socio-cultural crisis of stability is linked to the legitimacy crisis of democracy. The neo-liberal system of work hinders the fundamental rights of civic participation in a modern democracy, by not giving workers sufficient material resources and free (work) time for political education in order to participate actively in the "political" system. The prerequisite for the opportunity to participate actively in the "political" and "public Space" is the participation interest. However, this participation interest in the political-public space can't be generated in society if the socio-cultural space is in a "retreat", because it is still determined by necessity - and work. The primary interest of working people is still the preservation of private space and the necessities of life. Participation in the public-political sphere thus becomes a secondary interest, as the private necessities of life have priority.

Furthermore, education is a prerequisite for participation in a public discourse, in the sense of theory and practice[104], understood here as thinking and acting. Without education[105] one can't understand basic political elements and procedures that are of fundamental importance to a constituent population. But educating themselves, you can only if you have the necessary resources, the necessary (free) time and the necessary space.[106] It takes a minimum of material security, work-free time (non-working-time) and a work-free space to be able to educate, which also means time to educate itself politically and to be politically active. For this reason, political education is the precondition of civic participation as voters of a democracy. Without this civic possibility of participation in modern society, the working middle class will continue to be powerless, depriving democracy of its legitimacy, because it is increasingly lacking in voters.

The second problem arising from the (neo-liberal) system of work and its dogmas[107] concerns the socio-cultural system - the lifeworld – Lebenswelt - which experiences an "existential crisis", since the valorization of labor has shifted values in favor of material things, in which the human purpose of life can be chosen individually and voluntarily, but is only feasible with the accumulation of resources (property and capital). According to Ch. Taylor, who seeks to explain Nietzsche's value concept here, values are social products for which we take sides, which ultimately result from our own radical elections.[108] According to Sartre, it is the values that make up people. Taylor, on the other hand, believes that values either lead to moral choices, which are based not on individual will but on strong valuations or values that express preferences, as these are actually based on a variety of moral beliefs. This means that *strong judgments inevitably play a role in a conception of the agent and his experience because they are linked to our particular notion of the self*. Taylor concludes that acting humans who make strong judgments can be described as "deep" because the aspects that determine a choice are not only selected in terms of one's (life) goals, but also in terms of lifestyle, and thus enter into the "*nature*" of the actor and are thus closely linked with the idea of *identity* and become an integral part of the self and thereby convey "meaning" to one's own life. However, this "meaning or sense" can't come about as long as individuals are shaped by material values and align their lives with perishable things, since this

[104] Aristoteles, *Politik*, Philipp Reclam, Stuttgart, 2003, see VII. Book; Practice and Theory, 1325a-1325b; p. 327.

[105] Cf. Konrad Paul Liessmann, *Theorie der Unbildung, Die Irrtümer der Wissensgesellschaft*, Piper Verlag, München/Zürich, 2014, see p. 54 ff.

[106] Hannah Arendt, *Vita Activa oder Vom Tätigen Leben*, Cf. *Polis*.

[107] Cf. Michael J. Sandel, *Gerechtigkeit. Wie wir das richtige tun*, Ullstein, Berlin, 2013, p. 85 ff.

[108] Charles Taylor, *Negative Freiheit*, p. 28-35 ff.

"world of things" has no durability in space and time and therefore can't be attributed any lasting meaning. On the one hand, this change in value was due to the growing importance of the accumulation of possession and property (transient or impermanent goods) of (neoliberal) capitalism. On this basis, the appreciation of material goods was increased and the modern societies of capitalistically developed countries were transformed into labor and thus consumer societies. And on the other hand, capitalism arises due to the rationalization of modern man in the wake of the processes of secularization and the rise of the bourgeoisie, in which work no longer began to serve only the purpose of preserving life, but rather the acquisition of money and the accumulation of property and wealth. After the French Revolution, the capitalist bourgeoisie of Europe not only took the place of the old aristocratic society and disempowered the old absolutist form of rule of the aristocratic society, but also acquired its possession, which was to become the basis and hallmark of the bourgeois class. Since the bourgeoisie's power position and claim to power were based only on possessions. The foundation of the bourgeoisie and its power is based on its wealth and possessions, acquired on the one hand by labor and, on the other, by the exploitative conditions of labor. For this reason, all the values of the bourgeoisie and the "modern world" are only reduced to the material and concepts that enable the increase in labor - such as "performance" and competition. But that also means a focus on transience. F. Furet concludes, therefore, that necessarily more and more wealth and prestige had to be amassed to secure the existence of the bourgeois class, with the result that the capitalist society(s) of the bourgeoisie is driven by a constant inner restlessness.[109] This modern conception of the revaluation of labor was reflected in the ideas and intellectual and political legacy of the European bourgeoisie and culminated not only in the slogans of freedom, equality and fraternity of the French Revolution, from which liberalism and, above all, "property rights" of the enlightened individual, the declaration of human and civil rights as well as the modern nation-state emerged, but also in dictatorship, fascism, socialism and communism. These processes of rationalization led to a change in the conception of money, which was no longer merely a means of subsistence for property and could turn into property and wealth, but was declared the epitome of happiness. Thus, the acquisition of money is declared to be the sole and highest purpose of modern society, and an unstoppable pressure of capital accumulation begins – the so called "chrematistics"[110], which initially spread in modern Western societies and has rapidly turned to "catching up" societies. This striving for possession therefore creates a shift in

[109] Francois Furet, *Das Ende der Illusion. Der Kommunismus im 20. Jahrhundert*, München/Zürich, 1999.

[110] Aristoteles, *Die Politik*, p. 92- 93, [1256b 40- 1257a1].

values in favor of material values within modern society. Work is a means of capital accumulation and money is intended to redeem the promise of happiness of capitalism. So money means "happiness" and happiness becomes the sole purpose of life.[111] The free time for leisure, which was otherwise understood as an attribute of happiness, thereby experienced devaluation. Thus, the modern man does not work for the kind of happiness that he could find in his free time and time for leisure, but only for the accumulation of resources and capital, whose possession has experienced equality with the idea of happiness in life. Through this shifting of values - in which transitory-material things - receive more esteem than - the imperishable-spiritual products, individuals are governed by material values and concepts of value that does not give their lives "meaning," whereby a "loss of meaning" occurs in the impossibility to find happiness and time for leisure in perishable things.

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[https://dexonline.ro/definitie/munc%C4%83], accessed on 08. 10. 2015, at 13. 15 h.

[111] Cf. Konrad Paul Liessmann, „Die Jagd nach dem Glück", Conference, 15. Philosophicum Lech, Lech am Arlberg, 22. September 2011.

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BETWEEN DESPAIR AND BIO-CHEMISTRY. NOTES ON THE PHENOMENOLOGY OF ADDICTION

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ABSTRACT. Although the phenomenon of addiction has existed, in one form or another, throughout the entire history, in contemporary society it takes new, more powerful forms, that need to be better understood. Also, today there are new methods and technologies of research, unavailable to past generations, that can shed new light on this complex matter. It is also advisable to use an interdisciplinary approach, as different areas of research can in fact cooperate to achieve a better understanding of addiction. It must also be taken into account that, being a very complex phenomenon, certain aspects of addiction can only be understood by certain sciences, and then the conclusions can be unified through the use of phenomenology. This study will try to perform precisely this kind of endeavor, revealing the phenomenon of addiction from more then one perspective, focusing on the many facets that it can have.

Keywords*: addiction, sociology, psychology, neurology, philosophy, social media, video games, political sciences, drugs, alcohol.*

> "Common sense tells us that things of the Earth only exist very little, and that the true reality is only in our dreams."
>
> Charles Baudelaire, *Artificial Paradises*

Introduction

The phenomenon of addiction and its consequences is a very complex topic, that can be approached from an almost infinite number of ways. This study will try to offer a perspective that regards addiction not only from a bio-chemical

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point of view, but also from a social and axiological one, trying to understand not so much *what* goes on in the mind of the addict, but *why* it does. From this point of view, a broader perspective will be adopted, one that will deal more with the causes that lead to addiction, and to the rewards one gets (or thinks he gets) from addiction.

This topic is, for its greater part, uncharted territory, as science has only recently began to understand the phenomenon of addiction from a more complex point of view: psychology, bio-chemistry, and neurology, they all have something to say about this topic, and every day new breakthroughs bring new light on the subject. As Frank Schalow states, "we cannot discount the advances made in neuroscience in regard to treating addiction by regulating brain chemistry. But even so-called 'drug-therapy', no matter how successful it may be in treating an array of physical-psychological disorders (including depression), cannot by itself solve the 'riddle' of human existence" (Schalow, 2017, p. 8).

Also, the phenomenon of *dysthymia*, will be taken into account, as it is a term coined by "psychiatrists, trained in the scientific model of medical materialism. […] It is supposed to mean lack of enjoyment in one's life" (Wilshire, 1999, p. 4), and how this term is connected with the phenomenon called death by despair, which is more and more common in modern societies.

Addiction will be discussed from three points of view: bio-chemical (what biological and chemical mechanisms are activated in this process), psychological (how does one relate to his addiction, and how it is triggered), and philosophical (trying to understand the deeper meaning of the addict's behavior).

The discussion is even more complicated today, as new forms of addiction have appeared, especially the digital one (video games, social networks, and pornography), that takes hold of more and more people.

Addiction has its death toll, and mortality rates will also be taken into account, trying to observe its evolution throughout the years. As we'll discover, death by addiction is on the rise, and that is connected with social phenomena, such a high unemployment and lack of social mobility, even in the U.S. These situations can drive some people to despair, and their only solace being artificial pleasures.

Death by Despair

In the past twenty years, Western society has changed, and not necessarily for the better. Studies show that the collapse of traditional society and its values, especially the collapse of the family, has dire results for people of all social categories: "millions and millions of American children are raised in transient households and

moral vacuums that make not just social mobility but even elemental character formation all but impossible. In an America of fewer jobs, more poverty, more crime, more drugs, more disease, and growing ethnocultural resentments, the shattering of the indispensable social building block will have catastrophic consequences" (Steyn, 2011, p. 217).

Because the world has changed, jobs that were once secure now disappear. New technologies, the rise of the Internet and the democratization of information – all these things changed the face of society, and many jobs disappeared as a result.

Unemployed, stuck on a social level they can't leave (social mobility, as said before, is now decreasing and, in fact, we can even talk about a downward mobility, if any), people usually turn to alcohol, and that is one of the most frequently encountered addictions: "alcohol dependence is a significant cause of morbidity and mortality in the United States and worldwide. The World Health Organization reports that about 140 million people throughout the world suffer from alcohol dependence. Worldwide, alcohol causes 1.8 million deaths per annum. Eight million people in the United States are dependent on alcohol. Mortality rates follow drinking levels" (Bankole, p. 382).

Addiction also causes a certain type of behavior that, consequently, generates an unhealthy, dangerous life-style. Without hope for tomorrow, such a person will simply live in the moment, taking pleasure wherever he can find it: "it will render you impulsive, so that you will jump, for example, at any short-term mating opportunities, or any possibilities of pleasure, no matter how sub-par, disgraceful or illegal. It will leave you far more likely to live, or die, carelessly, for a rare opportunity at pleasure, when it manifests itself. The physical demands of emergency preparedness will wear you down in every way" (Peterson, 2018, p. 49).

And the trend is going in the same direction: more and more people, that means more and more competition, and more and more stress, that leads to artificial solutions, such as alcohol, smoking, and drugs. Analyzing deeper, is also a way to obtain some freedom from penitentiary for a couple of days (Ciuhodaru et al, 2013a, 2013b).

The famous study performed by John B. Calhoun, called 'Mouse Utopia', proved that when social pressure becomes unreasonably high, the social behavior breaks down, a fact that causes society itself to break down (cf. Calhoun, 1983). Given that population throughout the world is rising, the question of Mark Steyn becomes obvious: "is it more likely that these trends will reverse—or that they will accelerate? Consider life in a permanently poorer America with higher unemployment, less social mobility, and any prospect for self-improvement crushed by the burden of government. Will that mean more or less marijuana? More or less cocaine? More or fewer meth labs?" (Steyn, 2011, p. 232).

This kind of difficulties must be solved, as all the Western countries try to find solutions to these new problems of modern life: "controlling opioids is an obvious priority, as is trying to counter the longer-term negative effects of a poor labor market on marriage and child rearing, perhaps through a better safety net for mothers with children that would make them less dependent on unstable partnerships in an increasingly difficult labor market" (Case, 2017, p. 399). Social problems can be both the cause and the effect of addictions, and they can create a never-ending cycle that will, in the end, cause the destruction of social life as we know it; it is know that, for example, "40 percent of American children are now born out of wedlock. A majority of Hispanic babies are born to unmarried mothers. So are 70 percent of black children. And so are 70 percent of the offspring of non-Hispanic white women with a high school education and an income under $20,000. Entire new categories of crime have arisen in the wake of familial collapse, like the legions of daughters abused by their mom's latest live-in boyfriend" (Steyn, 2011, p. 216). All these situation can, obviously, lead to despair and the 'normal' resorts for this are different types of addiction (as stated above, it's usually alcohol and/or drugs, but also caffeine addiction and smoking).

The new realities of contemporary society lead to changes in the mortality rates: people tend to die younger, in their mid-life, and this phenomenon puzzled the specialists, as, at first sight, appeared to be inexplicable:

> W*e can track mortality rates for all whites age 45–54 starting in 1900; during the 20th century, these mortality rates declined from more than 1,400 per 100,000 to less than 400. After the late 1930s, mortality fell year by year, with the exception of a pause around 1960 (which likely was attributable to the rapid increase in the prevalence of smoking in the 1930s and 1940s), with rapid decline resuming in 1970, when treatments for heart disease began to improve. In this historical context of almost continuous improvement, the rise in mortality in midlife is an extraordinary and unanticipated event*. (Case, 2017, p. 403).

However, this occurrence can be explained if we take into account the above mentioned facts; the use of certain types of substances, meant of ease the suffering of everyday life in modern societies, is the cause of more and more deaths, throughout the world; for example, it has been noticed that rising control over alcohol use among teenagers, had immediate effects over the accidents and even suicide rates: "research in the United States and other developed countries has indicated that minimum drinking age laws reduce traffic crash and fatality rates; positive effects among adolescents include reducing in alcohol consumption

and high risk drinking. Additionally, several studies have documented an association between minimum drinking age laws and a reduction in youth suicide" (Bankole, p. 33).

The reasons why people (and especially teenagers) use alcohol include social acceptance, feeling good or stop feeling bad. At early ages, the peer group plays an essential part in the way alcohol is used. However, it's also true that family can play a major factor in this, as sometime teenagers will turn to substance abuse because of a dysfunctional family life.

One can also connect this situation with the decline of religion of Western society, another thing that makes many people feel lost, alone in the world, and, in the end, hopeless. According to Jung,

> *Hopelessness did not simply translate into capitulation (and herein lies the ambiguity). For hope could also be reinterpreted as an acronym for a higher power or redemptive source, that is, for God in some indefinable way. To say that the alcoholic is 'without hope' is to suggest that he/she is bereft of a higher spiritual connection, or what can ultimately restore a sense of hopefulness. Thus, the so-called despair of the addict could also be read symptomatically as the need for spiritual renewal and transformation.* (Schalow, 2017, p. 120).

On this note, it can be concluded that death by despair is, unfortunately, a sign of our times; although it was also present in other ages, it is now stronger then ever, given not only the unprecedented social pressure, but also how easy it has become for one to obtain the "distractions" that create addiction (caffeine, cigarettes, alcohol, drugs, video games, and pornography); also this is connected, as stated above, with a lack of spiritual life, but this aspect will be further discussed in the final section.

III. The bio-chemistry of addiction

Although it's true that social pressure and the urgencies of contemporary life have a defining role in the development of addictions, it's also important to take into account the biological and chemical factors that make the addiction possible.

It has been discovered that the human brain contains a number of neurotransmitters, that are responsible for the mechanisms of reward and enforcement of certain behaviors. Initially, it was considered that the most important of them is dopamine, but further studies showed that things are more complicated: "the focus on dopamine in the context of reward and reinforcement often overshadows the

role of other neurotransmitters. Indeed, dopamine is a modulatory neurotransmitter that in and of itself is not capable of strong excitation or inhibition of neurons with in this circuitry. Furthermore, there is evidence indicating that dopaminergic transmission is not required for certain aspects of behavior that are thought to involve reward or reinforcement" (Bankole, p. 259). More exactly, the dopamine is not the only factor that coordinates this type of responses to stimuli. Serotonin, a neuromodulatory transmitter, is able to influence habitual behaviors through the control of impulsive actions, and also control of affect. More precisely, serotonin can cause people to disregard the outcome of certain actions, and thus make them more prone to risky behaviors.

