

AN ATTEMPT TO MAKE A DEFINITION OF EXISTENCE AND
CONSTRUCTING A FOUNDATION FOR AN AXIOMATIC SYSTEM OF
ONTOLOGY

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ABSTRACT

**AN ATTEMPT TO MAKE THE DEFINITIONS OF DIFFERENT CONCEPTS OF
EXISTENCE AND CONSTRUCTING A FOUNDATION FOR AN AXIOMATIC
SYSTEM OF ONTOLOGY**

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This thesis aims to make an analysis of the concepts of 'existence'. It also constructs four new definitions based on the concept of 'effect' for different concepts of beings. By reasoning based on these definitions and some pre-suppositions, a foundation for an axiomatic system of ontology is tried to construct.

Keywords: Definition of Being, Existence, Concept of Being, Axiomatic System of Ontology

ÖZ

FARKLI 'VARLIK' KAVRAMLARININ TANIMINI YAPMA VE AKSİYOMATİK BİR ONTOLOJİ SİSTEMİ KURMA DENEMESİ

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Bu tez 'varlık' kavramının analizini yapmayı hedef almaktadır. Çalışmada 'etki etme' kavramını temel alınarak farklı 'varlık' kavramları için dört yeni tanım da yapılmaktadır. Çalışma sürecinde, bu tanımlar ve bazı ön-kabullere dayanarak, bir ontoloji aksiyomatik sisteminin kurulmaya çalışılıyor.

Anahtar Kelimeler: 'Varlık' Tanımı, Varolma, 'Varlık' Kavramı, Aksiyomatik Ontoloji Sistemi

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TABLE OF CONTENTS

PLAGIARISM.....	iii
ABSTRACT.....	iv
ÖZ.....	v
ACKNOWLEDGMENTS.....	vi
TABLE OF CONTENTS.....	vii
LIST OF FIGURES.....	ix

Preface.....	1
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I) CURRENT CONCEPTS OF BEING

1.1 Introduction.....	4
1.2 Is There any Boundary of Referents which is Independent of Consciousness in the Reality?.....	5
1.3 Two Sets of Concepts of ‘Being’ not to be Confused.....	7
1.4 Then what is the Question “What is Existence?” Seeking for?.....	10
1.5 Conclusion.....	11

II) EFFECTIVE BEING

2.1 Introduction.....	13
2.2 An Interpretation of ‘Being’ which is not too Inharmonious with Our Intuitions ...	14
2.3 Empiricism and Existence.....	15
2.4 Definition of ‘Effective Being’.....	18
2.5 Can Non-Beings be in the Subject Positions of Propositions	20

2.6 What Exists (Which Things are Effective Beings)?.....	22
2.7 What is Meant by ‘Potential to Affect’?.....	27
2.8 Does the Definition of ‘Effective Being’ Presuppose a Consciousness? (Alternative Definitions).....	29
2.9 Why not ‘Potential to be Affected’ but ‘Potential to Affect’?.....	31
2.10 Parallel Realities.....	32
2.11 Conclusion.....	36
III) HIERARCHICAL RELATIONS AMONG EFFECTIVE BEINGS	
3.1 Introduction.....	39
3.2 Definitions of the Relations ‘Existing Dependently’ and ‘Existing 3.3 Absolutely Dependently’	40
3.4 Prime Beings.....	43
Conclusion.....	46
Epilogue.....	47
Foundation of an Axiomatic system of Ontology.....	48
References.....	52

LIST OF FIGURES

Figure 1 Parallel Realities.....	35
Figure 2: Effective Beings.....	38
Figure 3: Basic Hierarchical Relation among Effective Beings.....	42
Figure 4: Illustration of Basic Hierarchical Relations among Effective Beings	43
Figure 5: Relations between Prime Beings and other Effective Beings.....	46

AN ATTEMPT TO MAKE A DEFINITION OF 'EXISTENCE' AND CONSTRUCTING A FOUNDATION FOR AN AXIOMATIC SYSTEM OF ONTOLOGY

Preface

We use the linguistic tool of 'to be' (Here I use it in the meaning of 'existence'.) in communication very often. We say "There is a pen in my hand", we say "There is an integer between 2 and 4.", etc. According to many of us, even in the proposition "The apple is on my head", which does not seem to be strongly related with existence at first look, some other propositions about existence are hidden like "The apple exists," and "My head exists." Even if we use the concepts of 'existence' very often, there are many points that we disagree on concerning them, which are among the roots of the knowledge. This is the reason why we need ontology, which deals with the meaning of 'existence' or 'being' and what exists. Two fundamental questions:

- 1) "*What is existence?*" or rather: "*What should the word 'existence' refer to?*"
- 2) "What exists?"

What we should think about first is the question "What is existence?", or rather: "What should the word 'existence' refer to?". Firstly, I preferred to deal with this question, because it seems that to answer the second question (*What exists?*) we need to answer the former one (*What should the word 'existence' refer to?*). We should define 'existence' or 'being' as clearly as possible and construct at least one axiomatic system of ontology that will dissolve the fog around the ontology when we collect enough data.

In the first chapter of this thesis, I will try to deal with current concepts of 'being', most of which have not been defined clearly, and introduce some of the meta-ontological premises of this study, which are related to epistemology and will shape the following chapters.

In the second and third chapters, four definitions will be provided to supply foundation for an axiomatic system of ontology, again maintaining connection to meta-ontology. First, the concept of '*being*' (or as we call it '*effective being*'), which will supply ontology for disciplines and daily life, will be defined. The remaining three definitions will serve the aim of categorizing beings. It will also be explained why these definitions are chosen among possible definitions and the definitions chosen will be tried to be clarified by means of examples and sample inferences.

Why is it so important to make definitions? Think of three men in a small market. Two of them are having argument about a past event and the third one tries to decide who is right. Each of the two men seems to be sure that his claim is true. Maybe one of them is Mr. Nominalist and the other is Mr. Realist. Maybe one of them is Mr. Being and the other is Mr. Becoming. The first man says "A man with a blue hat has come to the market today." and the other pretends "No, a man with a blue hat has not come to the market today."

The arbitrator wonders how these two men may disagree about such a simple question and suggests checking security camera records to decide who is right. They play the cassette that recorded all the people who have come to the market on this day and they see that a man with a hat has really come to the market on this day. And they solve the riddle: For one of the men the color of the hat is blue and for the other the color is green. Neither of these men is color blind and the disagreement was not about the problems of qualia. They were actually agreeing about what happened in reality. They both thought that a man with a hat had come to the market and they would be in agreement about the approximate frequency of the light that the hat reflects if they were expert in relations between colors and frequencies of lights. The problem here was not having strict definitions for 'blue' and 'green'.

Let us assume that nobody has made a clear definition of 'blue' (and 'green') up to this time. Then what should these three men do at this point?

- 1) Should they discuss *what 'blue' (or 'green') is* as if it is something independent of their choices of the concept 'blue' (or 'green')?
- 2) Or rather should they just choose a clear definition of 'blue' (or 'green') by mediation of the questions "*What should the word 'blue' (or 'green') refer to?*" to avoid other potential unfruitful discussions?

It seems the second one is the right approach for this problem and I believe the problem of existence should be approached in the same way. Therefore the proper question is not "*What is 'existence'?*" but "*What should the word 'existence' refer to?*". In other words, we need to *define* concepts (*not arbitrarily*) instead of *searching* the meanings of the concepts as if they are independent of our choices. Like all the other disciplines, ontology needs *clear definitions*.

This work which deals with complicated questions and promises to derive only simple conclusions, will have four chapters:

- I) Current Concepts of Being
- II) Effective Being
- III) Hierarchical Relations Among Effective Being

In every chapter, it will be explained for what purpose it is written, and afterwards thoughts will be tried to be shared as clear and precise as possible. On the other hand, at the end of the preface fewer words will be used to say more sacrificing the clarity:

Reality does not 'care' and consciousness is the source of all questions and problems. Consciousness is that which created the concept of 'existence' and it is also that which is defeated by its self-creation. It is consciousness which decided what exists and what does not as the creator of the concept; however it is also that which asked curiously, as if it is asking how many legs an undiscovered alien has: "Does Pegasus exist?" and even "Do I exist?"

I) CURRENT CONCEPTS OF 'BEING'

1.1 Introduction

The first chapter of this work, which is related more to meta-ontology or epistemology of ontology than ontology itself, will be a preparation for other two chapters in which we will try to construct a foundation for an axiomatic system of ontology.

First, we will *remind* that we cannot decide “What exists?”, before ‘existence’ is defined and the concepts of ‘existence’ or ‘being’ are shaped by human minds like all the other concepts. In this situation, the question “*What is existence?*” will be as easy/hard as the question “*To construct a useful ontology system, what should the word ‘existence’ refer to?*”

To construct the *definition of ‘(effective) being’* and *categories of beings* in the following chapters, in this chapter we will also enquire and criticize current concepts of ‘being’, most of which can be called “undefined (or indefinite) concepts of ‘being’”.

Some of the meta-ontological premises, on which this study is based, will be left to the second chapter, because these premises will be factors determining the definition of ‘(effective) being’. These empiricist epistemological premises will be stated in section 2.3, in which we will think about the sources of ontological knowledge.

1.2 Is there any Boundary of Referents which is Independent of Consciousness in the Reality?

To refer to things with words, we construct *non-absolute* (dependent on our choices) '*boundaries*' of referents in the reality, by means of the concepts. It seems that there are no *natural* '*boundaries*' of referents which make things separated from their environment in the reality. We are the ones who named the door, who judged that it exists as a whole, by separating it from its exterior. The reality itself does not 'care'. Let us think of a hand with a glove on itself. For some, in this case to touch the glove is the same thing as to touch the hand. For some others, you have to touch the skin in order to say that you have touched the hand. Some people may consider the hairs on the fingers are parts of the hand and some people may think they are external. Even if referents of the word 'hand' are different for these people, none of the boundaries of referents drawn by these people is discordant with nature, or unreasonable.

In the reality we perceive some phenomena, we determine some common characteristics among some of them, and we refer to these characteristics with words. For instance, we call the color of the objects reflecting light with a specific interval of frequency as 'blue'. Why do we need to refer to parts of the reality? By dividing reality into parts and referring to them with words, we express/remind our feelings and thoughts to others and sometimes to ourselves. If I did not separate the object in my hand from its exterior by means of its properties and if I did not refer to it as 'pen', how could I *economically* describe the fact that it is moving on the paper, leaving a thin track behind it?

It is impossible for words to refer to things in the reality by means of natural boundaries or independently from the cognitive structure of human beings. Human beings who have chosen the words have also specified their referent in the reality and words and concepts are simply tools that convey knowledge to future.

- (1) 'Boundaries' of referents that concepts and words '*construct*' on reality are not independent of the cognitive structure of human beings.