Studies performed on this subject have revealed that substances like amphetamine and cocaine can raise the levels of serotonin in certain parts of the brain, and thus create addiction, together with the dopamine levels, that are also influenced.

All these mechanisms are necessary for brain function, but the problem is that humans have discovered ways to induce them artificially.

Basically, whenever something good happens, whenever one has achieved something, or won a competition, a certain amount of dopamine is activated in the brain, hence the feeling of pleasure that one experiences in this kind of situations. As stated above, people have discovered alternative, artificial ways to stimulate these neurotransmitters.

According to recent studies, there are four main sources of artificial pleasure, that are used all the time by many people. They can also be called 'escapism habits', as they are ways for people to avoid real activity and real achievements, replacing them with these bad habits.

The first is video games, a topic covered, among others, by Dr. Nicolas Kardaras, who talks about the way these addictive pass-times take over our lives. Video games are an addictive way of obtaining cheap satisfactions. Basically, they kill motivation, tricking the brain into thinking one has achieved something. This stimulates dopamine and serotonin, but in an artificial way, a way meant to satisfies the sense of achievement: "Here's the rub: video games for the alienated kid and social media for the cheerleader are both just as addicting as heroin is to a junkie. With every burst of virtual gunfire, every text and tweet, there is a release—a little squirt—of dopamine, just as surely as cocaine tickles our dopamine neurotransmitters. And, unfortunately, some kids, based on genetics and psychological temperament, may already be predisposed toward addictive personalities and thus might be more vulnerable to getting hooked on these various digital dopamine stimulants" (Kardaras, 2016, p. 19).

The process is complex, and, as stated above, it's not just the video games that can trigger it, but also social media in general.

Addiction is not caused just by bio-chemical reactions, the simple reward of adventure and the adrenaline rush, but more subtle ones, that stimulate even higher aspirations and desires:

> *The ever-increasing and never-ending 'limitless possibilities' of the game create a very hypnotic grip on kids. That hypnotic pull along with the stimulating hyperarousing content creates a 'dopaminergic' (dopamine-increasing) effect; that dopamine increase becomes the key ingredient in a primordial addiction-forming dynamic. The most primitive part of our brains—the medulla and cerebellum—cradle our ancient dopamine-reward pathways. And when an action has a feel-good result—like finding food or discovering something new on the Internet or in a video game—dopamine is released, which feels pleasurable and creates a more-we-get-more-we-want addictive cycle*. (Kardaras, 2016, p. 26).

It's somewhat disheartening to see how even more noble traits of human nature (curiosity and the will to discover) can be perverted by this type of addiction and turned against us. This is even more dangerous when it comes to young people, people in their teens or even younger then that, since they don't have the maturity and hence the ability to resist this type of attraction that, as previously stated, stimulates the main aspect of their personality: curiosity and the desire to explore the world: "the game also creates the opportunity for novelty, something our brains are hardwired to explore. Dr. Peter Whybrow, UCLA's director of the Institute for Neuroscience and Human Behavior, has called computers and computer games 'electronic cocaine' and describes this novelty-seeking addictive dynamic this way: 'Our brains are wired for finding immediate reward. With technology, novelty is the reward. You essentially become addicted to novelty'" (Kardaras, 2016, p. 26).

If video games affect mostly very young people (although there are more and more exceptions), the social networks affect people of all ages: one could argue that they are the equivalent of video games for adults: "most social life is already routinely electronically mediated (or rather where social life has already turned into an electronic life or cyberlife, and where most 'social life' is conducted primarily in the company of a computer, iPod or mobile, and only secondarily with other fleshy beings), it is obvious to the young that they don't have even so much as a sniff of choice; where they live, living social life electronically is no longer a choice, but a 'take it or leave it' necessity" (Bauman, 2007, p. 2). More and more people live a cyber-life, a life on the net, and that life is even more important than the real one, just life kids live inside the virtual reality of video games.

What must be taken into account is that these electronic addictions are only very recently developed, this phenomenon is less than 50 years old – and it's already such a big problem – it's left to the imagination how bad things could get in the future, since video games and social networks are getting more and more addictive with every passing year. Social media that is used by most people to achieve validation, is in fact an illusion, as many scholars are starting to notice, it's very easy for one to create for himself a sound room, where he only gets to hear the opinions he agrees with, without having to deal with challenges.

Another escapism habit today is pornography, an addictive activity, stimulating dopamine, serotonin, but also other neurotransmitters. Usually this is a buffer for rejection, offering an artificial escape from realities of human interaction. Many people have a hard time dealing with rejection, as it is wired into our brains that not being able to be accepted can have dire consequences – but that was the case in primitive societies, where there were only a few potential partners to choose from. However, not being able to deal with rejection still is a strong trait of most people, and so it can be tempting to seek the artificial refuge of the Internet – "the proliferation of internet pornography is a good example of how addiction arises as a result of 'reducing' the fantasy to the variety of visual icons and fetishes displayed on a computer screen. Correlatively, the prevalence of fetishes, as restricting the play-space of erotic imagination, corresponds to a specific form of desire as 'ontical craving'" (Schalow, 2017, p. 59).

Just like video games and social media, the attraction for pornography is cause by more than just the immediate, obvious bio-chemical mechanisms: it usually has social and psychological roots. Robert Moore and Doug Gillette talk at length about this phenomenon, arguing that it can only affect a certain type of people that is people who grew up in certain types of dysfunctional families. This type of people are generically denominated by them as belonging to the category of the 'Oedipal Child', which is one of the archetypes of immature masculinity; more exactly, this type of behavior is one of the two forms of 'extremes', or 'Shadows' of this archetype, called 'Mamma's Boy': "The Oedipal Child's Shadow consists of the Mama's Boy and the Dreamer. The Mama's Boy is, as we all know, 'tied to Mama's apron strings.' He causes a boy to fantasize about marrying his mother, about taking her away from his father. If there is no father, or a weak father, this so-called Oedipal urge comes on all the stronger, and this crippling side of the Oedipal Child's bipolar Shadow may possess him" (Moore, 1990, p. 39).

Basically, the urge towards pornography comes from this un-satisfied relation with his mother, probably absent or unreliable; what this type of person really does is that, because he lacked the affection of his mother (i.e. he didn't 'posses'

his mother, in the form of maternal affection), he now seeks to posses all women, through pornography: he becomes what is called 'autoerotic'; he may compulsively masturbate, he may have collections of pictures of nude women – they all represent, in some sense, aspects of the feminine, and so aspects of his mother. In the end, "caught up in masturbation and the compulsive use of pornography, the Mama's Boy, like all immature energies, wants just to be. He does not want to do what it takes to actually have union with a mortal woman and to deal with all the complex feelings involved in an intimate relationship. He does not want to take responsibility" (Moore, 1990, p. 40).

Movies and series are also a way for many people to avoid reality. They tend to replace social life. Many people find it easier to learn about life and about human interaction by watching movies, and experiencing the evolution of fictional characters, rather than engaging in real social interactions. The addiction can be so strong, that some people become obsessed with a certain movie or series, starting to behave accordingly.

Because of all these escapism habits, new theories have been developed, both in medicine and psychology, meant to help people achieve a normal social life: "these theories promote that life stressors are likely to trigger the use of avoidance or emotion focused coping strategies such as substance use among individuals who have low self-efficacy and poor problem-solving coping skills in an attempt to avoid experiencing distress" (Bankole, p. 729).

IV. The condition of the addicted man

The social and biological factors that cause (and explain) addiction are, of course, essential: but they don't tell the whole story. Something is still missing: the human story, the meta-explanation, from a more philosophical point of view. In the end, the most important factor is man himself, and how the experience of addiction can be integrated in the human narrative, and what can we learn form it.

In order to understand this, one must be aware of Schalow's remark that "the problem of addiction never occurs in a vacuum, but instead arises within a specific historical era, culture, and life-situation (which always involves other people). In Heidegger's terms, being-in-the-world already implies being-with others. Conversely, in the case of any self-discovery, there is an accompanying disclosure of the world and of those who inhabit it" (Schalow, 2017, p. 168). In order to control his addiction, the patient has to understand himself, and also the world around him. This is not a simple process, but, as Jung had once noticed, the cure is only possible if the patient goes through a "conversion".

How does one achieve this? It's not an easy path, as any specialist could state. Basically, the patient has to find out who he is, and in order to do that, he has to find out what is his "story".

What does it mean – to have a story? Is that story waiting to be discovered? Peterson would say no: that story is waiting to be invented. To better understand this, one should take a closer look at a case that Peterson describes at length in his book, the case of a woman who was extremely confused, more confused than she even realized – a person who didn't have a story:

> *I thought, 'Part of you wants to be taken. Part of you wants to be a child. You were abused by your brothers and ignored by your father and so part of you wants revenge upon men. Part of you is guilty. Another part is ashamed. Another part is thrilled and excited. Who are you? What did you do? What happened?' What was the objective truth? There was no way of knowing the objective truth. And there never would be. There was no objective observer, and there never would be. There was no complete and accurate story. Such a thing did not and could not exist. There were, and are, only partial accounts and fragmentary viewpoints.* (Peterson, 2018, p. 266).

The main idea is that a person must clarify his or her position in the world, his or her relation with humanity and the universe. This is not an objective truth, just waiting to be discovered: it has to be *built*. Schalow agrees with this notion, as he states that the most important part in the therapy of an addict is to allow him to tell his story, to allow him to discover for himself (and by himself) who he is: "in simple terms, the direction of the dialogue does not lead to further explication, but instead, swings back the other way, as it were, toward 'holding in reserve,' withholding, and, ultimately, remaining silent, in order to preserve the mystery of human existence as a mystery for the individual to rediscover (for him/herself)" (Schalow, 2017, p. 166). If the addict is to become someone else, someone who is free from addiction, he has to be allowed to find out for himself who that new self is, and the can only do that by creating his own story.[1]

Addiction was found to be related to biological determinants (predisposition) psychological factors (personality traits), psycho-pathological determinants (psychiatric diseases), having family causes (addiction models among parents or relatives) and social aspects like: legislative interdiction, popular among teenagers, having higher

[1] A similar approach can be found in I. Copoeru. Portraying addiction as a disease: A phenomenological answer. *Journal of evaluation in clinical practice*, 24(5), pp. 1101-1106, 2018. doi: 10.1111/jep.13022. Epub 2018 Aug 21.

rates in communities with a low socio-economic level, or addiction being encouraged by policy makers like in case of some kind of medicines sold with no prescription in community pharmacies or the consumption of illicit drugs accepted as being legal in some countries (Ciuhodaru et al, 2012; Iorga 2012a, 2012b; Sztankovszky 2016; Iorga 2015).

What does this tell us about mankind in the contemporary era? What does this tell us about the condition of man? The main word would be 'confusion'. In today's society, people are lost, without a clear direction, in a world that is changing even as we speak, and with nothing to hold on to – with no story. Once we understand this, the remark of Steyn seems only natural: all these people without a story have left is to… live in the moment, to simply be a spectator of their own lives: "linger awhile, how fair thou art. It's nice to linger at the brasserie, have a second café au lait, and watch the world go by" (Steyn, 2011, p. 117). And one could notice that the 'café' contains caffeine. Or looking for a more powerful support for recovery, medical and spiritual (Iorga, 2013).

Conclusion

As a final statement regarding the condition of man in the new society, one could remember a remark made by the French philosopher Chantal Delsol: according to her, modern man is like Icarus would have been – had he survived the fall (cf. Delsol, 2010). What would he have done, she asks? He simply would have… amused himself, surrender to every possible pleasure and addiction, since there was nowhere for him to go anymore, no more story for him to tell himself – without a story, without a meaning, all that's left is… addiction.

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ON DOUBLE – WORKING OF THE VERBAL DIATHESIS IN THE JUDGEMENTS. THE NECESSITY IN ESTABLISHING A JUDICATIVE DIATHESIS INTO THE VERB FROM A PHENOMENOLOGICAL POINT OF VIEW

MARIA-ROXANA BISCHIN[*]

ABSTRACT. Starting with the statement that the "Being is what-it-is," we have a new dilemma when we want to express something through a philosophical sentence. We will try to find out and to show how the structure of the verb, correlated with the judgement dresses up a double form: a passive one, and a reflexive one. We think the direction of transformation starts with the passive form and change into a reflexive one. This *double loop* of the verb, and the recent studies in judicative phenomenology, makes us to establish two new diathesis on the mental-structures of the verb: the judicative-diathesis and the pre-judicative-diathesis. Finally, in the construction of the verbs "being" and "is," still persists the double fulfillment of the passive, and reflexive, to whom we can add the active form, because in ontical plane, the verb is let to activate something- the Being. The manner on how 'Being' is activated in judgement, is double: a pre-judicative way, and a judicative way.

Key-words: *verbs, transitivity, intransitivity, passive diathesis, reflexive diathesis, judicative-diathesis, pre-judicative diathesis, pre-judiciary verbs.*

Introduction

Starting with the predication "Being is-what-it-is," we have a new dilemma when we want to express something through a philosophical statement. It will be necessary to distinguish between the phenomenological sentences and formal sentences (formal). We will try to show that the structure of one verb correlated to the judgement plays a few forms: a passive form, an active form and one which

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is reflexive. The metamorphosis of the verb should start with the passive form and go towards the reflexive form when we affirm something about Being. Even the cognitive structures of the verbs to be or is persist in the double fulfillment between reflexive and passive with some active valences, because in the ontically plane the verb "to be" is forced to activate something- the Being as to be.

1. The necessity of establishing a judicative diathesis[1] into the verb from a phenomenological point of view

Starting with the hypothesis that the judgement has an important role in the discourse (language), we can say that acts and actions indicated by verbs have an uniqueness which coordinates the entire discourse. But action is not the same with the expressed act of the verb, as the structure "S is P" cannot be identical with the representation of the object in intentional plane. The verb means a correspondence between the action of the verb and the objects associated with. When we pronounce "to read," the act of the judge thinks to the object named "book." Due to the action of the verb, this conjuncture of the judgement and the matter of the object makes possible the existence of the temporal moments in which the judgement is affected, and far more the verb can be connected with the thought's acts. From this point of view we think we can open a judicative approach on verb and verbal diathesis. The verb itself cannot exist whitout temporality, the diathesis cannot exist without temporal conditioning too. The verbs have more temporal aspects depending on the ending moment of one action (active, passive, reflexive). We dare to propose a judicative diathesis of the verb only from a hermeneutic-judicative point of view.

[1] This observation belongs to the author. After studying an intense course in *Judicative Phenomenology and Hermeneutics* with prof. univ. dr. Cernica Viorel (Faculty of Philosophy of Bucharest), the author saw some similarities between the logical predications and the structures of the verbs. Starting with some common sentences, as "The tree is green" or "That is a non-tree", the author want to show that, beside these affirmations, exists an intermediary form of thinking the verb, which is of one side active, on the other side passive, but it needs something to unify them for the conscience. The way we receive them in conscience is the judicative diathesis' mood. Starting with such observation, we can develop a new field of research in the linguistic and philosophical field too. For more details, we must consult Viorel Cernica, *Judecată și timp. Fenomenologia judicativului (Judgement and Time. The Phenomenology of the Judicative)*, European Institute, Iași, 2013 and Willard Quine van Orman, "On What There Is". *Review of Metaphysics* (1948) republished in 1953 in *From a Logical Point of View*. Harvard University Press, Harvard reprinted in 1953.

What is this judicative diathesis when the form of the verb provokes the judgement and the conscience?It is a diathesis specific for the conscience itself, and not for some temporal forms as present, past, active or passive. It is something which unifies them into the internal structure of the apperception[2]. Inside conscience exist some active semantic-forms with "ontological remains," and precisely those remains can be judicative treated.

From a phenomenological perspective, a verb cannot be always active, or passive too, because there exist active verbs from an ontically perspective because their action implies something to establish in the process of the Being. It is necessary to investigate how they function in the ontological plane: the active form of the verb is closely linked to reflexive form. The active and passive forms are subordinated to a *judiciary reflexivity*[3]. The sentence "I read the Quaran" has a verb/ predicate which forces me to set up my judge on discourse, maintaining the weight on verb, and the predicate becomes something captive in my judge thus establishing the judicative. This "judicative"-form is the unity between the ontological "remains" of the judgement. In fact, it brings in co-plane the naturality and conventionality of the things expressed through verb.