We see that there is no absolute wholeness or boundaries of referent in the reality.

Boundaries of the concepts of 'existence' are not independent of our mental attributes and they are not natural, either. What shaped the concepts of 'existence' are the boundaries put forward for human beings to understand and to express what he/she understands.

(2) The boundaries of referents that the concepts of 'existence' *construct* on reality are not independent of the cognitive structure of human beings.

(From 1)

Everything seems alright up to this point: For the sake of a function, parts of the reality are chosen and words are used to refer to these parts.

And we are aware of this situation: We know that concepts are not absolute. Then why do we still ask, "What is 'being'?" as if the concept of 'being' is something independent of our choices?

The fact that concepts are not absolute has been occasionally forgotten for the concept of 'existence' and some other confusing concepts. Let us exemplify a part of a philosophical investigation, in which Nietzsche approaches the ontology with the question "What is 'being'?" as if the concepts of 'being' is absolute even if it is in a 'continuous flux'.

One would have to know what being is, in order to decide whether this or that is real (e.g., "the facts of consciousness"); in the same way, what certainty is, what knowledge is, and the like.-- But since we do not know this, a critique of the faculty of knowledge is senseless: how should a tool be able to criticize itself when it can use only itself for the critique? It cannot even define itself!¹

Here Nietzsche is curious about *what being is* as if 'being' is something unreachable and *independent of mind*. "One would have to know what being is, in

¹ Nietzsche, F. W. (1968). *The Will to Power*. In W. Kaufmann (ed.) (W. Kaufmann & R. J. Hollingdale, Trans.) New York: Random House. 486.

order to decide whether this or that is real..." But since a concept is something that we have chosen, it is we who should determine its definition.

Unfortunately, Nietzsche's confusion is not a marginal one. Concept of 'to be' is generally approached as if it is something absolute. Otherwise, philosophy would never ask the question "What is existence?" Another common philosophy question that makes me think that the concept of 'being' is treated as if it is absolute: "Is existence a property?" If we agree on that concepts are not independent of consciousness, how can one ask if 'being' is a property without even choosing a definition for it?

Disciplines should first make a definition that is coherent with thinkers' intuitions, and then they should determine which objects belong to the interior of the boundaries of this definition. So should the ontology.

1.3 Two Sets of Concepts of 'Being' not to be Confused

Two sets of concepts:

1) *The undefined concepts* (which lack a definition that is clear enough) of 'being'. Most of the concepts of 'being' that seek answer for questions like "What is existence?" are in this group. The concepts of 'being' in the philosophical investigations in which only things which exist are determined without a definition of 'existence' are in this set. Almost all of the concepts put forward in philosophy are not defined clearly enough or trying to find an answer for questions "What is existence?" as if these definition and criteria are independent of our choices. Even if it is one of the revolutionary works for its method, René Descartes' "*Meditations on the First Philosophy*" did not define 'existence', before it says "...I am, I exist..."² in the second meditation.

If they had discussed about existence, maybe Nietzsche and Descartes would have had a long troubling time. For one of them nothing qualifies as 'being' and for

² Descartes, R. (1984). *The Philosophical Writings of Descartes: Volume II*. (J. Cottingham, R. Stoothoff, D. Murdoch, Trans.) New York: Cambridge University Press. p. 17.

the other there are many beings in the reality. Probably this conflict is related to not only their metaphysical pre-situations, but also differences of their undefined concepts of 'being'. If Nietzsche had shared Descartes' concept of 'being' and still thought "Nothing exists," then he would not even write, when there is no one to read...

2) *The concepts of 'being' which are defined clearly.* This set of concepts contains the concepts that can be considered more useful. The second chapter of this study will suggest one of these concepts –the concept of '*effective being*'– which is defined; however now Baruch Spinoza's (*The Ethics*) definition of '*substance*', definition of '*mode*', and first axiom will be stated to exemplify a defined concept of '*being*': "3. By substance^[3], I understand that which is in itself and is conceived through itself; that is, that which does not need the conception of another thing, from which concept must be formed....5. By mode^[5], I understand the affections of substance, or, that which is in something else, through which it is conceived."³ Then he states his first axiom: "I. Each thing that exists exists either in itself or in something else."⁴ He also defines '*self-caused*', '*attribute*', '*God*', and '*eternity*'. Now anyone who reads "*The Ethics*" tends to know if he/she agrees with Spinoza or not because Spinoza's definitions cannot be considered to be vague, not ignoring the fact that the concepts that he is dealing with are very puzzling. Spinoza did not define '*existence*' in this work, in other words he does not write what '*existence*' means; however these three propositions construct a criterion (or definition) for '*existence*': Only *modes* or the *substance* exist. And because what is meant by *substance* and *modes* is not too vague, Spinoza's concept of '*being*' is a defined concept of '*being*'.

But of course not all possible concepts of 'being' which are defined are useful enough for ontology. Some of the definite concepts of existence can be a product of the wrong questions "*What is existence?*". In other words they may try to find the meaning of 'existence' which is independent of our choices. This effort would be

³ Spinoza, B. (2000). *Ethics*. In G.H.R. Parkinson (ed.) (G.H.R. Parkinson, Trans.). New York: Oxford University Press. p. 75.

⁴ *Ibid.*, p. 76.

useless because there is no such a meaning of 'existence' independent from our choices at all.

On the other hand, although the concept of 'being' is not independent of our choices, a good definition of 'being' or 'existence' should not be arbitrary. The criteria a good definition satisfies (in my opinion) will be stated in chapter two, section 2.2.

To be more economical in expressions,

- 1) 'U-C-being' will be used for "undefined concept of 'being.'"
- 2) 'U-C-beings' will be used for "undefined concepts of 'being.'"
- 3) 'D-C-being(s)' will be used for "concept(s) of 'being' which are defined."
- 4) '*Effective being*⁵' will be used for the concept of 'being' that I will suggest.

I will explain what I mean by 'effective being' and criticize some of D-C-beings in the following chapter. Let us emphasize U-C-beings now: They do not have clear definitions. In most of the cases, you may only decide what their definitions of 'being' *could* be, by means of what their ontology contains and because of what properties they decide that something is a 'being' or 'non-being;'.

For example, an interpretation of being may say "Matter exists and ideas do not, because matter is noumenon and ideas are phenomena" and you may reach the conclusion that for this interpretation "Existence is to be noumenon." Some other interpretation may say "Pegasus exists, because otherwise it would be nonsense to say 'Pegasus does not exist'" and you may reach the conclusion that for this interpretation "Existence is to have potential to be subject (and maybe to be object) of a meaningful proposition."

Yes, you can derive the definitions for U-C-beings, but you cannot be sure if what you derive is what writer means. And because you know that their grounds are misleading questions, you suspect their being really useful. They may cause

⁵ I will use the phrase 'effective being' for "my concept of 'being'". At first, some may think that, I am defining a specific kind of 'being' because the word 'effective' seems like an adjective in front of the word 'being'. Actually, 'effective being' will not be a specific kind of 'being', the concept of 'effective being' will be just the same thing as 'my concept of being', as I wrote and as I will remind in the introduction of the second chapter.

unfruitful discussions like I exemplified in the preface of this thesis. I believe, in most of the cases somebody who thinks “There are only *becomings* and no beings are in the reality” and a classical approach who takes some of the things as ‘being’ would not discuss fruitfully because of this problem of not having a common clear definition. Unfortunately I think the same thing is true for the nominalists and the realists. To have fruitful discussions and enquires in ontology we need to have at least one proper (axiomatic) system. No, the undefined concepts of being (U-C-beings), whose criteria and are not clear enough, do not seem to be one of the proper grounds.

1.4 Then what is the Question “What is Existence?” Seeking for?

Like it is said and supported, shapes of the concepts are dependent on cognitive characteristics of human beings and what we should do is to determine—without ignoring the shapes of concepts of ‘being’ that are naturally got—a reasonable way for defining the concept ‘being’ to get advantage in our search for truths. I repeat: What we should ask is not “What is existence?”. The right question is, “Which definition of the concept of ‘existence’ will be more helpful?”.

In this situation, what do people who seek an answer for the question “What is existence?” really deal with? This is a hard question and the answers are different for different philosophical investigations. Some of the thinkers who ask “What is existence?” try to learn what properties of reality made a specific concept of being to evolve (to be shaped by human beings) in the way it did. Maybe when Nietzsche ascribes the property of ‘being’ to nothing, i.e. when he said nothing ‘shall’/‘should’ exist (*let us consider nothing as ‘being’*), he was underlying the fact that the reality (and the set of beings) are changing continuously. Some thinkers who asks the question “What is existence?” try to find a property that beings (with respect to their concepts of ‘being’) possess. Thinker’s constructing hierarchical relations among things which make some things being and some non-being (with respect to their concepts of ‘being’) is related to this. It seems that when a

materialist says “Only matter exists” as if it is a synthetic proposition; he/she means only material things do not owe their ability to interact with the environment to other kind of things. Probably the reverse is true for idealists. Actually, in most of the cases, ones who ask the problematic question “What is existence?” and ones who does not forget the fact that the concept of ‘being’ is not independent of our choices does not make investigation in a completely different ways. They think on parallel questions with parallel methods; however it is for sure one set of these questions and one set of these methods are better than other sets of questions and methods. The right question “What should the word ‘existence’ refer to?” does not make us have unfruitful discussions, it gives us more freedom by letting us choose clear and productive concepts of ‘being’ and the approach behind that question let us share our thought with others much easier. After all, even if ones who ask the question “What is ‘existence’?” contribute to the ontology priceless, the question was a total mistake because it tries to refer to ‘existence’ that is independent from our consciousnesses, which does not exists (with respect to almost all of the concepts o being).

1.5 Conclusion

The first chapter was dedicated to *remind* the reader a simple trivial fact that the concepts are not absolute. My concentrating on this trivial argument and stating this argument over and over again can be criticized. I am also criticizing myself; however, I also believe that even if the argument is trivial, we forget it when we work in philosophy and more specifically in ontology.

If you think I am obsessive on this point, please answer: When we are talking about ontology, do not we first emphasize the question “*What is ‘existence’?*” instead of “*For a useful ontology system, what should the word ‘existence’ refer to?*”? Some may consider me to be too formalist. They may say, “When the thinkers ask the question ‘*What is existence?*’, what they really mean is what you mean by ‘*For a useful ontology system, what should the word ‘existence’ refer to?*’”. Actually, most of the thinkers agree with you in that the concepts are our products

and non-absolute.” But when we look at the approaches to the puzzles of ontology, I do not believe this claim can remain reasonable. Because unlike approach of this study, the general approaches to the question “What is existence?” implies that there is a fixed absolute definition of ‘being’ and the thinkers are trying to reveal it. It seems that a realist really believes that he/she knows what the (absolute) ‘existence’ is and says that “The number three exists.”. Or on the contrary, a nominalist seems to believe that he/she knows what the (absolute) ‘existence’ is and say “The number three does not exists.”. They do not seem to believe that they define a (non-absolute) concept of ‘existence’ and with this definition, decide which objects qualify as ‘being’, satisfying the definition’s criterion/criteria. For a realist maybe it is not that absurd to see concepts as absolute (or independent of consciousnesses) but for a nominalist it can be considered to be self-refuting approach; however this is not our topic for this thesis. Now we can begin the second chapter in which we will begin to construct a foundation for an axiomatic system of ontology.