Thus, we are forced to unite the "active" with the "reflexive", we wonder if we can speak about the "constitution of the judiciary diathesis" on the verb, a diathesis capable of unifying the active elements of the verb with those "remains" from the ontological plane. Even the action of the verb that affirms "I read something" obligates me to apply on the verbal action the reflexivity corresponding to my judgement, and in this way the verb would deliberately or forcefully, or potentially, take reflexive elements from the reflexive diathesis. In the assertion, "the art album is on the table" the verb "is" has passive diathesis, but the same verb also provokes the ontological being of "is" - as such it involuntary belongs to a reflexive diathesis passing through the constitutive structures of the judicative.

[2] First, Aristotel in *Peri Hermeneias*, had considered that the apperception is the unity between the natural things and the thoughts about things. In "Introduction" to *Critique of Pure Reason*, translated by Paul Guyer and Allan Wood, Cambridge University Press, Cambridge, 1998, p. 9,we can see the following paragraph: "Kant centers his argument on fact that our experience can be ascribed to a single identical subject, via what he calls the "transcendental unity of apperception," only if the elements of experience given in intuition are synthetically combined so as to present us with objects that are thought through the categories. The categories are held to apply to objects, therefore, not because these objects make the categories possible, but rather because the categories themselves constitute necessary conditions for the representation of all possible objects of experience."

[3] We use the idea that the action of "to reflect" implies the judicative rests of the judgements.

This valuable diathesis on each verb can be conventional named *judicative diathesis*. There is always something ahead of the judicative, that is a pre-judiciary form, which is possible before a judicial diathesis, so-called *pre-judicial diathesis*[4], or a diathesis established in the judgement before my judgement may have made synthetic and analytical operations.

The verb cannot be thought in a limited way because it has some deeply ontological structures, and it is not something which finishes an action; in phenomenological plane it receives multiple determinations from thoughts. When I read a book, I can read it, but in the same time I can think on how the book is, too. Even a verb is written to present time, it imposes this ontological establishment of the verb- "is". If someone reads the sentence "I read the book" after few hours, that person is unified with the present time of the narrator who wrote "at that time" that statement. What works behind each verb is the very unlimited dynamics of the reflexivity of judgement. The verb cannot be thought as "limited", even if the verb mentions different verbal times. It's just a formal temporality. Based on these descriptions, we can pursue the evolution of judiciary structures in relation to verb actions.

At some sentences' level, such as the affirmative statement "Being is what-it-is," or the infinite judgement "Being is un-determined," we observe that same object (Being) is the "aim" of both synthetic and analytical thoughts, and these modes of thinking are part of transcendental logic. From a transcendental analysis, we can say that a judicative diathesis is validated. Even if Being "seems" to be limited by a certain verbal diathesis, she receives infinite determinations to which my judgement is "summoned" to observe them and to discover them in order to correlate them with the acts of consciousness. Affirmation of an ontological bill (the statement which affirms that something "it is") keeps traces of the inter-subjective-judicial[5] experience that often carries on a support of a representation. When such representation is made, it is desirable to step out of inter-subjectivity in order to receive a more objective, or a more real representation.

Many aspects of the verb are deceptive when we set aside the grammatical rules to make phenomenology. For example, passive diathesis is that verbal form that shows us a verbally self-acting action or an action which usually will not have

[4] *N.a*. Judicative diathesis and pre-judicative diathesis are the forms of diathesis following the comparisons between judicative and pre-judicative in the conscience's field. Transpositioning this idea on verbs, we can see that we can make some new observations on how diathesis functions: everything starts in my conscience as a thinker of the language. So, we can assume a pre-judicative and a judicative diathesis of the verb, enriching the linguistics' field theory with these two new terms.

[5] *N.a.*

a purpose, or a motion: "The book is on the table. " Reflexive diathesis is a verbal form which forces us to meditate on the verb involved in the sentence, but also to establish a meditative action to the entire sentence, as in the Heideggerian example of "Being is what-it-is."[6]

This analysis seeks to demonstrate that the verb "is" departs from the structures of the judiciary. And it often transits from a passive form to a reflexive one, or from an active one to a reflexive one. For these reasons, we will use several arguments from Martin Heidegger, because, from a phenomenological point of view, we find them the most relevant in our investigation. We believe is necesary saying the diathesis of a verb provokes us to a reflexive dimension. We cannot confuse this reflexive dimension with the reflexive diathesis of the predicate. Many times the verb "is" will lead a double fulfillment of diathesis- (1) the passive one and (2) the reflexive one as in the sentence "The Being is-what-it-is." But let us not forget that, from the perspective of Heidegger and Ricoeur, the Being is possible through language, through discourse. If Being has this ontological start from the beginnings, then she definitely has an active diathesis, because she *acts*, and it "is" something.

From the need for objectivity and subjectivity, we are permanently encapsulated in the area of reflexivity, the judgement who tries to think itself; then why would not be the verb's diathesis reflexive too? The in-determinancy of the verb Aristotle told, provokes us to endless judgements and acts as a possibility, and then the verb receives these infinities. The in-determinancy is the one that opens the judgement to multiple ways of manifesting itself in reflexivity, for which reason non-determination is linked to subjectivism.

From a hermeneutical-judicative view, we intent to see the verbs in other way, especially the diathesis, or the form in which the verb does or does not fulfill the action of the act of the judgement of that action. As such, we will observe that from a hermeneutic view, each verb "takes" the form of a reflexivity and often transits between the active and the passive to infinity only through the acts of judgement. Therefore, we cannot limit a verb as "being" to a single diathesis when we refer to its effect on our thought. Instead, from a linguistic exercise, for slighting grammatical task, a rigid classification of the three types of diathesis was made. From a phenomenological point of view, they cannot be thought separately and that is precisely what this will point to our analysis throughout this article.

[6] Martin Heidegger, *Being and Time. A Translation of 'Sein' und 'Zeit'*, New York Press, New York 1996, p. 6: "Thus to work out the question of being means to make a being-one who questions-transparent in its being. Asking this question, as a mode of being as a being, is essentialy determined by what is asked about it-being."

2.a (i). The establishment and the constitution of the judicative diathesis

Starting from with difference between verbal and judgement act, we enter into the sphere of the judicative diathesis. We believe that we can relate this judicative diathesis to the originality of intellectual intuition, because it brings together the synthetic and the analytical elements. "What is the target of the intuitive intellect, are the uninterrupted acts,"[7] that are, precisely those acts corresponding to the infinite (reflexive) judgement, or the flow of bergsonian consciousness:

> Thought that thinks itself is beyond any possibility: it is pure act. Hence the fact that error, "fatigue" of thinking (for the situation in which thinking is in power) loses any justification. But what such thinking thinks of itself produces the imperfection of any thinking that does not (just) think of itself, such as human thinking. So thought thinking of -self is self-fulfilled thinking and the purpose of any other thought.[8]

The auto-refexive thought is a pure fulfill act and it revelates us many forms of the things between what-it-is, and their parmenidian[9] reverse- what-is-not-is. Regarding the verb (or the predicate), judicative diathesis consists in a distortion of the official meaning of the "diathesis." As such, in the judgemental-plane, any verb is the bearer of this judicative diathesis, which sums up both the temporality and the non-temporality of the verb. Non-temporality enters into the existential plan.

Besides, verbal temporality, the judicative diathesis includes the act itself of the judgement, but also the ontological "remains." Apparently, the predicate affirms that "something it is", but, on the other hand, in the reflexive plane it opens the possibility to think *what-can-it-be* or *what-cannot-be*. Going on this idea, there are those non-judicative contexts belonging to experience, and to our existence outside my

[7] Viorel Cernica, „3.1.2.3. Originaritatea intuiţiei intelectuale" / "The originarity of the intellectual intuition", *op. mentioned*, *Judecată și timp / Judgement and Time...*, p. 144.

[8] *Ibid.*, 145. For details, please consult the entire page 145.

[9] Parmenides, *On Nature*, Poem "The Way of Truth", Poem taken from John Burnet's Early Greek Philosophy, 3 rd ed. (London: A & C Black, 1920)paragraph (4,5): "The first, namely, that It is, and that it is impossible for it not to: This is the earliest instance of λόγος in the sense of (dialectical) argument which Sokrates made familiar. He got it, of course, from the Eleatics. The Herakleitean use is quite different, be, is the way of belief, for truth is its companion. The other, namely, that It is not, and that it must needs not be,—that, I tell thee, is a path that none can learn of at all. For thou can't not know what is not —that is impossible—nor matter it; for it is the same thing that can be thought and that can be." PDF version http://www.platonic-philosophy.org/files/Parmenides%20-%20Poem.pdf, accessed on 15 august 2018.

speech. I, as a thinker of my sentences, I have to distinguish between their formal logic and transcendental logic[10]. Thus, Kant has imposed a clash in negative thinking, by choosing to put aside such statements as "The soul is not mortal". This negative article -"not"- would have completely limited the sphere of the soul and, implicitly, the indeterminate action of the verb in the judgement's plane.

2.a (ii). On the multiple aspects of the verb "is" in the sentences with infinite judgements, or the levels of abstraction in the judicative diathesis

Starting with the idea that verb "is" with reference on Being, is a verb which forces the Being to establish something in the ontically plane, and in the linguistic plane too, we have an active diathesis of the "being" of the Being. When we affirm "Being is-what-it-is," we talk on various forms of abstract thinking, and speech figures. When the verb "is," is repeated many times, but in different Being's

[10] Immanuel Kant, chapter "Transcendental Doctrine of the Elements", second part, division I, book I, chapter I) *Critique of Pure Reason*, Cambridge University Press, Cambridge, 1998, pp. 207-208: "Likewise, in a transcendental logic infinite judgments must also be distinguished from affirmative ones, even though in general logic they are rightly included with the latter and do not constitute a special member of the classification. General logic abstracts from all content of the predicate (even if it is negative), and considers only whether it is attributed to the subject or opposed to it. Transcendental logic, however, also considers the value or content of the logical affirmation made in a judgment by means of a merely negative, predicate, and what sort of gain this yields for the whole of cognition, if I had said of the soul that it is not mortal, then I would at least have avoided an error by means of a negative judgment. Now by means of the proposition "The soul is not mortal" I have certainly made an actual affirmation as far as logical form is concerned, for I have placed the soul within the unlimited domain of undying beings. Now since that which is mortal contains one part of the whole domain of possible beings, but that which is undying! the other, nothing is said by my proposition but that the soul is One of the infinite multitude of things that remain if I take away everything that is mortal. But the infinite sphere of the possible is thereby limited only to the extent that that which is mortal is separated from it, and the soul is placed in the remaining space of its domain.a But even with this exception this space still remains infinite, and more parts could be taken away from it without the concept of the soul growing in the least and being affirmatively determined. In regard to logical domain, therefore, this infinite judgment is merely limiting with regard to the content of cognition in general, and to this extent it must not be omitted from the transcendental table of all moments of thinking in judgments, since the function of understanding that is hereby exercised may perhaps be important in the field of its pure *a priori* cognition."

contexts, it behaves like antanaclasis[11], a speech-figure which consists in repeating some predications as "Being is indeterminacy," "Being is Being," "Being is-what-it-is." The predicate "is" has valences of antanaclasis, but it changes in antimetathesis in the Kantian sentences with infinite judgements as "The Being is non-mortal." Of course, we can go on the idea of non-Being[12], and we also manage to remove the item of negation in order to maintain our position in an affirmative sentence. Besides that, between passive and active diathesis, "activity and passivity presuppose being-for-itself, hence non-being."[13] We remember Aristotle when he mentioned the idea of non-being. He mentioned that "the full and the the void" are associated with Being, and the "void and the rare with non –being."[14]

Further on judgement, Aristotle said "everything which is object of reflection and intuition, is affirmed or denied by thinking."[15] The Being is an object of reflection and subject of the sentence-discourse, which can be affirmed or denied. But Being cannot be or not be at the same time. We must find a proper way. From a kantian point of view, is a way with infinite judgements. Here's what Aristotle said:

> But neither it is possible that any thing can fullfit between contradictories; for it is necessary either to affirm, or deny one thing of every thing which is one. This, however, will be manifest, by first of all defining what the true is, and what the false. For to say that being is not, or that which is not is, is false: but to affirm that being is, and that non-being is not, asserts that which is

[11] Gheorghe N. Dragomirescu, *Mică enciclopedie a figurilor de stil*, (*Small Encyclopedia of the Speech-Style Figures*), Romanian Edition, Scientific and Encyclopedic Publisher, Bucharest, 1975, p. 39. For details, see Kenneth Rothwell, "Structure in Literature", *College English*, vol.24 (8), 1963, pp. 602-607.

[12] The idea of the "non-Being" had opened a new field of research in phenomenology named meontology. The meontology wants to find how the non-Being exists and how it functions in the transcendental structures of the Being. We recommend for details, John Llewelyn, *Appositions of Jacques Derrida and Emmanuel Levinas*, Indiana University Press, Bloomington & Indianapolis, 2002, p. 6. "Levinas agrees with Hegel that meontology is the mirror image of ontology. They ocupy the same logical space, the space of the Same. So too does the neutral third value between being and nothingness, for which Levinas employ the expression *il y a*, the there-is", *apud* Emmanuel Levinas, *Difficile et liberté: Essais sur la judaïsme*, Albin Michel, Paris, 1976. From a meontological point of view, in Romanian "non-Being" means "non-Ființă," which is different from "Neființă".

[13] Llewelyn, *op. cit*., p. 5.

[14] Aristotle, *The Metaphysics of Aristotle*, a translation by Thomas Taylor, Book I (A), chapter 4, London, 1801, p. 13. On the first page, the book has the mention "this book forms part of the original library of the University of Michigan bought in Europe 1838 to 1839by Asa Gray."

[15] *Ibid*., Book IV(Γ), chapter 7, pp. 105-106.

> true, or that which is false; but neither asserts of being, nor of non-being, that it is not or is. Again, if there is something between contradictories, it will either be, as is a dark color between black and white; or as that which is neither men, nor horse, between man and horse.[16]

Accordingly Kant, Aristotle had mentioned- "there will be a progression to infinity,"[17] because denying the Being means to accept the non-Being. Denying would be the cancelation of the reflexive diathesis (when we are saying "The Being is not something"). If the reflexive no longer existed, part of the judgement would remain truncated, and the experience too, and the judicious diathesis no longer fulfills its purpose, that of pure act of thought.

It is clear from Aristotle's quote that the negation of Being is another symmetrical object in the ontological plane, that is, Non-Being. Therefore, we believe denial of Being at the predicative level would violate the principle of non-contradiction when we affirm that "Being Is Neither Being" because logically it would not be possible. Aristotle says that "indeed there are immutable beings (and that they are those beings who do not change and cannot be but they are)"; therefore, their natural condition is to "be" simply. They "are" because they cannot change. This effect of the impossibility of changing them demonstrates that the verb "being" always has passive elements encapsulated into the reflexiveness of thought. The "Being" *is* simply because, according to Heidegger, it cannot be determined even by a predicate:

> And in a similar manner with respect to incompossite essences: for we cannot be deceived about these. All of them are in energy too, and not in capacity. For, if they are in capacity, they would be generated and corrupted: but now being itself is not subject either to generation or corruption. For it would be generated from something. But with the respect to such things as are beings and in energy, about these it is not possible to be deceived, but they are either intellectually aprehended or not.[18]

The natural condition of things themselves is simply "to be." They are because the cannot change. This impossibility of change's effect of them demonstrates that verb to be always has passive eleemnts encapsulated in the reflexivity of the thought. The Being simply is, because according to Heidegger, it cannot receive determination by predicate not even imposed- "Being cannot actually be understood as being. *Enti non additur aliqua natura*. Being cannot be defined by attributing

[16] *Ibid*., p. 105.
[17] *Sqq.*, p. 106.
[18] *Ibid*., Book IX (θ), chapter X, p. 221.

beings to it."[19] Through the dimension of temporality, the Being is related to the judicative, because temporality is the first condition of the existence of judicative. When we have the infinite judgement according to "Being is Non-Time," we do not necessarily introduce a limitation, or a determination, but we attribute it a property with temporal valences. The contradiction between non-Time and Being, somehow the similarity introduced by the verb "is," clearly indicates that one can speak of antimetathesis, and antimetalepsy,[20] two thinking abstract figures. But this contradiction induced by the verb "is" places the assertions about Being to entimema,[21] another judicative's style figure. However, we note, verb "is," is in the situation in which it cannot be equated with anything other than "is." We can say it is an elliptical verb of synonymy. To replace it with "to exist," would be to detract from the meaning of "Being is what-is," because this preface would turn into "Being exists what-it-is." Therefore, we see that metamorphosis into "exists" leads to a non-sense.