II) EFFECTIVE BEING

2.1 Introduction

The second chapter will focus on the definition (or criterion/criteria) of a new concept of 'existence' or 'being' named 'effective being'. This concept will be suggested to be used in all disciplines from now on and it is also a candidate to be a starting point for a new axiomatic system of ontology. While a clear definition of '*effective being*' is being constructed, the reason why I think this definition is a plausible candidate to be a starting point of an axiomatic system of ontology will be given. This new concept will be named as '*effective being*' instead of simply '*being*' so that the concept of '*effective being*' will not be mistaken for the current concepts of '*being*'. Actually '*effective being*' is the same thing as "*my concept of 'being.'*" I just do not want to impose on anyone to accept this young concept of being which needs to prove itself.

Providing one definition (*for 'effective being'*) will not be the only thing we do in this chapter: Before 'effective being' is defined, it will be legitimated by continuing to state epistemological meta-ontology premises peculiar to this study. In this chapter the meta-ontological premises will be more related to source(s) of knowledge and the guiding perspective will be *empiricism*. After defining 'effective being' through these meta-ontological premises, we will also try to determine which things (candidates of 'effective being') are effective beings. These will be the foundation of the new axiomatic system of ontology.

To put it shortly, two questions stated in the preface will be answered in this chapter:

- 1) “*What is existence (effective being)?*” or as I prefer: “*What should the word ‘existence’ (effective being) refer to?*”
- 2) “*What exists?*” (or in other words “*Which candidates of being are effective beings?*”)

As it is stated previously, ‘*effective being*’ will be defined just to replace some of the current concepts of being in disciplines and daily life... The concept of ‘*effective being*’ will be suggested to replace *only* some of the current concepts of being because there are some other current concepts of being that aim to categorize what I will call ‘effective beings’, instead of determining which things are (effective) beings. The third chapter will provide three other definitions to replace most of these concepts of ‘being’ (*the relation of existing dependently, the relation of existing absolutely dependently and prime being*) aiming to categorize ‘effective beings.’

2.2 An Interpretation of ‘Being’ which is not too Inharmonious with Our Intuitions

Since there are no absolute boundaries in the reality, theoretically we have infinite freedom in determining referents to words. Therefore, the referents of ‘(effective) being’ can principally be ‘things bigger than a bus’ or ‘things that fly’.

However, it is for sure it would be dangerous to define ‘(effective) being’ in a way that the definition refutes the proposition “This phenomenon of page exists (in a way)” on the truth of which almost all of us would agree. In the continuing sections of this chapter, I will try to construct an interpretation of being which does not accept our hats, our scares of death, and our little brothers as non-being.

So the definition of ‘(effective) being’ should not be arbitrary. We have three criteria for making a successful definition of ‘(effective) being’:

- 1) The definition should be clear.
- 2) The set of *effective beings* should be comprehensive enough to supply all the required beings for the disciplines.

3) The set of *effective beings* should not be too comprehensive. I.e. it should not contain candidates of beings which are not knowable (or interactible).

2.3 Empiricism and Existence

This study prefers not to use U-C-beings in ontology; but in meta-ontology of course it is impossible to get away from them. Because defining a concept for ontology can be considered a meta-ontological work and you have to have a U-C-being to define it. By defining a U-C-being, you transform a U-C-being to a D-C-being and make it a stronger ontology tool. Like almost everyone I have some U-C-beings, one of which I will define in the following section. And by this way I will have made it a D-C-being which I call the “concept of ‘effective being’”. So until I define it, I will not hesitate to use the words of ‘existence’, ‘being’, ‘to exist’, etc. in this meta-ontological part. Please take these words as projections of a U-C-being one of the supporters of which is me.

In defining ‘effective being’, British empiricism—which is founded by John Locke (*An Essay Concerning Human Understanding*) and which is interpreted and improved in different paths by George Berkeley (*A Treatise Concerning the Principles of Human Knowledge*⁶) and David Hume (*An Enquiry Concerning Human Understanding*⁷)—will be one of the guides of this study.

Chapter II. No Innate Principles in the Mind

I. It is an established Opinion amongst some Men, That there are in the Understanding certain *innate Principles*; some primary Notions, [*koinai ennoiai*], Characters, as it were stamped upon the Mind of Man, which the Soul receives in its very first Being, and brings into the World with it. It would be sufficient to convince unprejudiced Readers of the falseness of this Supposition, if I should only shew (as I hope I shall in the following Parts of this Discourse) how Men, barely by the Use of their natural Faculties, may attain to all the Knowledge they have, without the help of any innate Impressions; and may arrive at Certainty, without any such Original Notions or Principles. For I imagine any one will easily grant, That it would be impertinent to suppose, the *ideas* of Colours innate in a Creature, to whom God hath given Sight, and a

⁶ Berkeley, G. (1998). *A Treatise Concerning the Principles of Human Knowledge*. New York: Oxford University Press.

⁷ Hume, D. (1962). *On Human Nature and the Understanding*. In A. Flew (Ed.). New York: Crowell-Collier Publishing Company.

Power to receive them by the Eyes from external Objects: and no less unreasonable would it be to attribute several Truths, to the Impressions of Nature, and innate Characters, when we may observe in our selves Faculties, fit to attain as easie and certain Knowledge of them, as if they were Originally imprinted on the Mind.⁸

If there is *no knowledge without experience*, basis of the knowledge about something's being or non-being with respect to a concept of 'being' should be experience too. On the other hand, apparently our having at least one experience does not mean that we have knowledge of desired type. Just like our not deriving most of the knowledge about Immanuel Kant's things in themselves (if they exist with respect to most of the conventional concepts of 'being'), even if we experience them by the mediation of phenomena. Or our not deriving knowledge of color of an object when we experience its weight can be another example of this situation.

Certainly, for the hunter of knowledge, it is an unpleasant fact that some experiences do not derive desired knowledge; however, the question of existence, which we focus on, does not take a big share of this problem. Question "What exists?" is one of the easiest questions that can be answered by experience, with respect to most of the concept of 'being'. When I experience 'appearance of apple phenomenon', I cannot reach the knowledge of apple's weight but I can reach existence of apple with some realist pre-suppositions or I can reach the knowledge that 'phenomenon of appearance of apple' exists (in a way), maybe even without any pre-suppositions. This argument is accepted by almost all of the understandings of 'being' including even *skeptic* ones.

As it is stated above, it is not the fact that to have any experience related to something is sufficient to know that it exists (with respect to most of the concepts of being). When my eyes are shut, if I touch a cup I am not able to reach the conclusion that cup exists? On the other hand, it is still true that knowledge of existence can be derived from experience relatively easily: When my eyes are shut, if I touch to the cup, even if I do not know that the cup exists, I still know that something exists, as even most of the *skeptics* would agree.

Since the knowledge of existence can be derived from experience relatively more easily than other kinds of knowledge with respect to most of the concepts of

⁸ Locke, J. (1975). *An Essay Concerning Human Understanding*. In P. H. Nidditch (Ed.). New York: Oxford University Press, p. 48.

being, it is not very unreasonable to suggest constructing criteria of existence by means of the event of experience. A hasty definition: “Beings are the ones—ideas or mind-independent things—which consciousnesses experience.” A *realist* version of George Berkeley’s “*Esse est percipi (aut percipere)*.” or “*To be is to be perceived (or to perceive)*.” Even if Berkeley’s D-C-being (“*To be is to be perceived (or to perceive)*.”) is quite brilliant with respect to his immaterialist doctrine, one that I derive hastily from his definition (“Beings are the ones—ideas or mind-independent things—which consciousnesses experience.”) is an insufficient one. These or this kind of candidates of criteria, which pre-suppose a consciousness, will always be dependent on consciousness and non-universal. If there were no consciousness and no event of experience (in a reality in which there is no living beings) this interpretation of being would not accept anything as ‘being’? Would not this wear most of the understandings of being down? Can it undertake the mission of current understandings of being? A more universal and sufficient definition (criterion/criteria) should be constructed then. I will try to construct such a definition in the next section.

Like the pre-supposition “We reach all knowledge by means of experience.”, it is not absurd to say “Every time we experience something, we are affected by something.” Hallucinations and dreams (they can be taken as experience) have some exceptional properties at this point; however even in these situations we are affected by collected daily life experiences.

- (3) Knowledge of something (besides knowledge of non-being⁹) cannot be derived without experience of this thing.
- (4) In every experience, one who experiences something gets affected by this thing.
- (5) Unless mind is affected by something, no knowledge of this thing (besides knowledge of non-being) is derived by consciousness. (From 3 and 4)

⁹ We derive knowledge of non-being from lack of experience. If I perceive whole the room and do not experience Pegasus, I reach the conclusion that Pegasus does not exist in this room. However some may consider a lack of experience as ‘an experience’ and they may maintain that no knowledge can be derived without experience.

- (6) Unless mind is affected by something, knowledge that this thing exists cannot be derived by consciousness. (From 5)

Almost all the things that we decide they exist by our intuitions (or U-C-beings), were somehow affecting something else. As it is expressed in proposition (6), unless something affect us directly or indirectly, we cannot know it exists. If a starving child in Africa did not appear on a film in a camera and if we did not see the magazine this film was printed on, how could we decide that this child exists?

Like first two epistemological pre-suppositions (propositions (1)-(2)), four epistemological pre-suppositions following them (propositions (3)-(6)) are very essential for this study. The reason why the last four propositions are important for this study will be clearer in the next section, in which ‘(effective) being’ will be defined. In the next section, the definition (or criterion/criteria) of ‘(effective) being’ that is based on the events of effect will be searched. All these six epistemological pre-suppositions (propositions (1)-(6)) will have role in determining or defending the definition of ‘(effective) being’.

2.4 Definition of ‘Effective Being’

It is time to provide the first definition whose definiendum is ‘(effective) being’. The definition will be based on the concept of ‘effect’. But before ‘effective being’ is defined, in order to legitimate this definition, two propositions (proposition (7) and proposition (9)) have to be stated and supported:

- (7) Everything that we may know they exist according to the any of the current concepts of ‘being’, has nomological potential to affect at least one of the consciousnesses. (From 6)
- (8) According to most of the current concepts of ‘being’, everything that has nomological potential to affect at least one of the consciousnesses which exist exists.