But there is a place where thinking ceases to think only on the subject, and the discourse. There is a place where thought begins to be *self*-reflective. The place where thinking is self-judged is pre-judiciary - the place where verbal diathesis can self-refine itself is also pre-judiciary (pre-reflective)- here is where we clearly have the distinction between the phenomena that go to themselves and phenomena *per se*:

> Considering the determined verbal forms of "being" does not bring with it the opposite of an elucidation of being. In addition, she faces a new difficulty. Let us compare the infinitive "to say" and the base "I say," with the infinitive "to be" and the base form "I am". "Be"and "am" <"sein" and "bin"> prove to be different words,in respect to their root. Different from both in turn are the "was," and "been" (<"war" and "gewessen">) of the past forms. This brings us to the question of the different radicals of the word being.[22]

[19] Heidegger, *op. cit*.,"1. The Necessity of an Explicite retrieve of the Question of Being," pp. 2-3.
[20] Gh. Dragomirescu, *op. cit*., p. 40.
[21] *Loc. cit.*
[22] Martin Heidegger, *An Introduction to Metaphysics*, translated by Ralph Manheim, Montilal Barnasidass Publishes, Delhi, 2005, p. 70. We recommend to see the original text, *Einführung in die Metaphysik*, Max Niemeyer, Tübingen, 1953, pp. 53-54: „Die Betrachtung der (...) Verbalformen von «sein» bringt das Gegenteil einer Aufhellung des Seins. Sie führt überdies vor eine neue Schwierigkeit. Vergleichen wir den Infinitiv »sagen« und die Grundform «ich sage» mit dem Infinitiv «sein» und der Grundform «ich bin». Hierbei zeigen sich «sein» und «bin» als stammesmäβig verschiedene Worter. Von heiden verschieden ist wiederum das »war« und «gewesen» in der Vergangenheitsform. Wir stehen vor der Frage nach den verschiedenen Stammen des Wortes »sein«."

Heidegger had identified three radicals of the verb "to be" which originates from Sanskrit relating it to life, the one in Greek "bhoú" that relates it to nature and naturality, and the third, "Sein", related to the idea of a passivity of " dwell, stay."[23] For these reasons, the thesis which we have started from is validated. We have seen that Heidegger had brought a new perception of the verb "to be". We suppose that these radicals of the verb "to be", carefully explained by him, could be a *pre-intuition* of a judicative-diathesis. Therefore, we are talking about the "triple fulfillment" of the active-passive-reflexive pronunciation in the structure of the verb "is" about Being. As example, in words as "is" and "Being" exists an active opposition, in due to the "active-latin-deponent[24]," which is charged as soemthing active, but passive too, and that's why we ar more justified to establish the judicative diathesis, or so-called, *anti-passive deponent*.

Therefore, the additional predictive element (the predicative name with dual formation from demonstrative pronoun and the interrogating pronoun - "what-it-what-it-is") from the statement "Being is what-it-is," is a speech-part, which expresses an "attribute of the subject name or complement, not only by semantic agreement or congruence, but also through the verb (predicate), as if it were a copulative auxiliary."[25] This has been true since the 19th century, because the copulative part has attributive[26] functions if it is found in infinitive, participle, less supine. Accordingly to Gh. Dragomirescu's remarks, the nominal part has a "omeosis or nominal catachresis[27]" status. Omeosis is "a figure consists in using the verb, possibly accompanied by its determinants, by virtue of a similarity between phenomena."[28] More, Pierre Ouellet says that "those different levels of language give an access to the sensitive and categorial perception underlying the schematization of our experience."[29] Thus, the experience is related to language through perception. This similarity between verb and phenomenon is not synonymous with intentional acts of thinking. Patricia

[23] For details see pages 54-57 from Heidegger, *Einführung in die Metaphysik*, „Die Etymologie des Wortes «sein»".

[24] Emanuela Marini, "L'opposition "actif" vs. déponent et la persistance du "moyen" en latin", *Langage.* Présupposition et Présuppositions, nr.194, Armand Collin, Paris, 2014, p. 49.

[25] Dragomirescu, *op. cit*., p. 136.

[26] For details, Edmund Husserl, *Logical Investigations*, vol. I, translated by N. Findley, Routledge, London and New York, 2001 (2008), p. 332.

[27] Patricia Parker, chapter "Metaphor and Catachresis," book *The Ends of Rethoric: History, Theory, Practice*, edited by John Bender, David Wellbery, Stanford University Press, Stanford, 1990, pp. 60-61.

[28] Gh. Dragomirescu, *op. cit*., p. 166.

[29] Pierre Ouellet, "Perceptive Metaphors. Mental Imagery and verbal images", *Langage. Présupposition et Présuppositions*, nr.137, Armand Collin, Paris, 2000, p. 122.

Parker is considering catachresis a speechfigure as "abuse in abusio,"[30] which makes me think on the violation[31] of the subject "Being," according to John Caputo. In this regard, we will turn our attention to the Husserl's "Fourth Investigation."[32] According to Husserl, these are „existential-sentences"[33] of pure logic which distinguishes between common sentences and the knowledge's matter itself, both part of the judgement.The pure form of meaning is not identical to the object itself-there are distinctions between "intentional and true objects"[34].

For this reason, we believe that the forms of judiciary work with this pure logic that Husserl mentioned. The pure form of the verb "is" will not be identical to what he has as representation in the ontological plane, because the act itself is not identical to the act of representation. The act of representation would rather be tied to nominal function of "what-it-is". Accordingly to Husserl, the verb "is" gets connotations from the spatial, physical, psychic, existential plane etc., like any other object with "undetermined representations"[35].

3. The pre-judicative diathesis of "is" between the psychological predicate and psychological subject- another level of indeterminate representation (between nominal position and judgement)

Each statement is made up of two fundamental units or segments: one representing the word or the group of words present in the speaker's mind before speaking – which is the well-known element (the determinate), the subject (placed at the forefront), and the other unknown before you associate (the determinant), which we call the predicate.[36] Starting with Alexandru Philippide's observations, it is obvious that the subject in our case 'Being' lies in the mind of the speaker (that is, in his conscience and judgement), and that the predicate that follows will stick to these *judicious* structures in order to be validated. For example, Paul Hermann

[30] Patricia Parker, *op. cit*., p. 61.

[31] We recommend, John D. Caputo, *Radical Hermeneutics*, Indiana University Press, Indianapolis, 1987, p. 65: "In *Being and Time* the recovery of Being or Dasein is necessarily a deconstruction of the traditional overlays, even as violence toward the tradition is not a violation of it but a natural violence which wrests free its primordial contents."

[32] For details, see *Bibliography*.

[33] For details, Edmund Husserl, *Logical Investigations*, vol. I, pp. 166-167.

[34] *Ibid*., p. 174.

[35] *Sqq.*, p. 188.

[36] Approximate citation, Alexandru Philippide., *Istoria limbii române. Principii de istoria limbii* (*History of Romanian Language. Principles on Language History*), Polirom, Iași, 2011, p. 126.

observed that both the subject and the part of the predicate lies in the speaker's mind, and then in the mind of the person who accepts the statement, the lecturer: "It is not to be supposed that in such phrases there floated in the speaker's mind the unexpressed infinite of a definite verb"[37]. The representations of the objects described by the words are "indissolubly connected with other objects in the speaker's mind"[38].

Some speech units, such as verbs (which have predilection functions) are closely related to the acts and objects of the acts being spoken. Their processing is usually done by forms and structures of judgement, and only then by forms and structures of consciousness. For example, what we are receiving from a statement such as sensations, perceptions, synesthesia, images are processed by judgement, but they are also included in experience, they have experiential, therefore subjective, contents. Due to Dan Zahavi, "there is an experimental difference between hearing something that someone does not understand, and hearing and understanding the same sentence."[39] Understanding is related to judgement. The judgements will formally call them judicious meanings. These judicious meanings are meant to cherish the new meanings of preaching, but also those meanings with ontological origins. Judgement processes the material received from the statements (data, affirmations, negations, actions, meditations). This judicial process will make it move to sense judgement that usually has a double format, from Husserl's point of view. He calls it "thinking expression"[40].

In this way, we understand that the affirmative predicate is not often an independent statement, because in order to establish a sufficient judgement for itself, it must also offer other judgements the built on the first trial. This multiplication does not change the material of the content of the judgement, but determinates, in the linguistics plane, the notable differences between the psychological subject and the psychological predicate, between the verb transitive or the other, between the active and the passive verb diathesis. However, at court level, as we have shown so far, judicial diathesis retains the same material for processing acts as it works in will. True judgements, can function in a certain way- as being in direct relation with the subject[41]. In order to create true preaching, it is

[37] Paul Hermann, *Principles of the History of Language*. Translated from the second edition of the original by H.A. Strong and M.A. LLd., Editeur Longmans, Green, and Co 1891, London, p. 360.

[38] *Ibid*., 1891, p. 80.

[39] Dan Zahavi, chapter "The Self as Experiential Dimension" in *Subjectivity and Selfhood*, Cambridge, 2005, p. 118. For details read the pages 119, 120, 121.

[40] Husserl, *Logical*..., vol. II, edited by Dermot Morat, 2001, p. 191.

[41] *Ibid*., p. 66: where whole statements are nominalized so as to appear in the subject-position.

necessary to subordinate attributive sentences (subordinate attributive) to main predictions in order for subject to be able to receive their determination from personal experience (hence the subjective character) and from *objectual* determination. An example of such a sentence would be "Being is immortal existence". The adjective "immortal" radically changes the nominal position of the Being: in the act of "being", it is part from experience. The experience has the purpose of removing subjectively the object from its object, in order to give it the objective determinations necessary for being.

The pre-judicative would be that judgement that retains its non-judiciary valences, but also encompasses the judiciary ones. In this sense, pre-judging hermeneutics on the verb "is", is validated. Intersubjectivity cannot be phased out (according to Husserlian opinion it would not be possible), but there is also objectivity. For these reasons, the judgement cannot self-isolate from everything that is the subjective experience of the self (ie the one who thinks the psychological subject and receives the psychological predicate); therefore, not being able to isolate the subjectivism, it maintains it even when it wants to objectify, or obey a total logic. It isolates it, but it does not remove it from the intentional content of judgement!

According to V.S. . Khrakovsky, "the verbal category or verb division limits the series of facts," and "the inner voice of the verb is manifested intra-linguistically."[42] In a linguistic perspective (a formal-logical one), the verb's diathesis is something limited but the inner lingual expression of it intra-linguistic manifested (*the selfhood of the verb*[43]), it manifests in interiority of the verb, and that is why we reach the constitutive judgement's structures in a verbal form. According to Thomas Givon, the stages of verbs are ordered according to the principle of "reflexive-intransitiive-passive and reflexive again."[44] Usually, passive verbs are most exposed to a higher degree of reflexivity. The verb "is" is based on an intangible, passive verb, because it apparently does not extend to all objects and has no direct complement, but paradoxically he works in all objects subordinated to our judgement stating that one thing "is", or "is not," and then, to this level of the "accomplished act of consciousness, it also becomes transitive."[45]

Diathesis has to do especially with an original interpretation of the verb, with the originality of intellectual intuition. By applying a reduction to the verb, or a tightening of experiences, we can obtain logical judgements for anyone through verb.

[42] V. S. Khrakovsky, "Diathesis" in *Acta Linguistica Academiae Scientiarum Hungaricae*, tom 29 (3-4), Akademiai Kiado, Budapesta, 1979, p. 289.

[43] The term is proposed to designate the verb's conjuncture in which it thinks itself or it establishes itself into the judgement, and therefore in discourse.

[44] Thomas Givón, S*yntax: A Functional-Typological Introduction,* John Benjamins Company, Amsterdam, 1990, 602-3)

[45] *N.a.*

For example, if we put outside the sentence "Being is what-is", the pre-judicial meanings of a diathesis appear before the verb completion. Judgement shapes what we receive from the external world, but pre-judicative is the one who works in pre-trial action: there is something fated to judgement to be active in consciousness, and these "remains" of judgement are called conventionally *judiciary*. The judicative has these ontological origins which transfers to the action expressed by the verb, often felt as active diathesis. In case of an affirmative judgement which says something "it is", but this "it is not," is stoling to the object the nominal determination, but also proposed to it an indeterminate representation (if we use Husserl's concepts):

The tree is non-pink.
The Being is non-Time.

In this predication, the predicate is stealing from the "tree" the access to "pink", and from the "Being" the access on "time". Through limitation, other possibilities such as white or green, or n modes are offered. This infinity of possibilities is what makes me think of things before they are set up. The assignment of other assets to the tree makes it rich at the level of meanings and representational meanings, but not at judicative level, because judegement has a predicative character.[46] In this way, the verbal diathesis of the verb is not affected by what it receives, but it only is a basis from which only in phenomenological way the sense multiplies the assigned meanings. At the statement level, the tree (subject) and the verb "is" (which is the act of judgement) - are two forms of speech entering the judiciary, and verbal diathesis is also part of the judiciary.

When I say something about something, thinking or I am quiet, I draw up some "scraps" of judiciary. Our minds think of states of things before they were completed, meaning a stability of the object in relation to its temporal condition. For example, this is the case with a work of art: the work of art is stable in a museum, only the conditions of time "seem" to change: the condition that it is from the Renaissance, the condition that "preserved" 2018 and they are conditions of an apparent external temporality. The artwork will thus penetrate into another temporal dimension, that of the external time, in which it is delivered to that time, conventionally called by us, non-time.

When we say "the tree is pink" we save it from the "violence" of the subject (that John D. Caputo spoke). If we have denied everything -"the tree is not pink,"- the subject and the act itself were deconstructed and would have been blocked because the verb was "violated." In the sentence "Allah is an unconditional necessity," instead of non-necessity, we added an adjective attribute of negative value

[46] Ed. Husserl, *op. cit*., 2001, p. 312.

to the predictive name "necessity." This adjective attribute does not violate the verb (verb) diathesis, nor the subject, nor the constitutive structures of the reflexive-judicial diathesis. Instead, the reflexive over-interpretation of the meanings of a word leads to violence. The word should be at the limit between "self-hiding and self-retreat."[47] From a hermeneutical perpective, this "violence" is something "natural" and cannot be avoided. In case of the judicative-diathesis, we put next question: Why remains the verb "is" as non-finite? Though his action in ontological plane is on active diathesis that of establishing "something." The answer would be because it has its origins in infinite judgement as we have shown throughout this analysis.

"The tree is non-pink" is an affirmative judgement with a negative predicate, and hence the role of pre-judicative is even more intense. The sentence "X is non-pink," means that x does not exist in pink's sphere, but on the other side, it exists in other indeterminacy's spheres- as green, white, brown, including everything which is out of pink. The nothingness, the non-Being are pre-judicative structures in the transcendental logic.

Reflexive diathesis is part of the pre-judicial structures because the reflections themselves on the action of the verb are still here. From pure logical point of view of Husserl, or transcendental one of Kant, reflexive diathesis is something that happens infinitely, it is indefinite. In case of the pre-judicative, it is already in a reflexive diathesis before the subject performs the action of the verb. An eloquent example would be the listener of music: when listening to music, we (as listeners / receptors) are encapsulated in the reflexive diathesis that includes in a single place our becoming as a being and the pre-idea of "being" through sounds. In music case, the sound has the same transcendental logical function, as in the case of one verb in a sentence. It is exactly the same Proustian effect as in *Swann*[48]: by involuntary insertion of meditation / reflexivity into the judgement, we are always delivering time to the song that steals us for the moment. This is the moment when we are in a non-temporal extension.

The ontic is the dimension which makes possible the reconstruction of all these things. The logic aspect is the statement which had passed into the judgement through the affirmation "the song is beautiful." But the existential meaning of "logic" is that which passes into the structures of reflexivity, therefore, implicitly into the judgements. "The act is made up and set up by the logos,"[49] or sound, because the two actions of thinking and speaking lead to the realization of the action, that

[47] John D. Caputo, *op. cit*., p. 63. Caputo uses the terms "self-concealing, self-withdrawing."
[48] See, Marcel Proust, *In Search of the Lost Time*. *Swann's Way*, translation by Stéphane Heuet, Liveright Publishing, 2015.
[49] Viorel Cernica, *Judecată și timp*.../ Judgement and Time..., *ed. cit*., p. 26.

is to say of the active diathesis. As such, here is where the statement that "Being is what-it-is" becomes a possible form of active diathesis, because "Being" is spoken and thought in the same time, but belongs to its ontological determinations, so that it is permanently active. Starting from this point, we put two other problems: whether there is an judicative circle of active diathesis and whether there is a regular judiciary (participation, ordination, predication, pre-judgement) for each diathesis.