- (9) According to most of the current concepts of ‘being’, everything that we may know that they have nomological potential to affect thing(s) which exist exists. (From 8)

According to most of the current concepts of ‘being’, everything that has nomological potential to affect any of the consciousnesses exists and ‘almost(?)’ everything that we may know exist according to most of the current concepts of ‘being’ has nomological potential to affect any of the consciousnesses. This is the reason why the criterion waiting for us to suggest itself and standing on the concept of ‘potentiality to affect’, will be one of the best criteria of existence for its being comprehensive enough and not being too comprehensive. Apparently, it is not a bad idea to define one of the most fundamental concepts (*being*) by means of one of the most fundamental kind of events (*affecting*).

Then, let us avoid the current concepts of being and start to expose a new interpretation of existence that has a much clearer criterion:

Definition 1:

- (i) My consciousness is an *effective being*.
- (ii) Something *was/is/will be*¹⁰ *effective being* if and only if it has nomological potential to affect an *effective being*.

At last, the definition of effective being has been put forward. Finally the first question in the preface has been answered; but of course it is not absolute and alternatives may be needed.

- 1) “*What is existence?*” or as I prefer: “*What should the word ‘existence’ refer to?*”

Yes at last the question has been answered, but is this a good answer? A reader may ask: “In the last section, you have said that a definition or criterion/criteria of ‘being’ which pre-supposes consciousness cannot be a good

¹⁰ Something can be an effective being positioned in the past (like Elvis Presley), can be an effective being positioned on the current time (like George Bush) or can be positioned in the future (hopefully like Earth).

one. Now your definition pre-supposes a consciousness too. How can it be a good one?" I will answer this criticism in section 2.8. Now let me just state shortly, why this is a good definition of 'being' with respect to the criteria stated in 2.2:

1) The definition is quite clear. Yes, we define '(effective) being' by means of other fuzzy concepts of 'having nomological potential to affect' and 'my consciousness'. This fact makes definition 1 not as clear as we wish; however as it will be seen in the applications of the definition, it is still much clearer than most of the concepts of 'being'. And I hope these applications will also show what is meant by 'my consciousness' and 'having nomological potential to affect'. Even if these concepts will remain fuzzy, what is meant by them in this study will be clearer.

2) It is comprehensive enough to supply ontology needed for disciplines. In another words, it considers everything knowable (or intractable) as '(effective) being'.

3) It is not too comprehensive. I.e. it does not take things which are absolutely non- knowable (or non-intractable) as '(effective) being'.

2.5 Can Non-beings be in the Subject Position of Propositions?

After the first question "*What should the word 'existence' refer to?*" was answered, I would like to try answering the second question "*What exists?*" without a break. However, it seems that a work in/on ontology needs many 'parentheses' and 'footnotes'. Before we begin an inquiry on the question "*What exists?*", I feel compelled to write this section in 'parentheses' or as a 'footnote' to be clear. In the next section, we will begin to try answering the second question ("*What exists?*").

In this thesis, non-beings (with respect to the concept of 'effective being') will occasionally be used in subject position of sentences. For example, it will be stated that there is no horse with wings that we call 'Pegasus' or no princess that we call 'Snow White' positioned in space-time. For some thinkers this is problematic, because of the *Platonic riddle of non-being*. *Platonic riddle of non-being* implies

everything exists in a way. Let us consider the example of 'Pegasus'. Some people argue, Pegasus exists (in a way); because otherwise it would be 'meaningless' (according to Bertrand Russell's formulation in *On Denoting*) to say "Pegasus does not exist." This approach based on *Platonic riddle of non-being* asserts an interpretation of 'existence' (or 'being') too. It says "Everything exists (in a way) because otherwise it would be meaningless to say 'A does not exist.'". This concept of 'being' might be considered to be a good one for its being clear; on the other hand at least I believe it is awful for its being based on language instead of the reality. It seems that thinkers sometimes reached wrong conclusions, by giving language—which is although based on the reality, still constructed by human beings—more importance than the reality. *The Platonic riddle of non-being* or any other understanding of existence based on language should not be focused on long: Non-beings can be in the subject position of sentences. Who has given the languages the ability of deciding what exists without *asking* the reality? Were first humans who founded the languages, so competent in ontology? 'Subject', 'object' or any other grammatical concepts should not be confused with 'being'. These confusions would weaken language, which is an important tool of disciplines.

Another reason for not focusing on *the Platonic riddle of non-being*: Seemingly, it is not a riddle anymore. Willard Van Orman Quine tries to solve *the Platonic riddle of non-being* and makes discoveries about language and logic, in his work '*On What There Is.*'

As it is stated in '*On What There Is*', the possibility of the argument that "For me there is no phenomenon of square and round cupola." does not prove that there is a square and round cupola, which I have never experienced and probably will never experience. Quine begins with the riddle which makes everything being, and then appointing a predicate for every subject and object, he makes an analysis which does not force anything to exist:

In order thus to subsume a one-world name or alleged name such as 'Pegasus' under Russell's theory of description, we must, of course, be able first to translate the word into a description. But this is no real restriction. If the notion of Pegasus had been so obscure or so basic a one that no pat translation into a descriptive phrase had offered itself along familiar lines, we could still have availed ourselves of the following artificial and trivial-seeming device: we could have appealed to the *ex hypothesi* unanalyzable, irreducible attribute of *being Pegasus*, adopting,

for its expression, the verb 'is-Pegasus', or 'pegasizes'. The noun 'Pegasus' itself could then be treated as derivative, and identified after all with a description: 'the things that is-Pegasus', 'the thing that pegasizes'.¹¹

So seemingly problematic proposition "*Pegasus does not exist.*" can be replaced by the proposition "*There is no x that pegasizes (or Pegasizes) in the reality.*"

Even if he does not state clearly, with his analysis in "*On What There Is,*" Quine gives us the impression that problem of existence cannot be solved '*as possible as it could*' unless we free ourselves from language *as possible as we can*. And he frees us from *careless fetters* of language:

We commit ourselves to an ontology containing numbers when we say there are prime numbers larger than a million; we commit ourselves to an ontology containing centaurs when we say there are centaurs; and we commit ourselves to an ontology containing Pegasus when we say Pegasus is. But we do not commit ourselves to an ontology containing Pegasus or the author of *Waverly* or the round square cupola on the Berkeley College when we say that Pegasus or the author of *Waverly* or the cupola in question is not. We need no longer labor under the delusion that the meaningfulness of a statement containing a singular term presupposes an entity named by the term. A singular term need not name to be significant.¹²

2.6 What Exists (Which Things are Effective Beings)?

Now we know that my consciousness (your consciousness) is effective being by definition 1. What are other effective beings, with the guidance of definition 1 and empirical data? If my consciousness is an effective being, then my body, which affects my consciousness (Besides psychiatry, daily life implies it), is effective being too. Whenever a needle is stung in my body, I feel pain and this (a change in my body) affects my consciousness. The other living being's bodies are also effective beings, because whenever I am in the same place with bodies of living beings, my consciousness is affected by their identities, behaviors, etc. by mediation of my body (or my perceptions).

¹¹ Quine, W. V. O. (1964). *From a Logical Point of View: Logico-Philosophical Essays*. Cambridge: Harvard University Press, p. 7-8.

¹² *Ibid.*, p. 8-9

(10) Bodies of living beings have nomological potential to affect my consciousness.

(11) Bodies of living beings are effective being. (From 10 and Definition 1)

With a similar reasoning, it can be concluded that 'the others' (the other consciousnesses) are effective beings:

(12) The other consciousnesses have nomological potential to affect their own body.

(13) The other consciousnesses are effective beings. (From 11, 12 and Definition 1)

In order to comprehend and discover our criterion better, let us apply it to some other candidates of effective beings: When a consciousness (which is an effective being) experiences a phenomenon, for example a quale of smell, he/she would be affected by that smell and he/she would think there is a smell. Smells (actually all qualia) and all mental phenomena are effective beings.

(14) Phenomena have nomological potential to affect consciousnesses.

(15) Phenomena are effective beings. (From 13, 14 and Definition 1)

What about material objects?

(16) Material objects have nomological potential to affect the bodies of effective beings.

(17) Material objects are effective beings. (From 16 and Definition 1)

Modern physics supports the claim that energy is a form of matter or vice versa. In this ontology system, like material compositions, energy compositions are (effective) beings. Material compositions and energy compositions are physical subjects of effects in our reality.

(18) Energy compositions have nomological potential to affect material effective beings.

(19) Material objects are effective beings. (From 17, 18 and Definition 1)

And our consciousness (effective being) may be affected by (individual) ideas. It was us who shaped the ideas of numbers in the past; but I think you would agree with me in that consciousness with an idea of a number and a consciousness without it are different. That means there is an effect. (Individual) ideas are effective beings.

(20) (Individual) ideas have nomological potential to affect consciousnesses.

(21) (Individual) ideas are effective beings. (From 13, 20 and Definition 1)

In spite of this, with pre-suppositions widely accepted, numbers are not effective beings. As for me, in the past even if we are affected by three bandits, three potatoes, symbol of three (e.g. '3'), idea of three or the concepts of three, we are not affected by something that we ascribe wholeness and called 'three'. Numbers are not effective beings. What does it mean that numbers are not (effective) beings? If they are not beings, then what will the mathematicians do anymore? Will not they use the numbers in their systems? Actually, they are not using the numbers in their axiomatic systems. They have only the symbol of three in their axiomatic systems. What about the referent of numeric symbols in mathematics' semantic interpretations? The number 3 is maybe a property that some sets of effective beings have like the set $K=\{\text{Athos, Porthos, Aramis}\}$ but not an individual effective being by itself. If numbers are not effective beings then can we explain everything we want without them? Probably yes, but we don't have to. In his article "Empiricism, Semantics, and Ontology", Rudolf Carnap criticizes nominalist empiricists' attempts to avoid using symbols or words that refers to abstract entities. He argues that, one does not have to avoid using symbols or words that refers to abstract entities to be a nominalist. His moderate approach seems a reasonable one: "*Let us be cautious in making assertions and critical in examining*

them, but tolerate in permitting linguistic forms."¹³ Symbols or words like 'three' or '3', whose referents are vague, are our shortcuts in languages. And probably, they are just products of languages.

(22) There is nothing that can literally be called 'a number' and has nomological potential to affect an effective being.

(23) Nothing that can literally be called 'a number' is effective beings.

(From 22 and Definition 1)

Nothing besides individuals affects anything that is effective being. So nothing besides individuals is an effective being. Universals do not exist in this ontology system. What about ideas of universals? They are individual ideas. They are effective beings. If what we mean by 'universals' is sets and what we mean by 'sets' are groups of effective beings, they can be considered effective beings; but it seems that what we traditionally meant by universals is something beyond that.