Conclusions

The fact that in any sentence there is a verb and time dimension, means that we already have a structure able of being judged. The verb will never disappear because time will never disappear, and neither our experience of the things we judge. In case of the work of art, we should detach the chronological appearance to enter its existential dimension. In case of sentences, we should detach us from the formal logic to access the transcendental logic (Kant) or the pure logic (Husserl). The judgement shepherds the condition of time. The subject (the pink tree) exists due to object's certainty (the tree). In this situation, "I" belongs to the conscience and to the phenomenon, and here is the place where the pre-judicative dissipates through judgement to establish the Being through discourse. Every statement (logical proposition) is filled with perceptions that generate fulfilled or unfulfilled acts, elements in potency or retention, something that pro-pose or holds something. Thus, "the tree could have been green too," or "the Being could have been indeterminacy." The perceived object and perception are not identical in essence but are similar in the reality illustrated by the acts of thought. Things seem to be easily "stucked" under the ballast of our acts always on the move. Unfortunately, an ordering of this "ballast" is not possible, because our judgement will judge forever and will always look forward new meanings.

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METAPHYSICS, THE ABSOLUTE AND THE HOMONIMY OF THE NEGATIVE. PROLEGOMENA FOR A SPECULATIVE LOGIC.* PART I

HORAȚIU MARIUS TRIF-BOIA**

ABSTRACT. Our paper addresses eight main and traditional issues of Philosophy: the issue of speculative logic; the issue of the fundamental premises of existence and thinking — which engages on the path of absolute ontological reduction; the issue of absolute Nothingness revealed as the ultimate result of the previous reduction; the issue of the realness and effectiveness of Nothingness; the issue of ontological Difference; the issue of the consistency and apodicticity of metaphysics; the issue of the nature of the Absolute; and the issue of the Ontological Argument. The results that we gained at the end of our work show that the ontological Ground is the Absolute and that the Absolute is the transcendent instance of immediate identity of irreducible opposites. This instance is consistent with the traditional claims of philosophical and theological metaphysics and it supports the Ontological Argument through the overcoming of the formal logic principles.

Key words: *speculative logic, theological metaphysics, Hegelianism, Ontological Argument, undetermined immediateness*

0.0 Preamble. Truth and premises

Any search for the truth sets out from premises located outside its discourse or the search itself. (Cusanus, 2008b, p. 41-49) These premises are usually understood as being logical, and then the seeker will look for them in the field of logic or through its

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instruments. (Dumitriu, 1975, p. 6) But logic itself also starts out with premises, and one can already find in them, either in passing or assumed, a few concepts often believed to be self-understood. (Hegel, 1966, p. 25-29, 396-401; Priest, 2002/2007, p. 37-41). The principle of identity, to which any of the other three principles are reducible, already presupposes a synthesis or a continuum described in its formulation: an object A possesses a fundamentally unchanged state in which it coincides with itself — $A \equiv A$ sau $A = A$. In this case, truth would already appear to have been found, as one would no longer have to search for the meaning of identity beyond itself, any other concept being itself inscribed in meaning through the coincidence already described by identity. Therefore, it would no longer appear necessary to search for premises beyond itself. — But when one tries to explain what ***A*** is and why it is in a particular way, and not another,[1] the presupposition one has just assumed is immediately contradicted: explaining ***A*** would actually mean looking for its premises beyond itself, thus describing it in terms alien to itself when in fact these alien terms would have to be identical to ***A*** in order to be able to describe it.[2]

Moreover, one observes that ***A***'s identity is given only if there is a synthesis between ***A*** and itself, therefore being an intermediation or, in Hegel's words, something reflected.[3] However, identity is understood as the state in which there is only one

[1] Certainly, the source that requires no other outside search or that cannot be and should not be substantiated by something alien to it is the one designated through the term *Pure being*. However, before referring to it, we would like to make a few more general clarifications regarding the metaphysical discourse. And, essentially speaking, we will see that what has been developed concerning identity in itself is also reflected in the concept of Pure being. (Biard et al., 1981, p. 9-10; Hegel, 1966, p. 63-72, 75-85, 430-437).

[2] Based on this, one notes that the logical operation of *defining* is extremely paradoxical.

[3] This idea had already been suggested by Heraclitus [*see* Hyppolitos: **Refutationes IX**, 9, 103, Porphyrios: **Quaestiones Homericae**, to The Ilyad XIV, 200 (Banu, 1979, p. 357, 363; Guthrie, 1962/1999a, p. 290-300)] and actually explored by Plato in *Parmenides* through the logic of henology and the halving of the One [*Parmenides*, 139c-139e (Plato, 1989, p. 101-102)]. The One cannot even be identical to itself, because this identity would presuppose the transformation of the One into something else, hence its halving.

> Because when something becomes identical with something, it does not also become one. [139d].

This conception was also examined by the sceptic school of thought (Empiricus, 1965, p. 79-82), then by neoplatonism (Damascius, 2006, p. 59-95, R1, 5-R15, 10/W. I, 1-21; Plotin, 2005, p. 549-553, 581-589); traces of this analysis of identity mediation and, respectively, non-mediation, can also be found in Christianity in the development of Trinitarian dogmatics concerning the Divine nature and the paternal Hypostasis (Alexandrinul, 1982, p. 314, 348; Atanasie the Great, 1987, p. 168-175; Gregory of Nazianzen, 1991, p. 236, 245-261; Gregory of Nyssa, 1998, p. 381, 435; Maximus the Confessor, 1983, p. 170-178; Palamas G. S., 1977, p. 326-328; the Writings of the Apostolic Fathers, 1979, p. 342; Basil the Great, 2001, p. 87-93), but also in the writings of St.

element. Yet A ≡ A nonetheless considers A as something doubled, multiplied, in order to be able to express it as something singular and unified. If one tried to explain identity in terms of pure non-mediation in which, in fact, no synthesis of multiples would be given through which A or any other term would be given as established, one would immediately reach the conclusion that such non-mediation results in the imminent suppression of A and any other term. In other words, through such reduction, one would be faced with naught, or pure nothingness (Hegel, 1966, p. 55-57, 63-67, 72-85, 393-409).

It is not necessary to outline here the other considerations regarding the principle of non-contradiction, for instance, because it is already founded on terms that are mutually exclusive and thus already constitute elements as such. This would only imply a re-engagement with and increase in the number of difficulties one would encounter in analysing the principle of identity, where – at first sight – the evident premise of any meaningful discourse runs into its opposite from the very start.[4]

Dionysius the Areopagite (Areopagite, 1996, p. 159-160, 161, 174-175). The analytic concept of non-mediation then passes into the Rhineland mysticism which already differentiates between *Gottheit* and *Gott* (Eckhart, 2009, p. 30-32, 36), then into the speculative theology that precisely highlights the transcendence point between opposites (Cusanus, 2008b, p. 41-43, 51-56, 61-65, 185-191), and it is further reprised by German idealism in Fichte's works (Fichte, 1995, p. 123, 188-193), then by Hegel and Schelling (Schelling, 1858, p. 162; Schelling, 2007, p. 20-24). Hegel already stated in the **Preface** to the *Phenomenology of Spirit* (Hegel, 2000a, p. 39):

> In virtue, further, of the fact that subsistence on the part of what exists is self-identity or pure abstraction, it is the abstraction of itself from itself, in other words, is itself its own want of identity with itself and dissolution – its own proper inwardness and retraction into self – its process of becoming.

In fact, the entire Preface of Hegel's work could be quoted in support of this idea. These ideas would later be proved in the *Science of Logic* (Hegel, 1966, p. 397-398). Heidegger revisits this topic in his writings when he speaks about the problem of truth in terms of "original openness" and that of identity in terms of "original closeness" (Heidegger, 1957/1969, p. 23-41).

In Asian metaphysics, the principles of such a conception can be found in Taoism (Zi, 1999, p. 21-25) and, in the most radical version, in Nagarjuna's militant Buddhism (Nagarjuna, 2009, p. 39-43, v. 026-042; Nagarjuna, no year, p. 23-25, 26-28, v. 1, 3).

[4] Here we anticipate the issue of the difference between sophism and speculatism. Aristotle recognised three types of thinkers: the philosopher, the dialectitian and the sophist (Aristotel, 2007, p. 151-153, IV, 2, 1004b; Cornea, 2010, p. 57). The first was linked to the real and accepted the plurality of existences, such as the passing of the Principle in its determined occurrences. The second accepted only rational (determined) premises and conclusions, that is why he had difficulties in reaching actual knowledge and only managed to attempt knowledge. The third provided only an appearance of knowledge, because he started out from the premise of

A rigorous discourse either dominates its premises, or it is capable of explicating them, or at least of anticipating their ramifications so that it cannot be caught unawares by them in a false stance. This is the reason why Hegel opens his introduction to the Science of Logic with the pretence of a discourse starting from zero premises (Hegel, 1966, p. 49-57), not in the sense that he found himself in the position where the starting point of the discourse would completely escape him, but in the sense that the initial concepts, the truly irreducible ones, are the starting points of the discourse and are from the very beginning engaged in their own development or speculative self-differentiation (Hegel, 1966, p. 49-57). Thus, none of the primary concepts of the *initium* can be transcribed or reduced to other concepts contained in them anymore, i.e., from which these would be composed.

Starting a discourse with zero premises means bringing forth a discussion concerning the following concepts (Hegel, 1966, p. 66-67): non-mediation, mediation, non-beginning, beginning, undifferentiated, differentiated, being, nothingness, identity, alterity, absolute, determined, infinite, finite, one, multiple.[5]

omnipresent opposition in the entire existence and its principles. The sophists were, in fact, those for whom the path to speculative knowledge would be open if they had respected and carried out the premises and conclusions they had initially claimed to assume. Considering that, however, the issue of negative knowledge was not yet formulated in its own terms and that this was not even possible at the time, the only ones who could have obtained effective knowledge were the naturalists, and the only ones who were able to obtain the metaphysical knowledge closest to speculative knowledge were the dialectitians.

[5] These pairs of concepts are not categories of the intellect, although they can be found in relationship to them. The categories are pure ideal forms of the apodictically reflected psychological faculty – the intellect – while the operating reflection in these pairs also reveals a relationship with the ontological content per se of the principles invoked. Despite the Kantian difference between the objects of intuition (ontic phenomena) and objects of the intellect (ideal concepts) (Kant, 1998, p. 254-258) – where, for instance, the numerical identity of an intellectual object cannot be identical with the numerical plurality of ontic objects with similar properties that would put them in the same category and even though the repeated occurrences of the intellectual object in our psyche does also suggest such analogies, at least – we would be forced to concede that both concepts and phenomena correspond to primary, irreducible principle with common manifestation and structuring characteristics, principles that can be expressed through the conceptual pairs enumerated above. If one raised the Kantian objection that *thing-in-itself* is impossible to know, that it is something we cannot comprehend, therefore an alterity in relation to the intellect of the determined subject, a "something else" in relation to the "something" of the intellect, then one would analytically and directly postulate the very concepts through which the thing-in-itself is given in its supra-phenomenal retraction: something, something else, non-mediation, mediation, undifferentiated, differentiated, being, nothingness, identity, otherness, one, multiple. The caveat that should be respected hereafter, however, is the one of being aware of the implications of discourse regarding a supra-phenomenal horizon – for example, it can no longer be explained through the lens of formal logic.

However, before proceeding, we need to clarify a few of the possible objections that could be raised against these preliminary considerations.

0.1 Criticist objections

The Kantian objection towards any speculative unity between intuition and thought, i.e., towards speculative thinking itself, is most evident in the difference it highlights between contradictory relationships in reality compared to the one in thought. Thus, Kant identifies four types of transcendental reflection concepts (Kant, 1998, p. 254-258) – identity and diversity, concordance and discordance, interiority and exteriority, matter and form – that would regulate in general the modes of topological relations, i.e., of ultimate cognitive effectiveness, between intellect's schematism and sensibility. Thus, he examines several types of amphibolies through which transcendental appearances are created – among them, the difference between sensitive singularity and intelligible universality/generality; but the most discernible is the one he employs to refer to the difference between the opposition of ideal elements versus the opposition of real elements.

Kant argues that two forces oppose each other in the reality of being or existence, one of them suppresses the other or they mutually suppress each other and they disappear from existence (A – B = 0 is the Kantian formula), sometimes causing destruction also within the environment in which they act. Conversely, he claims, in thinking, the opposition between two concepts do not lead to their actual ontological destruction in the mind of the one who conceives them or to the destruction of the mind itself (Kant, 1998, p. 261-262). This is why Kant also rejects the ontological argument, because he considers that a Principle of absolute Totality must unify in itself the real contradiction of all objects and all real forces, a contradictory reunion that would undermine God himself through His very substance which would then be absolutely composed and absolutely self-contradicting. Consequently, Kant postulates such an Instance only as a "transcendental ideal" — *Prototypon transcendentale* (Kant, 1998, p. 444-451) — that has no other reality except, at most, a possible mass (meaning, only infinitely possible) of mutually opposed, even contradictory predicates (Kant, 1998, p. 444-451),[6] therefore a mass of possibilities.

[6] See also p. 457-458. On p. 458, after Kant had previously tried to demonstrate that any concept referring to something indeterminate always has only one determined object, he explicitly stated that **existence, thus being** (symptomatically, Kant does not distinguish between them), **is always only determined, thus possible**.

Starting with the first chapters of the *Phenomenology of Spirit*, Hegel demonstrates that not only sensibility itself is permeated by universality and generality, and that it makes no sense without an intelligible investment, but that, moreover (selective summary):

1. empirical objects themselves, even in a "resting state" are contradictory or antinomical units in themselves. Any real empirical object, being a unity of multiples, is therefore a unity in opposition; thus, a contradiction. — Such is the famous example Hegel provides in the second chapter of *Phenomenology…*, concerning the grain of salt that is, simultaneously, singular, i.e., an exclusive unit, then an indifferently differentiating universality and, at the same time, a multiple of properties. All these modes speculatively cross into one another, complete with their attributes and content. (Hegel, 2000a, p. 73 & sqq.)

2. thought is nothing more than movement and contradictory unity of opposites. Moreover, discerning contradictory empirical units (as has been shown) is only possible through the contradictory units at the intellect level, natural occurrences of the Spirit's antinomical unity.

3. the Spirit (and therefore, the intellect) does not succumb because of the intelligible implosion of the contradictions implicit in its structures (but also explicit), as it contains in itself **the absolute life of a transfigured negative** (*Aufhebung*). For the same reason, if the antinomical units of real elements contained within empirical objects do not succumb under the pressure of this internal multiplicity, it is because the same spiritual unifying principle also underlies that foundation of objects in the real realm (even though it is given in different modes than the ones of the subject's world). Consequently, in the world of the Spirit, all these oppositions and the destruction of these oppositions are real, but the world of the Spirit is stronger, because it is capable to overcome the haemorrhagic and external negative of the physical world through its own transfigured negativity.

4. in matters of morality, Hegel (Hegel, 1996, p. 115-158, §105-§141) showed that the oppositions between concepts lead to the individual's immoral, asocial or criminal behaviour.

5. conceptual oppositions and their speculative transposition in the real determine the history of humankind and the phenomenology of its Spirit.

Additionally, we could argue, against Kant (Kant, 1998, p. 444-451), that there are clear cases in which oppositions between concepts lead to the real, ontological destruction of the structures of the spirit, in the case of psychological pathologies. Those who are mentally ill or alienated exhibit precisely the ruinous, catastrophic result of the collapse of inner spiritual coherence following contradictions stemming from the blockage of unconscious significants.

0.2 Given, reduction and Nothingness

A discourse that starts from zero premises is the one seeking the very absolute passage from non-mediation to mediation; from non-beginning to beginning; from undifferentiated to differentiated; from being to nothingness, or from nothingness to being; from identity to alterity; from one to multiple. The very act of "setting out" on this endeavour or of initiating a concept is from the outset engaged in the original beginning itself, thus making the discourse about the Beginning be effectively and singularly inscribed in its very Beginning (Hegel, 1966, p. 49-59; Hegel, 2000a, p. 22-27; Schelling, 2007, p. 46-48, 141-144, 193-195), so that thought itself ends up being caught in its own reduction and in its very noetic discourse of suppressing representation and articulating the concept of its own apodicticity (Biard et al., 1981, p. 23-25; Gauthier, 1969, p. 16-17, 19; Opiela, 1983, p. 17-39; Souche-Dagues, 1986, p. 53-71). In other words, the distance between discourse and object, is erased in a non-mediated manner. The consequence of this fact can only be the aim of an initial unity between the one uttering the discourse and the ultimate object of that discourse.[7] This is why any metaphysics operating with ultimate concepts reveals itself as bearing effectiveness.

This is not a simple unfolding of ideas in a void without a real referential – as Rudolf Carnap believed (Carnap 1959). This would be, then, a direct consequence of the positivist presupposition according to which a significant content is always dependent on an empirical goal ("observational propositions"), and the logical structure is always purely formal (without problematizing the source and the effective substantiality of these syntactic forms). In other words, the entire speech is reduced to the referentiality to "something given" which is expressed in determinable, manifest, observable qualities or objects and which, as "given", is considered the fix, irreducible point of referentiality.[8] In such a perspective, one completely ignores the ontological

[7] It has been argued that the Parmenidean identity between thought and being is an existential and ethical one (Cornea, 2010, p. 46-54). Undoubtedly, the ontological identity between the subject and the object analytically leads to certain consequences for each subject. But the problem has to do more with singularizing the subject and the effective possibility of genuinely continuing to refer to the subject and object under the circumstances of such a unity without a difference, as the Eleatic School postulates.

[8] Popper's famous positivist criterion of "falsifiability" (Popper, 1973/1981, p. 111-122) is incapable of legitimating here the positivist option in any way – this, as any foundational optional, is also metaphysics, despite its anti-metaphysical methodological precautions. The incapacity is unequivocally evident in the attitude of the option itself. — Positivism demands that super-sensitive or non-empirical elements be subject to empirically verifiable rules. In other words, it denies them from the very start, before one can bring proof of what one

equivocation (not only one referring to meaning) that underlies any apprehension of what is "given", even when one speaks from a scientific perspective. This is so for the simple reason that, when one refers to "the given", one will always be surprised to learn that what one believed at a certain point to be "given" is but another occurrence of a reducible determination. Otherwise said, the problem of what is "given", as the ultimate reference of any discursivity, essentially overlaps over the problem of the discourse starting from zero premises.

Consequently, the discourse that starts from zero premises actually starts from the absolute "given". But this absolute "given" can only be apprehended following a phenomenological, and even ontological reduction,[9] through which everything that can be de-composed, i.e., everything that can be put under negation, (either by containing it, or by being limited by it – which ultimately proves to be the same thing) is negated by not being the authentic "given", because the

claims: that the entire Real only consists of determinable, observable, manifest objects that can be empirically measured and that super-sensitive elements do not exist. Otherwise said, the empiricist-positivist methodology consists of a banal *petitio principia* sophism: it already presupposed what would have to be priorly demonstrated, namely that empirical elements are the only ones that exist. This sophistic tactic is superficially masked, from a methodological perspective, through the arbitrary and purely circular imperative of only considering that which is empirical. — One can also observe the monistic nature of positivism. Any demonstration starts from a concept of alterity that is at least possible: "something that can be different than what is ***given***". But, positivist empiricism from the very start supports methodological, rationally scientific doubt, dogmatically and exclusivistly refusing its own alterity. (Trif H. M., 2011).

[9] The ontological reduction will not be real, namely it will be impossible for ourselves to genuinely cancel the ontological consistency (or even the ontic consistency, in another sense) of things. We are only considering the mental experiment through which such a reduction is achieved precisely based on the subject's transcendental structure that adheres to the Real, and thus to Being, through intelligible mediation. The objection concerning the difference between the content of mental processes and the effective content of elements contained in an experience cannot have any effectiveness here. First, because we do not know a type of experiment other than the mystical one, through which such an experience is given; here, laboratory instruments are just as useless as our senses whose perception they try to deepen. Second, because, essentially, the contemplative rationality coincides with the speculative one as far as the essence to which they refer is concerned. Yet there is a difference in aim: the contemplative one refers to the unmediated living of the essence, while the speculative one, to the intelligible reflection of the essence. — (Cusanus, 2008a, p. 85-113, 213-241; Eckhart, 2004, p. 106-110; Hegel, 1966, p. 57-60; König, 1999; Maximus the Confessor, 1999, p. 169, 212-213, I, 8-9, II, 2-5; **Phaidon**, 79d, Plato, 1983, p. 84; **The Republic**, 479a-513e, Plato, 1986, p. 274-312; **Parmenides**, 132a-134d, Plato, 1989, p. 90-95; **Philebos**, 58d, Plato, 1993, p. 83; Plotin, 2003, p. 143-147, I.III (20). [3.]-[6.]; Thomas Aquinas, 2016, p. 66-79, 335-342; Underhill, 1930/1995, p. 49-54, 166-206).

"given" cannot be only a result. The "given" is simultaneously its own premise and its own result, because nothing is given beyond itself but its very self, since it cannot be obtained from something else. In other words, the "given" can no longer be negated because any attempt to negate it leads to itself as well; moreover, it actually *presupposes* it. This means that the "given" and the absolute negation of reduction coincide.

The absolute negation concretely leads to the concept of nothingness or void that apparently represents the touchstone of any authentic metaphysical thinking.

We have not reached these conclusions accidentally. They have become evident not only due to the fact that this concept represents a bone of contention where any materialist-positivist conception has previously faltered (Carnap, 1959, p. 69-73) (with drastic consequences for this thinking), but also in light of the previous consideration, where we have shown the incidence of total negation when we consider an absolute ontological and phenomenological reduction through which the "given", on the one hand, coincides with the negation; on the other hand, the clearly rational and apodictic result of such an absolute reduction can only be the absolute suppression of everything and anything – i.e., nothingness.

One possible objection against this type of endeavour is the one according to which, when one achieves not only the phenomenological, but also the ontological reduction of any determination, one ends up abstractly possessing ***two fundamental elements*** (Octavian, 2003, p. 16-17): *what it is*, i.e., that "quantum" of ontological positivity or presence or "substance" or singularity or "fullness" that represents the fundamental aim or goal of both intuition and noetic intentionality; respectively, *what it is not*, i.e. that meontological gap (Cornea, 2010, p. 19-20) that in fact absolutely and exclusively separates this determined and singular "quantum" from everything it is not, including from the point of view of the ontological rift between the determined occurrence of the "quantum" in relation to any possible, actual, material or ideal principle that would preordain or dominate its actualization.

Yet, by retaining <u>*only one element*</u> – the ***nothingness, gap, rift, absence, negation*** – one would commit a tacit and unjustified elimination of the other element – the ***being, presence, unity, affirmation*** – that can prove to be not only equally important, but, in truth, even more important than that of the gap, rift, absence, negation and nothingness.[10] However, the problem lies in the fact that

[10] As can be seen, since here we are somewhat referring to principles in their irreducible ontological foundation, our position is that all these concepts immediately susceptible of homonymy ("gap", "rift", "absence", "negation", "void", "nothingness") overlap in the same concept and both retain and manifest here the same primary and fundamental referent: that of the simultaneous ontological void, suppression, suspension, collapse or destruction, although to suppress, suspend, collapse, destroy or void are verbs with an abundant plurality

one would set out from a model of thinking based on *representation*. And, if one is not careful, one would run the risk of not being able to escape a type of thinking based on *representation*.

The *representation* is that type of dianoetic activity consisting of determined and discourse images unfolding against a universe of "given" discourse apparently and unconsciously, therefore uncritically, assumed; this results in a confusion between the appearance of things and their essence, as well as in the proliferation of the formal separation between subject and object (Forster, 1989, p. 4-7, 117-147; Franks, 2008, p. 53-57, 59-62, 69-73; Hegel, 2000b, p. 311-362). Upon reaching this point, which needs to be irreducible and provide the certainty of the fact that one has escaped representation and that the authentic conceptual endeavour can be anchored, one also has the legitimacy of speaking about the non-mediation of the "quantum" of presence or being, more precisely, about its actuality principle. Until this point, the "quantum" itself must be reduced or deconstructed. And this deconstructive endeavour is, actually, the very metaphysical discourse, respectively, the very "advance" or, if one wishes, the "return" to the *initium* point: the absolute Beginning, from zero premises. This means reaching the point in which representation dies and the life of the concept begins. Here, the Hegelian statement that Being and Nothingness prove to be identical reveals its whole truth and, simultaneously, its entire homonymy (Schelling, 2007, p. 194-197). It is only from this point forward that one has the possibility of authentically discussing about Being. Until this point, one would have to "mourn Being",[11] namely "advance" in the potentially lethal (but palingenetic) territory of noetic nothingness.[12]

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of contextualisations. Any context implies an occurrence. Yet, the metaphysical discourse does not refer to an abstract unity or unilaterality, but to the ***condition of total possibility*** of any occurrence, which means that the meanings of these verbs become here absolutely synonymous in all their occurrences, based on a super-foundation or super-occurrence that dominates and enables referential multiplicity even in the ***different modes*** of actualization of this principle of Negation in "abstract" metaphysics itself. Because, as we can see, Nothingness too, or the meontological principle "is given in several ways" in its very principle of possibility which, however, absolutely transcendently unifies them.

[11] The psychoanalytical condition of any transfer (inner release) is being released not only from the object relation, but also from the *habitus* of phallic jouissance. This is why the "mourning" of the object of this jouissance must also be assumed.

[12] This noetic nothingness is not only intentionally and significantly, but also ontologically different from the nothingness of representation – the latter being a genuine discussion about insignificant things, namely small talk – The mystical explication concerning noetic nothingness ("preserving the mind in hell") is impeccably done in the soteriology of the Pious Silouan the Athonite (Silouan the Athonite, 1991/2001, p. 81-84).

In the same key, our endeavour can no longer be a properly phenomenological one.[13] Phenomenology starts from a derived study in which one considers the result to be already "given" in what counts as unmediated, sensitive presence (empirical too, but not essentially empirical): the ontic manifest as such, the *phenomenon*. This direction cannot be directly and unequivocally followed by a philosophy that aims for effectiveness and wishes to clarify its guiding principles.[14] The results of the phenomenology initiated by the Husserlian tradition are notable and impressive (especially through their pairing with the results of Lacanian psychoanalysis), yet they have a markedly subjectivist topic in their transcendental foundation, that is why the revelation of irreducibility and, therefore, the ultimate orientation of conception is much more difficult and ambiguous.[15] Moreover, our present endeavour is engaged in an anabatic research of the Principle, while phenomenology is concerned with a catabatic research of the Principle's actualization in individualities (Ciomoș, 2008, p. 14).

The premise we assume in the present study can be called "Parmenidean" if we wish to emphasise the unity between thinking and being it postulates from the very beginning. But the premises of Eleatic ancient philosophy are not postulated here unmediated, because genuine unity, as we will demonstrate, is transcedent, thus eschatologically divided or negated, rather than immediate and intuitively-phenomenologically pure, as in Parmenides. In contemporary thinking, this agreement or this overlapping between thinking and being is no longer given in a non-mediated,

[13] We are referring here to the tradition initiated by Franz Brentano (Brentano, 1862/2003) and whose intelligible architecture was so profoundly marked by Edmund Husserl (Husserl, 1994a; Husserl, 1994b; Husserl, 2006; Rollinger, 1999). This was later transformed by Martin Heidegger (Heidegger, 1984/1994; Heidegger, 1986/2003), after having been inaugurated by René Descartes and problematized by Immanuel Kant.

The last Heidegger was able to demonstrate the limits of the original concept of "given", but unfortunately he did not carry through the consequences of this analysis. That is why his position was unfair to Hegel, as Hegel's philosophy appeared to Heidegger as very distorted when it was not a paradoxical and unexpected reprisal *à rebours* of some Hegelian results, considering that Hegel's *Phenomenology* actually touches upon and investigates the irreducible point of philosophical Beginning. One of the reasons why we subscribe to Hegel's position is that Hegel started out from a fundamentally sceptical conception in which the ***negative*** was considered in its essence together with the relations it implies and it is then taken to its ultimate consequences.

[14] Hegel drew attention to this circular request; before setting out to complete the endeavour of the *Phenomenology of Spirit*, he wanted to clarify both the sense of his vision and a few of the fundamental concepts with which he would speculatively engage in the **Preface** and **Introduction** to his work.

[15] The analytical "phenomenology" conceptualised by Bertrand Russell (Russell, 1912/2004) is only one of the superficial detours that phenomenological thinking can take.

but only in a mediated way, i.e., through the negative.[16] This already implies investigating the issue of the negative and its real;[17] it is only afterwards that the endeavour of ontological metaphysics can start. Therefore, what is the negative and what is it like?

1.0 The Real and the homonymy of Absence. The Eleatic objection

The problem of the meontology from the historical *initium* of metaphysical thinking itself ecumenically confronts us with serious objections that appear insurmountable.[18] From the start, the Eleates recuse any referential possibility to Nothingness: indeed, as it initially appears, Nothingness means the absolute lack or absence of anything; therefore, how could "this" enter the discourse in any way? ("Parmenides. Fragments", 5, 25-30, Simpl., *Phys.*, 116, 25; 117, 2 (after B 2), fr. 8, I and following., Parmenides, 1998, p. 121-123). How can anything that cannot be a referent become a referent? How can anything that is completely absent become the object of a discourse? Adi Śankarāchārya, alongside the Vedanta tradition and the vast majority of Āstika orientations, essentially argues the same thing (Śankarāchārya, 2001, p. 97, 100, 123, 156-157, XVI: 15, 31-32, XVII: 69, XVIII: 144-148). However, through its unilateral insistence of the absolute transcendence of Brahman-Ātman, Śankarāchārya's doctrine often seems to lead, more or less consciously or intentionally, to a meontological postulation of this transcendence.

More recently, even a relativist-monistic metaphysical orientation such as empiricist-positivism rejects any possible referentiality to Nothingness (and, evidently, to metaphysics). Although, in the case of positivism, its fundamental premise is not ontological, but ontic, it claims to recuse any logical entity that cannot justify its content through being founded on the "quantum" of being or of determined presence of the sensitive world (Carnap, 1959, p. 71).

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[16] This result appeared in the circumstances of the spirit established by the Judeo-Christian revolution through which the very essence of the phenomenon and determination is raised to the status of absolute foundation. — See, in this respect our article in which we have tried to briefly outline this idea (Trif H. , 2014).

[17] By anticipating, we can mention here the shortcircuit that thinking presupposes when it actually detects the Real that supports and surrounds it and that also contains in itself the Unreal – as it is shown by the paradoxes and antinomies encoutered in foundational thinking. This position is described in the following statement:

> Whatever the nature of an object might be, first of all the object must exist. (Octavian, 2003, p. 15)

[18] In his book, Andrei Cornea made an ample demonstration of the way in which the various Greek schools of thought related to the issue of Unbeing and of their collective types of attitudes regarding Nothingness. The attitudes concerning the Unbeing in Greek philosophy apparently amount to three (p. 19-26): ontological, anti-meontological and meontological.

First, one must distinguish between "secondary unbeing" and absolute Unbeing. A "secondary unbeing" is nothing more than the absence of one or several determined elements or beings – it is, therefore, a determined absence that keeps the horizon of appearance open; in other words, one speaks about a potential unbeing. On the other hand, in the case of absolute Unbeing, the absence of anything and everything is preeminent. We will discuss below the relationship between these two types of nothingness and we will demonstrate that "secondary unbeing" is essentially reducible to absolute Unbeing.

Thus, the absolute Unbeing or Nothingness is what needs to be considered here. — When metaphysical thinking was applied to concepts implying a superlative level of abstraction and indicating as referents elements that cannot actually be found in reality (unless, at most, as remote similitudes or analogies with those in the sensitive reality), this kind of thinking was immediately accused of the impropriety of *hypostatisation*, i.e., of the sin of *representation* that tries to transform its object into something substantial which exists on its own, with a positive and effectively ontological content, although it is nothing more than a subjective psychological projection of an image later on expressed through empty language games that disregard a series of grammar syntax and formal logic rules. Objections of this kind are no exception in the issue of Nothingness or Unbeing. (Carnap, 1959, p. 71).