(24) Universals do not affect anything.

(25) Universals are not effective beings. (From 24 and Definition 1)

When Snow White went to the seven dwarfs' hut, our minds were affected by her. Then is Snow White an effective being? If what is meant by 'Snow White' is a spatiotemporal being and a consciousness 'attached' to it, since we do not believe such a body or a consciousness has nomological potential to affect us, Snow White is not an effective being. Of course, in this situation, what affected our minds was actually our seeing the shapes (letters) printed in a book. It was not a spatiotemporal individual called 'Snow White'. No fictional objects are effective being. However different ideas of fictional characters, for example the idea of Snow White affects different minds in different ways. Then it seems that the ideas of Snow White or any other ideas of fictional characters are effective beings.

¹³ Carnap, R. (1956). *Meaning and Necessity: A Study in Semantics and Modal Logic*. London: The University of Chicago Press, p. 221.

(26) Fictional objects do not affect any effective being.

(27) Fictional objects are not effective beings. (From 26 and Definition 1)

What we have considered up to this point was the kind of candidates of effective beings that we may call '*subjects of effects*'. Now what about *actual* or *nomologically potential effects*, which are quiet similar to Aristotelian concept of property? Like a (individual) green pencil, its nomologically potential effect that would provide a phenomenon of green pencil to a consciousness and its actual effect that is providing a phenomenon of green pencil to a consciousness are effective beings, in this ontology system. Actual physical forces and nomologically potential physical forces are in this set. Let A and B be material effective beings. A's nomological potential to apply gravitational force to B is continuously effective being but A's actual gravitational force applied to the other mass B is effective being when only A is applying a gravitational force to B at a specific time point. In the future, maybe we can eliminate these categories (*actual and nomologically potential effective beings*) by explaining them with respect to other effective being. Maybe we can find exactly what of masses constructs a gravitational force and this may eliminate gravitational forces' being considered as effective being; however for now we should consider them as distinct 'effective beings'.

(28) Nomologically potential effects have nomological potential to affect the other effective beings. (Analytic Statement)

(29) Nomologically potential effects are effective beings. (From 28 and Definition 1)

(30) Actual effects have nomological potential to affect the other effective beings. (Analytic Statement)

(31) Actual effects are effective beings. (From 30 and Definition 1)

One of the most interesting questions in ontology: Does void exists? Voids are spatial positions on which there is no material constructions positioned. Imagine that a void disappears one day. A void can disappear in two ways, either the spatial positions get erased or the positions get filled with material objects. In both ways, some effective beings would have been affected by this event. To illustrate, a space

craft would have stopped (if the void were to disappear by erasing space points) or get slowed down by the friction (if the void were to disappear by filling the space points). As for this ontology system, there are at least uncountably many (voids, parts of voids, parts of parts of voids, etc.) voids which are effective beings in our reality.

(32) Voids have nomological potential to affect the other effective beings.

(33) Voids are effective beings. (From 32 and Definition 1)

2.7 What is Meant by ‘Potential to Affect’?

“Something *was/is/will be* an effective being if and only if it has *nomological potential* to affect an effective being.” Despite of the effort exerted, maybe the definition of ‘effective being’ has not been clarified enough. ‘(Effective) being’ or simply ‘being’ has been defined by means of the concept of ‘effect.’ However, like the concept of ‘(effective) being,’ the concept of ‘effect’ is not a clear one. What is meant by ‘effect’ in this study? May ideas and matter affect each other? May a phenomenon affect anything? Unfortunately in this study, these questions will not be tried to be answered. It must confess that an “undefined concept of ‘effect’” is being used in this work. This is a serious problem and it should be dealt with carefully in other studies but ‘effect’s (or ‘to affect’s) being one of the *primitive terms* in this ontology system can be tolerated by considering the fact that we have to have at least one (practically many) primitive term in any discipline. I believe that what is meant by ‘effect’ or ‘to affect’ can be understood by examining the usages in the study.

By assuming that we agree about the meaning of ‘to affect’ in the contexts, now the concept of ‘*having nomological potential to affect*’ can be dealt with. Like ‘to affect’, ‘*having nomological potential to affect*’ will be a *primitive term* in this ontology system but now it will be tried to be clarified a little bit more. The method that will be used to clarify the concept of ‘*having nomological potential to affect*’ will not define it strictly; ‘*nomological potential to affect*’ will be interpreted in a

conventional understanding of space-time instead. By apologizing ones who deny conventional understanding of space-time and ones who think it cannot be explained with three coordinates for three dimensions, now it is time to state an interpretation of ‘*nomological potential to affect*’. What is meant by the proposition “Something *has nomological potential to affect* another thing.” The following are the conditions that should be provided to decide whether *a* has nomological potential to affect *b*:

- a. (i) If both *a* and *b* are material objects then it must be nomologically possible that *a* is in the same space-time as *b*.
 - (ii) If *a* is an idea or a consciousness and *b* is a material object then it must be nomologically possible that the body that idea of *a* is tied to is in the same space-time as *b*.
 - (iii) If *a* is a material object and *b* is an idea or a consciousness, then it must be nomologically possible that *a* is in the same space-time as the body *b* is tied to.
 - (iv) If both *a* and *b* are ideas or consciousnesses, then it must be nomologically possible that the body that *a* is tied to is in the same space-time as the body *b* is tied to.

- b. Let *E* be the set of things that has nomological potential to affect *b*, $E-\{a\}=\{ e_1, e_2, e_3...\}$. There have to be $n_0, n_1, n_2, n_3...$ space-time positions, such that if *b*, $e_1, e_2, e_3...$ or bodies *b*, $e_1, e_2, e_3...$ tied to positioned on $n_0, n_1, n_2, n_3...$ respecting order; *a* affects (determinist approach) or may affect (indeterminist approach) at least one element of the set $E-\{a\}$.

The criterion can be clarified with a simple example: Does George Bush (his consciousness) have nomological potential to affect me (my consciousness)? Now let us enquire this: Our bodies are positioned in the same space-time. Then the criterion (a) has been satisfied. Now criterion (b): If we were in the same room and talk about his attitude towards the earth and the people, he would affect me. Beside that he is affecting me with his decisions from USA right now, even if we are so far

from each other in space. Then the criterion (b) has been satisfied too. So he has nomological potential to affect me. And since I am an effective being by definition 1, so he is by again definition 1 (“Something *was/is/will be* effective being if and only if it has nomological potential to affect an effective being.”).

Another example: Think of two balls. They are in two locked chests which prevent them from touching each other. Chests cannot be open in any way. I am shaking the first chest and hear the sound that the ball and the chest make. This sound is affecting me; so I know that I heard the sound. And with this effect (not reason), I am going and shaking the other chest and the second ball is being affected by me. In this case, since the first ball is affecting the second ball by mediation of me, I reach the conclusion that the first ball has nomological potential to affect the second one.

With a similar reasoning that is applied to George Bush case, we can conclude that Elvis Presley *was* an effective being. If Elvis Presley had been alive in the current time he could have affected me. Actually even if we do not change his space-time position, he is still affecting me with his song “*It’s now or never.*” With the same reasoning, we can say that George Bush is affecting future space-time positions dramatically.

I believe that the ghost of being is now clearer, since our primitive terms are sharper and if in the progressing sections the terms of the system can be sharpened more, the system will be even more clearer.

2.8 Does the Definition of ‘Effective Being’ Presuppose a Consciousness?

(Alternative Definitions)

Definition 1:

- (a) My consciousness is an effective being.
- (b) Something is ‘effective being’; if and only if it has nomological potential to affect an ‘effective being’.

It seems that definition 1 is based on the consciousness, as some of the concepts of 'being' we criticize. However 'my consciousness' in the proposition (a) of the definition 1 can actually be substituted by any of the effective beings in our reality. We could have used the premise "My dog's body is an effective being." or "My pen is an effective being" instead of the proposition "My consciousness is an effective being." But how can we know that these definitions would be equivalent to the original one (Definition 1)? The answer is related to proposition (b). If 'the relation of having nomological potential to affect' is an equivalence relation, then it is obvious that the alternative definitions would be equivalent to the definition 1. So if we want to show that equivalent alternative definitions of definition 1 can be generated in this way, we have to show that the relation of having nomological potential to affect possesses three properties:

- 1) Reflexivity
- 2) Symmetry
- 3) Transitivity

- (34) Every effective being can affect itself (at least) by mediation of another effective being. Or relation of having nomological potential to affect is reflexive.
- (35) If A has nomological potential to affect B, then B has nomological potential to affect A in our reality. Therefore the relation of having nomological potential to affect is symmetric in our reality.
- (36) The relation of having nomological potential to affect is transitive. In other words, if A has nomological potential to affect B and B has nomological potential to affect C, then A has nomological potential to affect C.

It seems that the relation of having nomological potential to affect is an equivalence relation in our reality. Then 'my consciousness' in definition 1 could have been substituted by any effective being, without changing coverage of the definition of 'effective being.' Therefore we can say that the structure of the definitions of effective being does not presuppose a consciousness. It could be applied to a world in which there are no consciousnesses with a simple trick.

There remains a last question for this section: If we have at least uncountably many alternative definitions for definition 1 (and this is the case), why is definition 1 or ‘my consciousness’ is preferred? With the light of the ideas of René Descartes¹⁴ and his followers, it can be concluded that even if ‘my consciousness’ is not a special object in ontology, it is a special object in epistemology of ontology. Even most of the skeptics and some of the materialists believe that *consciousness* exists (in a way). This is why it was preferred rather than any other effective beings.

2.9 Why not ‘Potential to be Affected’ but ‘Potential to Affect’?

Things that have nomological potential to affect effective beings *were/are/will be* effective beings. Some may ask: “Why do we say ‘potential to affect’ but not ‘potential to be affected’? Do not our intuitions say that just like things that affect being (with respect to a concept of ‘being’), the things that are affected by beings (with respect to the some concept of ‘being’) are also beings (with respect to the same concept of ‘being’)? Why do we exclude to be affected? Why do we limit set of beings? In other words, why do not we say “Things that have nomological potential to affect effective beings and things that have potential to be affected by effective beings are effective beings.”?

It will not be difficult to respond to this potential criticism. The criterion of ‘effective being’ would narrow the plane of existence only if the relation of having nomological potential to affect is not symmetric in our reality; however as it is stated in proposition (35) it seems that this relation is symmetric in our reality. On the other hand to see if the concept of ‘(effective) being’ is working (is useful) in a logically possible world, let us consider the situation in which the relation of having nomological potential to affect is not symmetric. Let there be an A such that, A does not have nomological potential to affect us but A has nomological potential to be affected by us. ‘The invisible dog’ can be an example of such an object: An invisible, untouchable, dog without smell, taste, and voice. Even if it cannot affect

¹⁴ Descartes, R. (1985). *The Philosophical Writings of Descartes: Volume I*. (J. Cottingham, R. Stoothoff, D. Murdoch, Trans.) New York: Cambridge University Press.

us, it hears our whistles and follows us. This dog does not have nomological potential to affect effective beings, but it has potential to be affected by effective beings. And yes, it is not an effective being and as it will be stated in proposition (38), this is not a problem for our desire to the knowledge.

Should the invisible dog be considered as an effective being? What may we know about it? We cannot know even if it is a being (with respect to a concept of 'being'), since it does not affect us. As proposition (6) expresses, because we cannot experience the dog, we cannot have a claim that can be tested about it. I.e. it is not knowable. What is the point in ascribing existence to something by which we cannot be affected and about which we are not able to have any knowledge. I do not think that there will be anyone who will object to such an interpretation of pragmatism.

(37) We cannot experience something that is not an effective being. (From 5 and Definition 1)

(38) We are not able to have any knowledge about something that is not an effective being. (From 4 and 37)

2.10 Parallel Realities

What are the difference(s) between the concept of 'effective being' and the U-C-being? It is not easy to answer this question; because there are many different U-C-beings and each U-C-being varies from effective being in a different way. In this section, parallel realities, which some of the concepts of being would consider as being, will be mentioned. In addition to this difference, parallel realities' being an important heading in continuation of this work is causing me to attach importance to this section.

According to some interpretations of effective being a reality that is parallel to us, i.e. a reality that has no potential to interact with our reality is not a being. Let me exemplify it: Think of 'living' things, which share the same space and time with us, which we cannot hear, which do not hear us, which we cannot see, which cannot

see us, of which we cannot get the smell, which cannot get our smell, which we cannot have taste of, which cannot have a taste of us, which does not affect us and which are not affected by us when they pass through the same spatial position with us. They are eating their foods parallel to us, we are eating ours; we are reading our books, they are reading their books parallel to us. As for the criterion for effective being, this parallel reality does not exist, because it has no potential to affect us. However, this imagined reality can be accepted as 'being' according to some of the U-C-beings. This difference seems to be a disadvantage of the understanding of effective being; the concept of 'effective being' makes the borders of being narrower.

Is it really so harmful to make the borders of being narrow in such a manner? The answer is stated in last section and concluded by proposition (38); but there are not strong enough reasons for hesitating to repeat: I suggest the concept of 'effective being' especially for disciplines that are in pursuit of objective knowledge. We must have experience first, so that knowledge can be reached. We can have our experience pass through the analysis by our mind only if we have experience. Then, since a parallel reality, which does not intersect with us, does not have any interaction with us, can we experience it? We have no potential to obtain knowledge about something that has no potential to affect us. What is the use of thinking about something of which we cannot have knowledge? It is obvious that to narrow the area of beings in such a manner is not a problem for disciplines.

On the other hand, the disciplines, which are after the truth, shall mention about parallel realities. What will they be saying? They will say that parallel realities are not effective beings and they will construct theories of parallel realities that have no base of empirical data. This will not cause us to lose anything because there is nothing that parallel realities (something we never experience, we can never interact) can contribute to us. I ask those who will blame me for being pragmatic – of course being a pragmatist is not an offense–: Why and *how* do you exert effort for studying a reality which has no potential to interact with you?

(39) Elements of realities parallel to us are not effective beings. (From definition of parallel reality and Definition 1)

(40) We may not know anything about parallel realities. (From 38 and 39)

We cannot have knowledge about something which does not have nomological potential to affect us but can we have beliefs about it? We can have right or wrong beliefs about the other realities which are parallel to us (of course if they exist with respect to conventional concepts of 'being') with the effects of the reality of which we are a part, without having any effect from the reality parallel to us. Even though the fantasy expressed in the lines above, which is about the living things which share the same space with us but does not have an effect on us, arise from our reality, not from a parallel reality; it may be in accuracy with a reality which is parallel to us. However, since we can never know which of the large number of beliefs are right and we cannot test them, these beliefs are not the subject of knowledge. We cannot have experience about parallel realities and we cannot reach knowledge of them.

Even if we cannot reach any knowledge about any specific individual reality that is parallel to ours, we can derive a theory of them with some assumptions. Let us see how the big picture becomes, if 'the relation of having nomological potential to affect' is an equivalence relation in also other realities: With such an assumption, every being that is in a specific reality, can affect every being in its own reality. And no being can interact with anything that is not in its own reality.

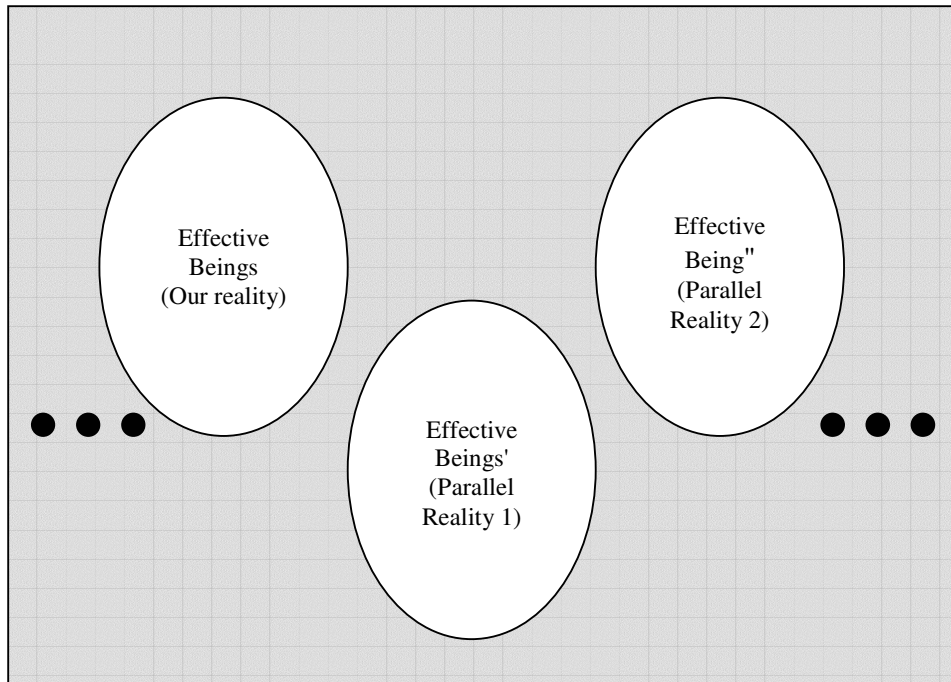


Figure1: Parallel Realities

Parallel realities each of which is isolated with other realities and ‘totally’ connected within itself.

David Lewis’ possible worlds are a kind of parallel realities. There are infinitely many ‘possibilities’ and only some of them was/are/will be actualized in our world. For David Lewis this means that the other possibilities come true in other possible worlds. For example, there is a world in which the Second World War has never begun or there is a world in which I have never written this essay. Unlike me, Lewis considers these worlds which are parallel to ours (causally isolated) as ‘being’:

When I profess realism about possible worlds, I mean to be taken literally. Possible worlds are what they are, and not some other thing. If asked what sort of thing they are, I cannot give the kind of reply my questioner probably expects: that is, a proposal to reduce possible worlds to something else.

I can only ask him to admit that he knows what sort of thing our world is, and then explain that possible worlds are more things of that sort, differing not in kind but only in what goes on at them.¹⁵

¹⁵ Lewis, D.K. (1973). *Counterfactuals*. Cambridge: Harvard University Press. p. 85

I do not know if possible worlds or parallel realities are really beings (with respect to David Lewis' concept of being) but if empiricism is not wrong in its argument that experience is the source of knowledge, I can conclude that David Lewis may not know if parallel worlds or possible worlds exists (with respect to any concept of being). The reason is simple but worth to (re-)write: For David Lewis, possible worlds are causally isolated from our world. However, if these worlds are really causally isolated from our world, we may not experience them, because we may not be affected by them; and if there is no experience of possible worlds, there will not be any knowledge of them either (besides knowledge of their non-being). It appears that, David Lewis' argument "I know that possible worlds, which are causally isolated from our world, exist."¹⁶ is a self contradictory one. If they are causally isolated, nobody may know that they exist.

2.11 Conclusion

We are in a reality in which the only 'communication' method is interaction. Something which does not have potential to affect us is unknowable by us. That is why the concept of 'nomological potential to affect' was chosen as the base for criterion of '(effective) being'. In this chapter, the strength of the concept of 'effective being' has been tested by some potential difficulties. It is also tested by thought experiments. To sum up, the question "*What should the word 'existence' refer to?*" (or as some say "*What is existence?*") has been inquired.

In addition to these, definition 1 and empirical data which was collected through history derived some ontological propositions answering the question "*Which candidates of (effective) being are (effective) beings?*" (or simply "*What exists?*"). We also discovered some of the properties those (effective) beings possess like they are knowable and the only things those are knowable by us are them.

¹⁶ This is not a citation.

At last the base for the foundation of a new axiomatic system of ontology has been constructed. The general idea can be improved much faster in the following chapters to complete the foundation of the axiomatic system of ontology.