We are told that Nothingness does not exist and thus, it cannot be introduced into language and representation as an entity. It is pure void, pure un-assignable non-intuitive absence; a mere non-existence about which one can say absolutely nothing, since it is in no way part of the order to discernible phenomena or even of concepts that could claim even an imaginary referent. By definition, Nothingness is the absolute non-referent. Most people have nothing to say about it or think absolutely nothing of it and pay no attention to it. At best, when it is included in language as an adverb, it is only used to indicate a neutral and absolutely negligible absence of something determined and it is accompanied para- or infra-intuitively by an equally indifferent or perplexed shrug.

If one pays closer attention to this matter, however, it does not seem quite so trivial. The question that arises in this case is simple: if we claim that a certain object does not exist, ***then is this absence real or not***?[19] If one should tell

[19] The first antecedent of these consideration in European philosophy can be found in the Greek sophists, respectively Gorgias (Cornea, 2010, p. 60-61; Guthrie, 1969/1999b, p. 161). The old sophist was the first to argue that, inasmuch as the non-existent is non-existent, it is given as non-existent, therefore it exists as non-existent. But Gorgias's meaning is still determinative, because it emphasises the concept of **existence** which he differentiates from the concept of **non-existence**, thus the concept of **non-existent** seems to be ascribed to determined, i.e.,

us that here we fall once more into the error of hypostatisation, we would reply, in all seriousness, that there is nothing hypostasising in considering that the lack or absence of something presents itself with non-sensible evidence as being something very *real*, but *very much outside reality*. (Hegel, 1966, p. 83-84).

If we were to reduce everything to reality as such as would argue that this reality alone is the sensitive, perceptual and manifest horizon of the phenomenally determined world, one would no longer be able to understand how the distinction among things, or their absence, can be possible. The unreal nature of absence itself would mean the omnipresence of everything. Because this absence is not only the space emptied of the presence of that which has disappeared, but also the unmediated and un-assignable rift between existing things in themselves or between existing and future or past things, as well as the ontologically un-assignable place of falsity and error.[20] In order to pass from one thing to another, one would need a caesura, an absolute discontinuity at the limit between the two. If one tried to argue that this caesura is not absolute, but relative, one would have to reply that relative discontinuity would imply that things would not have a decisive ontological border and they would continuously, absolutely and undistinctively pass from one to the other – i.e., they would have already done so. In simpler terms, one would not be able to delimitate one thing from another, to tell one thing apart from another, because the difference would be non-existent. A relative border would be a pure appearance, and appearances are impossible in an absolutely homogenous ontological horizon, namely where the difference presupposed by appearance or illusion itself is impossible. Attempting a determined difference ("an illusion, an appearance") in a purely homogenous discourse already presupposes the difference, thus its non-homogeneity; inside or towards whatever point we might move, one already notes

potential absence. But here too it is quite evident that the very determined absence of a thing must be real, otherwise the thing would be present. Moreover, however, Gorgias does not respect his own speculative conclusion which he formulated only to completely undermine any meaning of being and existence and to prove that nothing would exist in a real and effective way, as he himself admits… the "absurdity" of claiming that what is non-existent "should both exist and not exist at the same time" — When it suits him, depending on what he subjectively envisaged, the sophist is content with "respecting" the law of non-contradiction, although his basic thesis is that there is no criterion (Guthrie, 1969/1999b, p. 159-160), and thus no principle of non-contradiction. This is why the solution that should have been evident (the speculative one) is immediately rejected (Guthrie, 1969/1999b, p. 160-161). — Ultimately, sophists do not respect their own premises and results, namely they do not take their own thoughts seriously.

[20] As Plato demonstrates in **The Sophist**, **236b-241e**, where he shows that non-being exists (Plato, 1989, p. 339-347).

that the point could be identified because it has separated, it has differentiated itself from the background. In other words, in order to have a determined difference, this cannot be substantiated unless it is the prior condition of an undetermined or absolute Difference.

— From here derives the sophistic, self-contradictory ambiguity of positivism or materialism: on the one hand, it claims that world and things are determined or determinable and measurable, so that there are differences and ontological caesuras among them. On the other, it claims that the ontological differences that help distinguish among things by marking their boundaries are not real, are not irreducible in the essence that underpins them. Therefore, no transcendence would be given, because only determined ontic differences, not an absolute ontological Difference as well, would exist. Yet, in order to have "only determined differences", the things for which these differences would be given and the discursive universe in which they are supposed to operate, ***all things should be a priori absolutely determined. i.e., differentiated***. —

The uneffectiveness of absence that only Nothingness or Void could bestow would mean the absolute pantopia of Being, as the entire existence would be merged into and pervaded by Being, and the multiple could no longer even be an illusion. Because illusion itself would be impossible,[21] since any difference is absolutely absent, and illusion is nothing more than precisely *a real and irreducible difference, i.e., between fact and appearance*.

As can be also seen above, our noetic discourse was deconstructive from the very start and we have precisely indicated the need to overcome the state of representation through the sceptical stance. Therefore, the revelation of the meontologically terminus point, Nothingness, could be achieved precisely so as to eliminate hypostatisation, i.e., *representation*, from our reference system. Thus, this terminus point in which we find a form of "concreteness" or "substantiality" in the very final point of the horizon or possibility and actuality of deconstructing representation, no longer falls under *representation*. This does not occur because we proclaim it, but due to the coincidence between the nullifying action of

[21] This consequence absolutely annuls the entire Hindu scenario of how the determined world appeared in relation to Brahman through a pretended game of illusion, i.e., through the ontological accident of error or through the veil of universal ignorance, Māyā. No duality or difference could ever be obtained, under any form (forms are impossible "there") from the pure and absolute self-transparency of the acausal and a-causing Principle of absolute non-division.

deconstruction and its principle of possibility/actuality. If this coincidence would not occur, then we might be rightfully accused of representation or hypostatisation.[22]

Moreover, without the reality of difference, thinking itself would be impossible. Parmenides, Lycophron and Antisthenes had already noted that any pairing between subject and predicate in a judgment led to the alteration of the "unmediated" identity presupposed by the concept of these terms. (Blaga, 1998, p. 40-41; Vlăduțescu, 1994, p. 132-135). The one of the subject is united in judgment with the multiple of the predicate. If the difference is not given, then the alterity between concepts, respectively between subject and predicate, should not be either. Thus judgment should not be possible alongside its copula, "is", which, as point of establishment and simultaneous passing of determinations, represents the schematic image of the unity and ontological difference among multiples. At any rate, Lycophron wanted to eliminate it in order to eradicate the antinomy of judgment (Vlăduțescu, 1994, p. 132-135), as Aristotle too points out by quoting Lycophron's fragments (Lykophron) (in *Phys.* I (A.) 2. 185 b 25, Banu, 1984, p. 525).

On the other hand, if we see with our own eyes and perceive with our own senses and think with our own minds the entire multiple of the world in which movement is real, in which destruction, change, transformation, suffering, birth, death, growth, decrease are evident realities, it becomes evident that all these distinctions cannot be given in the absence of the very reality of Unbeing. And if one were to repeat the objection that all these distinctions are merely the product of ignorance and illusion, the objection would turn against itself: how can ignorance and illusion exist where pure and absolute self-transparency, and unerring truth are given as counterparts?

If one is to examine scientifically the world of elementary microparticles, one observes a myriad of distinctions, namely differences. Even if one considers subatomic elements that are capable of physical ubiquity or, simultaneously, of a double nature — undulating and corpuscular —, these elements are nonetheless marked by delimitations in their most evident aspects, thus: the photon is not an electron, the electron is neither a proton nor a positron, the quark is not a lepton, the up quark is different from the down quark, the charm quark is different from

[22] This is the error that Russell's logic fell into when he transformed the *intension* of concepts in *extensional elements*, which resulted in the elimination of the difference between the signifier and the signified (or, in Frege's terms, between sign and concept). This is because Russell only conceives the consideration of a logical object under the guise of objectification, which is why he solves philosophical problems at the level of syntactic amphibolies of formal logic. (Russell, 1947, p. 857-861).

the strange quark, the top quark is different from the bottom quark[23] etc. — At any rate, the opinion according to which science, within science, using the experimental and theoretical tools of science, would be able to find an absolute foundation, an ultimate level of reality in which differences would be erased or overlapped absolutely, is but the product of a transcendental illusion that confounds the objects of knowledge registries. Any object that is detectable or comprehensible through formal and natural, i.e., circumscribed and determined, cognitive registers will be a natural and formal, i.e., determined object. All that measuring instruments or formal intellect are capable of discerning represents, by definition, determined elements, ontically disjunct from the field of their perception and from the real or possible multiplicity that frames them or relates them one way or another. It is impossible to discern something informal and supernatural with the help of the natural and formal cognitive apparatus unless that element is already given as naturally differentiated, namely, phenomenally manifest – hence, formed as a result of an ontic differentiation and, then, of a phenomenologically fundamental one.

Thus, not only the distinction, but also the unity among things would also be suppressed. Because in a supposed unity lacking any sort of division, the only real subsisting element would be that of absolutely unmediated singularity. Yet, absolute singularity absolutely unmediated means precisely pure isolation and thus, reduction to Nothingness, as Hegel observed through speculative implication (Hegel, 2000a, p. 63-71). If a certain form of multiple would be given in such a singularity through *reductio ad absurdum*, every element or moment in the multiple would be immersed in absolutely inter-elementary isolation, in pure heterogeneity, in the equally unmediated ways in which it would suppress itself (Hegel, 2000a, p. 63-71). — In other words, the unreality of Unbeing (or the absolute absence of absolute absence) would lead precisely to the absolute suppression of any subsistence, thus to the collapse of the ontological horizon in the Nothingness which it would aim to avoid.

[23] The changes between the elementary states of microparticles (for instance, the division of a neutron outside the atomic nucleus into a proton, electron or antineutrino electron, or when an electron decreases to a lower level of energy and emits a photon) can have results through which some microparticles might change their nature by undergoing changes in mass, electrical charge, etc. However, the difference between then, as long as it is maintained, remains real and their interactions and behaviour differ according to state. The fact that those particular changes do not occur in any conditions is a further argument in favour of the reality of difference that separates them and, last but not least, unites them. The claim that only the illusion of difference would underpin such a diversity of states, properties and interactions is contradicted by the nature and exemplary effectiveness, therefore by the **reality** of this "illusion" itself.

Only the reality of Nothingness (in terms of a subject's intentionality, only assuming it) provides the possibility of achieving the genuine transcendence of the true unity of Being, as one will see below.

Finally, in order to glimpse the apodicticity of the Nothingness concept, we will have to briefly undertake a mental experiment concerning the evolution of the phenomenological and ontological reduction of multiplicity and determinations.

1.1 The transcendental appearance of ontological relativism

We have argued above that, for rigorous thinking, an exhaustion of the determining reduction can only lead to the annulment of any "quantic" presence and to the pure suppression of the entire existence in Nothingness. In other words, only Nothingness can reveal itself as a foundation in a reduction that starts from determination and representation, if its result is rigorously pursued.

Any determined element is marked by ontological negation both externally and in its interiority. Externally, it is clear that it is different from other things. Internally, its external limit also marks the properties of its content that can only be a few, rather than an infinity (since it is exclusively marked externally) and that can have a limited subsistence (for the same reasons). For, once a thing is marked by an external boundary, distinguishing it from other things would be included, at least implicitly, in the definition of its own content.[24]

Negation means privation or absence.[25] As such, any determination of a thing will mirror not only a positive content element in that thing, but also an absence, an ontological gap. That is why, the truth long affirmed by idealism and many religious traditions is reconfirmed here too: any determined or limited thing

[24] We can argue that the intelligible definition is the one which, after deciding on the defining properties of an object, will represent its essence and therefore, its external circumscribing. But these considerations fall outside the scope of the present work.

[25] This concept is already present in the works of the Holy Fathers of the Christian Church where they speak about the Divine Being – *see*, for instance, **His among Saints, Our Father, Maximus the Confessor. The Two Hundred Counts of Knowledge of God and the Iconomy of the Son of God** I, 1.-10. (Maximus the Confessor, 1999, p. 166-170) and Saint John of Damascus (Saint John of Damascus, 2004, p. 10-12, 14-15). But the one who imposed this concept in metaphysics is Benedict Spinoza in his famous **Letter 50. Spinoza to Jelles 2 June 1674 (To the most worthy and judicious Jarig Jelles, from B.d.S.)** (Spinoza, 2002, p. 892). *In the same sense did* Yithzak Y. Melamed and Hegel (Hegel, 1966, p. 95, 529; Melamed, 2012, p. 175-176). This idea is also implicitly expressed in *Etics*, **Definition 6. Explanation** (Spinoza, 1957, p. 40; Spinoza, 2002, p. 217).

is mortal and, thus, deconstructible or reducible[26] (be it ideally, or ideally and really). This being the case, the entire determined reality that can be perceived by our human thoughts and senses is eliminated in a phenomenological or ontological reduction endeavour, because the legitimate aim of this endeavour is the understanding of the origin and totality of things.

Reduction, regardless of whether it is achieved progressively, on levels, or is achieved exhaustively and without mediation,[27] will have the same result:

[26] We anticipate here the problem of determined being who, although deconstructible, is not, however, mortal. Theology and metaphysics would quickly point out the species of actually determined infinite that does have a beginning but does not have an end. This is true. But this absence of an end limit does not imply the absolute of the determined infinite which is specifically circumscribed, that is why it could never achieve an immutable, irreducible unity of Being, especially considering that the genus of determined infinite also includes the potential infinite, the opposite of the actually determined one. Moreover, ultimately, for human beings, despite their circumscription, the horizon of immutability is open, just as the participating horizon of the Increate is open for creatures, as the Christian tradition postulates.

[27] The reduction method is mathematically analogous as early as Archimedes and Euclid, who observed the possibility of translating certain geometric values into other geometric values through the ***method of exhaustion*** (decomposing and simplifying an irregular geometric shape or one with an unknown surface into simple smaller polynomials which could be used to introduce the respective figure in an already known or accessible calculus formula). We mention this method here because it presents a significant analogy with the speculative method of reducing concepts to their essence. This latter method aims precisely at detailing the content of a concept or of a representation through which one would simultaneously observe the opposing or diverse aspects of the content of the respective representation or concept. This is when the unity of the noetic object is achieved and exhausted, therefore, it becomes open towards its own actual infinity. — This is the understanding of exhaustive reduction from an ontological perspective. The determinations are analysed and thus reduced to their basic components to the point where these components can no longer be reduced, because reducing them would mean presupposing them. This result would directly lead to an efficient comprehension of the ontological horizon: one can theorize the actual infinite or totality. — Certainly, there are also differences between the two approaches, the metaphysical and the mathematical one. Mathematics operates with formally finite determined objects. Metaphysics operates not only with ideal objects, but also with objects that are open in the infinite or undetermination horizon. The method of mathematical exhaustion leads to an always partial division of the irregular figure, because there is always some small part that cannot be divided but that, on account of its size, is negligible. On the other hand, metaphysics can afford to generalise concepts precisely because the ideal exhaustion does not require to conform with sensibility when it comes to abstracting and “shortcircuiting” or instantaneously achieving the intended multiplicity.

Nothingness or Unbeing. However, the progressive reduction can claim the illusion that it could delay its meontological terminus point, because it would apparently be endless in the perpetual, infinite regression of levels on the infinite ladder of Being.

This type of objection is in solidarity with ontological models that try to avoid postulating any form of ontological Totality or metaphysical Absolute in order to theorise the essence of the world under the concept of an irreducible relativism. The cosmological postulates of the "eternal world", "the eternity of world becoming", the causality that determines an infinity of elements and ontological levels, or that of a circular (Priest, 2002/2007, p. 62), therefore infinite recurrence of the ontological foundation of a series of determined elements – all these images or representations of the… "absolute" ontic relativism (we can already discern also the ontological oxymoron, not just the linguistic one), regardless of whether they were conceived in the old mythologies or in the hypotheses of modern scientific cosmology, take exception to any form of ontological Difference, namely of absolute reduction; implicitly, to any form of transcendence and absolute and transcendent ontological unity. But this type of system is impossible because, in its infinitely determined recurrence, it cannot be autonomous, self-sufficient.