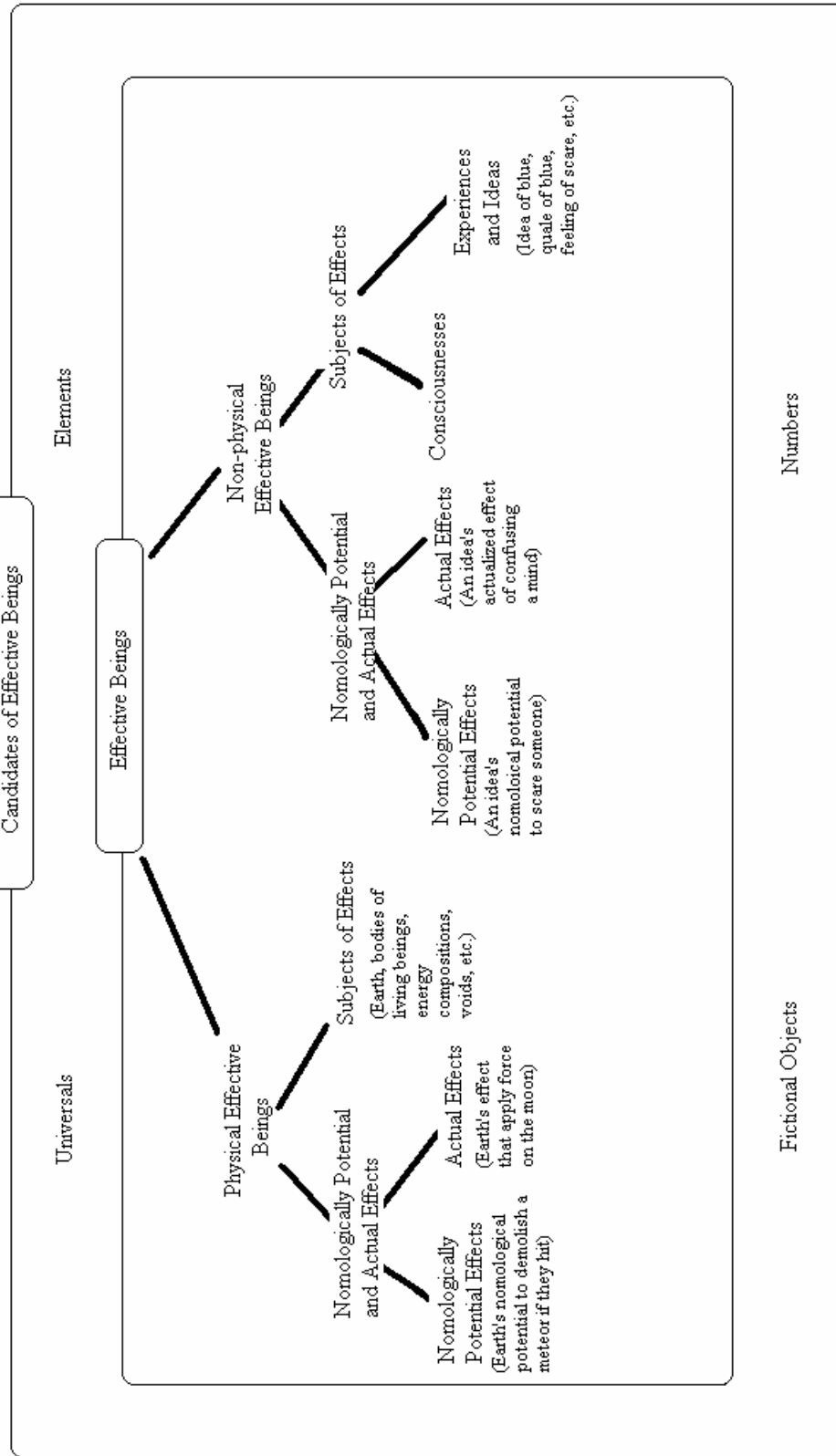


Figure 2: Effective Beings

III) HIERARCHICAL RELATIONS AMONG EFFECTIVE BEINGS

3.1 Introduction

In the second chapter, ‘effective being’ has been defined as an alternative of some concepts of being. In this chapter there will be three more definitions:

- 1) *Relation of existing dependently*
- 2) *Relation of existing absolutely dependently*
- 3) *Prime being*

These new definitions will serve the aim of categorizing ‘(effective) beings’. We will try to answer the question “Which effective beings are more ‘*fundamental*’?” by means of these definitions. As it is underlined in the second chapter, the concept of ‘effective being’ was an alternative for only some concepts of being. It was not an alternative for physicalist, idealist, and some other concepts of being. A materialist or idealist concept of being constructs a hierarchical relation among things what we call ‘effective beings’. A physicalist argues that only physical structures exist because other things owe their being in interaction with environment to physical structures. Some idealists pretends that only consciousnesses and ideas exists because for them other things owe their ability to interact with environment to consciousness(es) and ideas. These discussions among physicalists, idealists, dualists, etc. have an enormous importance in ontology and should not be ignored in an ontology system. That is why in this chapter foundation of our new axiomatic system of ontology will be developed to cover such discussions and alternate concepts of being which are related to these hierarchical relations among thing.

Until now, we have constructed one new concept named 'effective being' and three more concepts will be constructed in this last chapter. Unlike important thinkers Gilles Deleuze and Felix Guattari ("*What is Philosophy*"¹⁷), I think that philosophy has things to do besides creating concepts; however I also think that without right concepts, it is not likely that we will be successful at enlarging coverage of knowledge and making it more reliable.

3.2 Definitions of the Relations 'Existing Dependently' and 'Existing Absolutely Dependently'

Definition 2: Let a set of effective beings A and another set of effective beings B be disjoint. A exists dependently on B; if and only if, if all the elements of B had not been effective beings then none of the elements of A would have been effective beings.

Definition 3: Let A and B be two disjoint sets of effective beings. A exists absolutely dependently on B; if and only if, in all nomologically possible worlds, if elements of the set B had not been effective being, then none of the elements of A and none of the things which are qualitatively identical with at least one element of A would have been effective being.

(41) If A exists absolutely dependently on B, then A exists dependently on B. (From Definition 2 and Definition 3)

By definitions, proposition (41) is true; however, reverse of it is not. I.e. There are cases in which A exists dependently on B, but A does not exist absolutely dependently on B. Besides illustrating this situation, the following examples will also clarify definition 2 and definition 3: If the canvas and the paints had not been effective beings, then the image would not been effective being either. That is to

¹⁷ Deleuze G. & Guattari F. (1994). *What is Philosophy?*. (H. Tamlinson, G.Burchell, Trans.) New York: Columbia University Press.

say, the image of a ballerina exists dependently on the canvas and the paints. However the image of ballerina does not exist absolute dependently on the canvas and the paints. Why 'exist dependently' and not 'exist absolute dependently'? The answer is related to the fact that images which are qualitatively identical with this image of ballerina could have been constructed by other ways. Even if these canvas paints had not been effective beings, could not our mind create the same image? Or could not another canvas and other paints construct an image which is qualitatively identical with the original image? It is nomologically possible. In the same way, the image constructed by a statue exists dependently on the material of the statue but it does not exist absolutely dependently on the material of statue.

Moreover, if we consider that, as for a physicalist elements of mind are based on matters and physical processes, we reach these conclusions: "Image of ballerina exists absolutely dependently on set of physical effective beings.", "The images constructed by statue exist absolute dependently set of all physical effective beings."

- (42) For each set of non-physical effective being(s) A, there is a set of physical effective being(s) B such that, in all nomologically possible worlds, if elements of B had not been an effective being, then elements of A would not have been an effective being. (Physicalist Pre-Assumption)
- (43) Each set of non-physical effective being(s) exists absolutely dependently on a set of physical effective being(s). (From 42 and Definition 3)
- (44) All non-physical effective beings exist absolutely dependently on the set of physical effective beings. (From 43 and Definition 3)

What are the relations between (actual or nomologically potential) effects and subjects of effects? If Earth (subject of effect) had not been an effective being, then the gravitational force applied on the Moon by the Earth (effect) would not have been an effective being either. Each set of effects exists absolutely dependent on a set of subjects of effects and set of all effects exist absolutely dependent on set of all subjects of effects.

- (45) For each set of (actual or nomologically potential) effects, there is a set of subjects of effects B such that, in all nomologically possible worlds, if B had not been an effective being, then A would not have been an effective being. (Metaphysical pre-supposition)
- (46) Each set of (actual or nomologically potential) effects exists absolutely dependent on a set of subjects of effects. (From 42 and Definition 3)
- (47) All (actual or nomologically potential) effects exist absolutely dependent on the set of subjects of effects. (From 46 and Definition 3)

Definitions of relations ‘existing dependently’ and ‘existing absolutely dependently’ gives a reliable platform to discuss which (effective) beings are more fundamental. Now this young ontology system can bear idealism/physicalism discussions too. In the next two charts basic hierarchical relations among effective beings will be demonstrated:

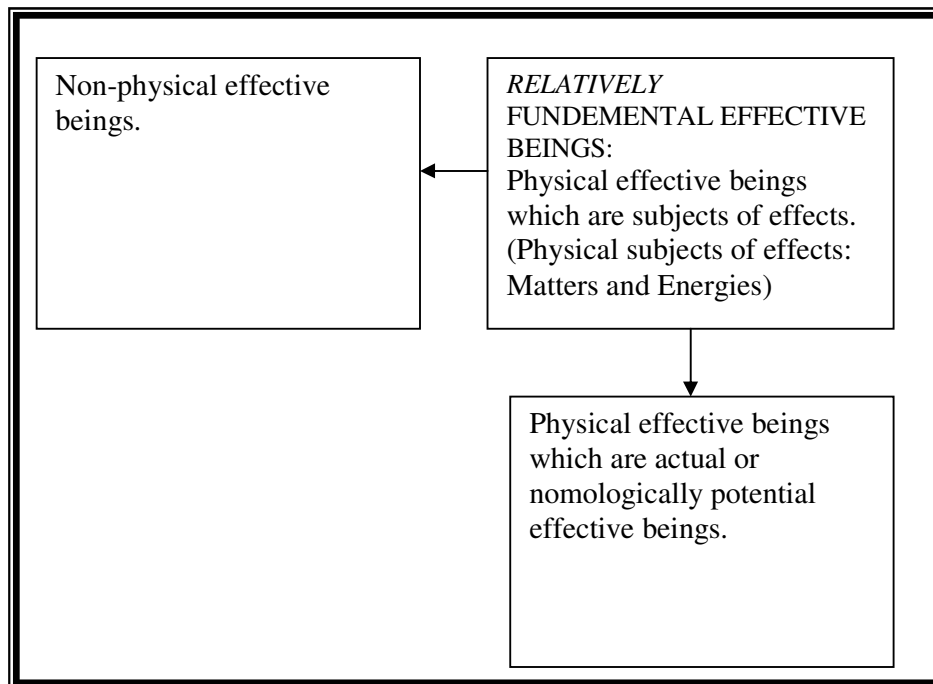


Figure 3: Basic Hierarchical Relation among Effective Beings

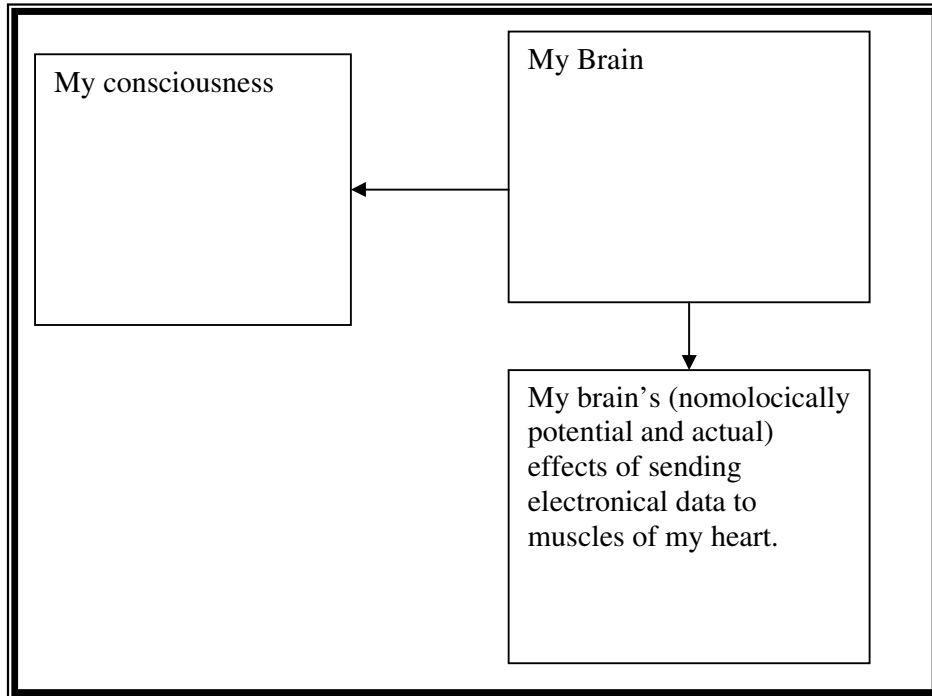


Figure 4: Illustration of Basic Hierarchical Relations among Effective Beings

3.3 Prime Being

By looking at the last chart, we see that physical subjects of effect (matter and energy) have an important role in ontology. Are material compositions and energy compositions the absolute foundation of the reality? This section and the last definition of this study will deal with this question.