Andrei Cornea, analysing the method of exhaustion in his volume (Cornea, 2010, p. 50), subsumes this method to proofs in favour of a potential nothingness in which the reductio ad absurdum provided by Zenon the Eleate to reject the beginning of determinate beings could be blocked. The same source also evokes Aristotle's method for dealing with the issue of infinite divisibility: Aristotle claimed that, since there is a difference between the infinite divisibility as possibility, respectively as effective act, one should not recourse to it in order to annul the effectiveness of determined existence, because we will never be able to overcome a certain limit of division and could never experience *realiter* the infinity of divisions. Yet, this problem is misconceived: the effectiveness of an element cannot be (not wholly, at any rate) dependent on the capacities of a subject or on the contextual circumstance in which it is discussed; it must be judged under **its own conditions of possibility**. In this sense, any division or identification of parts is impossible in the absence of the **absolute horizon of division** that must be present, real and open so that any determined division could take place – otherwise, the same thing goes for the opposite endeavour, that of unifying or synthetically exhausting a multiple, a visionary formulation that underpins the foundation of the ontological argument. Contrary to this, the determined division falls into the impossibility of its own actualization, because it has a infinite number of steps to go through to reach its very first actualization point. Therefore, the Eleatic argument returns in full force, but it moves in the opposite direction with the Eleates' final intention: if they wanted to establish the unreality of nothingness in behalf of an absolutely simple and continuous being, on the contrary, the hereby argument favors the exhaustion of infinite division, because its result – ***nothingness*** – will emerge with a modified fundamental status.

Certainly, from a logical standpoint, this impossibility has already been proven by Kurt Gödel when he demonstrated Russell's impossibility of making a hierarchy of predicative types (Gödel, 1986). However, since here we discuss the possibility or impossibility of an ontological, not simply an ideal, order, we will briefly outline the arguments against this postulate in a different manner – in a onto-logical expose with the help of natural language.

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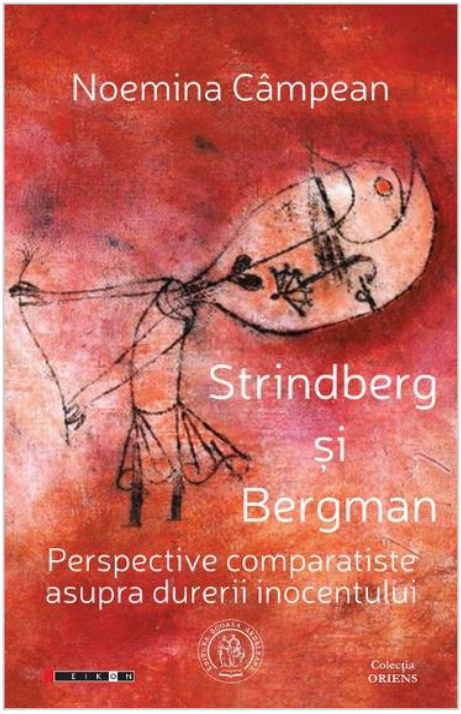
Book Review:

Noemina Câmpean, Strin*dberg și Bergman. Perspective comparatiste asupra durerii inocentului,* Éd. Eikon & Éd. Școala Ardeleană, Cluj-Napoca, 2018, Collection Oriens, 496 p.



Dépassant *ab initio* le caractère plus ou moins descriptif des nombreuses études d'esthétique du théâtre et/ ou du film, l'ouvrage d'Alexandra Noemina Câmpean *Strindberg și Bergman. Perspective comparatiste asupra durerii inocentului (Strindberg et Bergman. Perspectives comparatistes sur la douleur de l'innocent)* nous offre une démarche exégétique d'exception en développant, sur le parcours, une triple performance esquissée déjà dès le titre: un comparatisme esthétique dans la proximité de l'angle psychanalytique qui atteint, parfois, le seuil synesthésique entre la création protéique de Strindberg et le polymorphisme artistique de Bergman (centré sur les mémoires, la théâtrologie et la cinématographie); la structuration de cette relation à travers le «thème de l'enfant innocent» amplifié comme «un pont de liaison entre la tragédie grecque et le drame moderne»; troisièmement, la circonscription interdisciplinaire de l'échafaudage religieux, en espèce le luthéranisme, mais aussi de celui proprement dit artistique, lié à la spécificité de l'avant-gardisme nordique et, par extrapolation, de celui européen, surtout de la première moitié du XX^{e} siècle. Intriquées jusqu'à l'osmose, les trois perspectives confèrent à l'ouvrage une structure rhizomatique et surtout de la profondeur interprétative, tout cela étant géré par une triade méthodologique correspondante, respectivement un *comparatisme* multiplement étagé, l'analyse prioritairement *psychanalytique* et l'examen *imagologique* de

l'intégrale cinématographique et théâtrologique laissée à la postérité par Bergman. La résultante de cette démarche structurée en quatre parties défalquées en chapitres et sous-chapitres est une méditation arborescente personnelle sur le tragique moderne, ayant son point de départ dans l'assomption naturelle de la conception de Johannes Volkelt, selon laquelle le destin est immanent à l'être humain. Or, le thème de la «douleur de l'innocent», obsessive chez le «duplexe» Strindberg/ Bergman, ne fait pas qu'accompagner ou exemplifier, mais est une partie intégrante du caractère processuel du tragique dans une analyse qui arrive jusqu'au niveau des capillaires et cela dès la *Première partie. Cadre général* – en fait une «mise en abîme» de tout le livre qui a environ 500 pages, avec une *Bibliographie* qui compte plus de 500 références, des Antiques à Jean Marie Domenach, Paul Ricœur (avec sa célèbre étude sur la culpabilité) ou Szondi, dans un conclave philosophique sui-generis où l'on convoque aussi S. Freud, M. Heidegger et J. Lacan. Voici un tel échantillon prémonitoire et concluant pour la capacité analytique et synthétique de l'auteure: «Strindberg représente pour Bergman le maître imaginaire, le père qui n'a pas pu être tué, une figure fantomatique similaire au père mort de Hamlet qui s'actualise à l'infini avec chaque création (qu'elle soit journal ou scénario de film) (…) et qu'il comprend par l'intermédiaire d'un langage authentique de l'intérieur de la chair. (…) Il est vrai, seulement les créations littéraires de Bergman (et nous nous référons ici à ses premières pièces de théâtre, pas aux scénarios de film) *copient*, *empruntent* et *éditent* le modèle strindbergien – ses films le *filtrent* et l'essentialisent»[1]. C'est toujours ici, dans la première partie, que nous trouvons l'armature de la construction exégétique par l'énonciation et, implicitement, le résumé des quatre sections constitutives.

Le *Cadre général* fixe donc l'arrière-plan générique du tragique de l'angle des «hypostases de la douleur» représentées dans l'univers fictionnel, prioritairement dans le théâtre et dans le septième art. «La douleur innocente» est sélectée – un avatar du tragique en tant que «catégorie onto-poétique», circonscrite dans une démarche nuancée et dense dans laquelle les deux créateurs suédois sont radiographiés à travers «la plaie ouverte de l'absence de Dieu», ce qui permet la mise en relation des personnages de ceux-ci avec les héros du roman moderne de Dostoïevski à Malraux. D'ailleurs, «les mutations modernes du tragique», comme s'intitule un chapitre de cette première section, sont accompagnées d'une multitude de références avec les commentaires afférents, configurant une autre thèse sui-generis possible – de sous-sol cette fois-ci – mais liée organiquement au texte proprement dit. Une autre ouverture, plus technique cette fois-ci, dans le chapitre *La Théâtralité du théâtre et*

[1] Noemina Câmpean, *Strindberg și Bergman. Perspective comparatiste asupra durerii inocentului,* Éd. Eikon & Éd. Școala Ardeleană, Cluj-Napoca, 2018, Collection Oriens, pp. 90, 91 & 92.

la théâtralisation de l'image cinématographique, apporte au premier plan – et nous avons retenu un seul exemple – la spécificité de travail de cinéaste de Bergman à partir du concept de «cinématographe de chambre» d'après le modèle de la «pièce de chambre» élaboré par Strindberg dans l'idée d'annuler les frontières entre le théâtre et le cinéma. De même, dans *Le Cinématographe – une réflexion spectrale du monde en miniature* retient par exemple l'attention la possible influence pirandellienne sur le cinéaste Bergman: pour Alexander, le petit Bergman de *Fanny och Alexander* (1982), «la caméra est la prothèse imaginaire de son être, son œil du cerveau, autrement dit, c'est la cellule indispensable qui acquiesce le mouvement, l'anime dans une apothéose de la représentation»[2]. Dans ce contexte, la lanterne magique du mémorialiste et du cinéaste Bergman est destinée, en tant que précurseur de la caméra, à ensorceler le spectateur et à le jeter dans le monde de l'enfance qui se répète à l'infini dans la maturité de l'artiste.

Mais il s'agit d'une enfance outragée, prolongée dans le souvenir indélébile de la punition du petit Ingmar par son père, le pasteur Erik Bergman, déterminant des occurrences thématiques semblables dans *Les Fraises sauvages* (1957) ou dans *Les Communiants* (1963), analysés dans la deuxième section, intitulée de manière significative *De l'extérieur à l'intérieur*. Ici, l'analyse comparée plonge *in medias res*, l'auteure encerclant «les signes néfastes de la Divinité absconse», déchiffrés dans le comportement des personnages de Strindberg de *Inferno* regardé dans le miroir avec le *film La Source* (1960). De même, la pièce du dramaturge converti au catholicisme *L'Île des morts* et l'œuvre cinématographique *À travers le miroir* amplifient et nuancent en même temps le commentaire axé sur l'obsession, commune aux deux créateurs, d'un «Dieu sans visage», aux commencements dépistables dans la pensée de Swedenborg et dans le luthéranisme. Un crise spirituelle poussée au paroxysme et surtout à la renonciation se détache de l'articulation, par une lecture participative, des trois chapitres et des sous-chapitres afférents. Ainsi, de «*La Nostalgie du paradis» et les coupables innocents,* en passant par *Deus Absconditus. L'Agressivité divine* et jusqu'à *L'Humiliation du fils, l'annihilation du père. Versions du pardon*, Noemina Câmpean se plie de manière concomitante et performante sur les deux types de texte – littéraire et cinématographique – comme le corps du nageur sur la vague, surprenant la manière dont, dans les deux univers fictionnels (Strindberg et Bergman), le portrait du père s'associe, de manière obsédante, à la divinité punitive.

Si les deux premières sections sont centrées sur la radiographie de la douleur en tant que «routine propre à l'âme», la partie suivante, la troisième – *De l'intérieur à l'extérieur* – occupe une position privilégiée dans l'ensemble de la thèse par un

[2] *Ibidem*, p. 117.

modèle d'analyse inter- et transdisciplinaire (ce dernier par l'exercice de la critique de profil psychanalytique), ayant comme objet la solitude totale, absolue, manifestée, seulement en apparence de manière paradoxale, dans la compagnie de l'Autre. Les deux chapitres, avec les sous-chapitres afférents, respectivement *Le Corps et la solitude de la douleur* et *La Face qui «se dévisage»,* offrent non seulement des commentaires minutieux dans le miroir – comme la pièce de Strindberg (*La Sonate des spectres*, 1907) et le film de chambre à forme musicale (*Sonate d'automne*, 1967) – mais, beaucoup plus, la démonstration du fait que, transfigurée dans la souffrance, «la douleur ne résiste pas sans une affluence constante avec la corporalité»[3], c'est-à-dire sans se rendre visible. Je sélecte des quelques dizaines de pages de cette section seulement deux concepts opératoires, liés entre eux et, surtout, coagulés dans une démarche, comme je viens d'affirmer, rhizomatique. Le premier, précisément *le corps-tombe*, traité dans le sous-chapitre *Le Corps-tombe au détriment de «l'inter-corporéité»*, est illustré, par exemple, par «le silence monolithique de l'autre» du roman Seul (1903), mais aussi du film Le Silence (1963), les personnages bergmaniens réitérant, dans l'opinion de l'auteure, «le désir d'Antigone de se renfermer vivante dans une tombe». On apporte, comme exemplification, le tableau de Holbein le Jeune, *Le Corps du Christ mort dans la tombe* (1520-1522), dans lequel «le corps de Jésus presque aquatique git encore vivant, bien que sur sa chair apparaissent les premiers signes de la putréfaction – ses yeux largement ouverts regardent encore, sa bouche encore entr'ouverte parle, des faits directement proportionnels à la décroissance du corps et à la configuration de la tombe vide; dans sa ressuscitation du rang des morts, Jésus porte sa tombe en signe d'éternité»[4]. Autrement dit, «l'homme tragique réinstaure son humanité à chaque chute». La convocation des Antiques (d'Eschyle et de Sophocle), de Paul Ricœur et, finalement, la relecture de Bergman et de Strindberg avec Søren Kierkeegard ou Jacques Lacan confère à l'interprétation de l'amplitude académique. Plus exactement, une interprétation qui fore le tragique sur le linéament du silence, caractérisée par (auto)réflexivité, repli sur soi et étant un manifeste du désespoir – éléments lisibles d'ailleurs dans les syntagmes des sous-chapitres: la solitude de la douleur, les paroles du silence, l'impossibilité de mourir ou la vacuité de l'espace.

Le deuxième concept important de la troisième partie, *la face qui se «dévisage»*, lié organiquement au corps-tombe, fructifie les observations de Gilles Deleuze, mais aussi le regard artificiel de la lentille de Dziga Vertov. Tout le chapitre s'avère, encore une fois, significatif pour la capacité analytique et comparatiste de l'auteure, axée

[3] *Ibidem*, p. 263.
[4] *Ibidem*, p. 292.

maintenant sur la poïésis cinématographique moderne à partir de la question «si l'on peut discuter d'un premier-plan du visage dans les films de Bergman (le visage joint à son affect) ou bien d'un gros-plan seulement (le visage sans affect)?»[5]. Examinant, par exemple, le film *Persona* (1966), considéré comme «une ontologie propre à la cinématographie» et comme «une agonie personnelle» de l'artiste, nous notons que les personnages restent suspendus «entre deux morts» (J. Lacan) ou dans «une immortalité de la mort» (J. Starobinski), de sorte que ceux-ci, devenus souvent des masques (comme dans *Mort à Venise* de Visconti) réitèrent «la fermeture d'Antigone vivante dans une tombe, c'est-à-dire dans une mort anticipée». Phénoménologiquement parlant, le cadre dans l'œuvre cinématographique existe au-delà de l'espace et du temps, pareil au *visage* en hypostase d'épure du personnage ou, comme l'aurait dit Ion Barbu, «un cadre ingénu et rare contournant une mer». Réalisant un lien osmotique entre le cinématographe, l'idée de visage et le procédé du premier plan, Bergman utilise la caméra à la place du stylo et devient – l'auteure cite ici Truffaut – «le représentant le plus pur de l'esthétique de la *caméra-stylo*, c'est-à-dire un véritable *auteur de cinéma*»[6]. La caméra s'approche du visage humain jusqu'à le transformer en ombre, jusqu'à le «dévisager», ce qui rend palpable la réification et la peur sourde devant son néant, comme avait procédé Dreyer dans *La Passion de Jeanne d'Arc* (1928) ou, plus tard, l'Italien Antonioni. De plus, le visage confondu à la membrane de l'écran induit la sensation qu'il provient d'une existence antérieure, qui existe sans avoir été créée – l'incréé de Ion Barbu. De pareils renvois à la poésie et, surtout, à l'espace plastique de préférence moderne sont concluants pour l'éventail interprétatif impressionnant par son contenu et ses nuances. Voici un tel exemple: «De la *forme comme genèse* et le point gris de Klee aux catégories du choquant et de l'explosif de Picasso, de la figure humaine dé-représentée de Léger ou du visage distorsionné et bifurqué de Bacon au surréalisme infantile de Miró, l'art fait vieillir ses propres visages, reformulant phénoménologiquement un passage du visage-*dans*-le-temps au visage-*pour*-le-temps. Par sa propre mort, le visage a la possibilité de regarder de nouveau et de consigner, comme dans un procès-verbal, l'événement de la déformation et de la déréalisation.»[7]

La dernière section, *Les Restes*, comprend des considérations sur tout ce que l'on n'a pas pu dire et encadrer dans les deux derniers cadres principaux – l'auteure les appelle *quasi-annexes*: par exemple la ressemblance entre l'œuvre de Bergman de la leçon expressionniste sur le linéament de la stylisation, de l'exacerbation et de la recombinaison des thèmes et des motifs vertébrés sur la douleur de l'identification.

[5] *Ibidem*, p. 319.
[6] *Ibidem*, pp. 321-322.
[7] *Ibidem*, pp. 329-330.

Finalement, «l'hommage double» apporté à la création bergmanienne dans laquelle «le passé devient un paradigme du présent» et à la lyrique du lauréat du prix Nobel Thomas Tranströmer clôt cet ouvrage, blindé de références littéraires, philosophiques et plastiques et que je qualifie au superlatif grâce à son caractère référentiel dans l'ensemble des études comparatistes actuelles.

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