Definition 4: An effective being a is prime being; if and only if there is no set of effective beings B , such that:

- (i) The set $\{a\}$ exists dependently on B .
- (ii) It is nomologically possible that B is not an effective being when every other effective being in the actual world remains as effective being.

Prime beings are the prime being is an effective being(s) which does not exist dependently on any effective being. Do prime beings which are absolutely foundational and independent of other effective beings exist? In other words, is there any effective being which do not exist dependently on any other effective being? It does not seem possible that this question is answered with the empirical data we have. I do not see any evidence that will prove the statement that there exists at least one prime being. And I do not see evidence that will prove the statement that there cannot be any prime being. However my intuition says that probably there exists at least one prime being. This is one of the reasons why I made such a definition.

Maybe my and many other's intuitions are right and there is at least one prime being; but in any case neither non-physical effective beings, nor effects are *the prime being* among the prime beings, because they are both dependent on material objects and energies (physical subjects of effects). Then for now, we have only two set of candidates that can be prime being: Material effective beings and energy composition (which are effective beings). Firstly let us emphasize on material effective beings:

It is obvious that the phenomenon of an image representing a ballerina is not a prime being, because a phenomenon of an image is a non-physical effective being and non-physical effective beings exists absolutely dependently on physical effective beings. What about the canvas which is material effective being? If a part of the canvas had not been effective being, then the canvas would not have been an effective being. So the canvas exists dependently on its parts (Criterion (i) in definition 4 is satisfied). Obviously it is nomologically possible that the canvas is not an effective being when every other effective being remains as effective being (Criterion (ii) is satisfied). Seemingly, we can conclude that things which are nomologically divisible are not prime being because they have parts which they exists dependently on.

(48) Things that are nomologically divisible are not prime beings. (From Definition 4)

It is hard to stay away from Gottfried Wilhelm Leibniz's 'monad's, when we reach this conclusion:

THE MONADOLGY

1. *The monad*, of which we shall discuss here is nothing other than a simple substance that enters into composites. Simple means without parts. (See *Theodicy*, sec. 10.)
2. And there must be simple substances, since there are composites; for the compound is nothing but an accumulation or *aggregate* of simples.
3. However, where there are no parts at all, no extension of figure or divisibility is possible. And these monads are the true atoms of nature, and, in a word, the elements of things.
4. There is no dissolution to fear in them and there is no way conceivable in which a simple substance can preish naturally. (See *Theodicy*, sec 89.)¹⁸

The prime being or prime beings should have many common characteristics with monads. Who can ignore such a suggestion which is in harmony with modern physics, philosophy of physics, and mathematics? Some physical objects (like futons) which are assumed to exist today are accepted to be non-dimensional and there is no empirical data supporting that they have dimensions. Unlike Leibniz's monads our prime beings does not have to be non-dimensional. If something is nomologically indivisible and does not exist dependently on anything other than itself, then it is a prime being. Maybe members of lepton and quark families or sub-parts of them—if they are effective beings—are some of the most important material candidates of prime being(s)...

- (49) An effective being a is prime being; if and only if, a is nomologically indivisible and $\{a\}$ does not exist dependently on any set of effective beings. (From definition 4)

Compositions of energy are also among physical candidates of prime beings. Compositions of energy seem to be positioned in space time like material compositions. On the other hand, according to proposition (49) none of the energy compositions which are nomologically divisible is prime being. What is meant by

¹⁸ Leibniz, G. W. (1991). *G. W. Leibniz's Monadology: An Edition for Students*. In N. Rescher (ed.). London: Routledge.

energies being divisible? Modern physics assumes that electromagnetic energies owe their being effective being to futons. Then compositions of electromagnetic energies which are divisible are not prime beings...

Seemingly, now I should get away from these scary topics rest of which could be done only with a stronger coordination between disciplines.

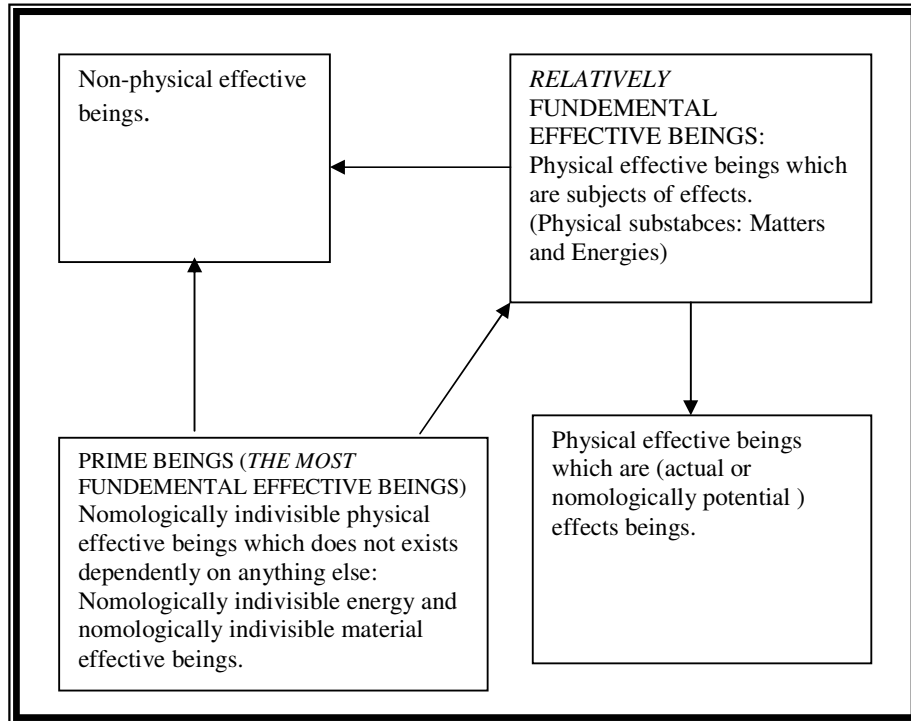


Figure 5: Relations between Prime Beings and other Effective Beings

3.4 Conclusion

There are many physical, mathematical, ontological, etc. relations among (effective) beings. The ‘relation of existing dependently’ and the ‘relation of existing absolutely dependently’ have been two of the most interesting relations along the history of ontology even if they have not been formulated and called in the same way as I did. These relations were so important that only a set of effective beings which has a special place with respect to these relations has been taken as ‘being’ by some philosophers (materialists and idealists). Spinoza has used the

concept of 'self-causing substance', which have many common properties with concept of prime being. Leibniz's monads were also quiet related to prime beings even if they owe their interaction with environment to something external (God). This last chapter was dedicated to replace the concepts of 'being' which are quiet related to hierarchical relations among effective beings.

Epilogue

The concept of 'effect' was the basis for the concept of 'effective being' and the concept of effective being was the basis for three definitions provided in this chapter. In other words this work has arisen on the concept of 'effect'. Events of effect are probably the most fundamental components of our reality. They are fundamental in ontology, because things can only 'communicate' by affecting. They are epistemologically fundamental, because we can only know things that have potential to affect us. And they are pragmatically fundamental, because we only *care* about things which have potential to affect us in daily life. These are why events of effect are the sources of the concepts of 'being' and why it is preferred in this study to define the concepts related to 'existence' by means of the concept of 'effect'.

Another aim of this work was to construct a foundation for an axiomatic system of ontology. At the end of this study I will share some definitions, axioms, and theorems of this system. A few definitions, pre-suppositions, and pre-assumptions are not pregnant for big consequences. Probably, on this ground, someone who does not know much and who does not have many pre-suppositions and pre-assumptions would not be able to derive interesting consequences. Unpretentious discoveries that I took seriously was a proof of this. Yes, a few definitions and an axiom are not always very fruitful; but it may reveal thing which are actually in our hands but overlooked in the confusing mechanism of reasoning...

FOUNDATION FOR AN AXIOMATIC SYSTEM OF ONTOLOGY

Referents

G(x): x can be experienced (by us).

K(x): Knowledge (besides knowledge of non-being) about x can be derived (by us).

K'(x): Knowledge that, x exists, can be derived (by us).

A(x): x can affect any consciousness (in our reality).

E: The set of effective beings.

P(x,y): x has nomological potential to affect y.

D: The set of the bodies of living beings.

C: The set of consciousnesses.

Q: The set of phenomena.

M: The set of material compositions.

M': The set of energy compositions.

T: The set of (individual) ideas.

N: The set of numbers.

U: The set of universals.

F: The set of fictional objects.

H: The set of nomologically potential effects.

I: The set of actual effects.

V: The set of voids.

J: The set of elements of realities those are parallel to our reality.

R(X,Y): Set of X exists dependently on set of Y.

R'(X,Y): Set of X exists absolutely dependently on set of Y.

Q(x,y): x and y are qualitatively identical.

$\Box n(p)$: Proposition p is true in all nomologically possible worlds.

W : Set of prime beings.

$\Diamond n(p)$: Proposition p is true in at least one nomologically possible world.

$O(x)$: x is nomologically divisible.

$L(x,y)$: x is a part of y .

Propositions

(3') $(\forall x)(\neg G(x) \rightarrow \neg K(x))$

(4') $(\forall x)(G(x) \rightarrow A(x))$

(5') $(\forall x)(\neg A(x) \rightarrow \neg K(x))$ (From 3' and 4')

(6') $(\forall x)(K'(x) \rightarrow K(x))$ (Analytical Statement)

(6'') $(\forall x)(\neg A(x) \rightarrow \neg K'(x))$ (From 5' and 6')

Definition 1':

(a') my consciousness $\in E$

(b') $x \in E \equiv (\exists y)(y \in E \wedge P(x,y))$

(10') $(\forall x)(x \in D \rightarrow P(x, \text{my consciousness}))$

(11') $(\forall x)(x \in D \rightarrow x \in E)$ (From 10' and Definition 1')

(12') $(\forall x)(\exists y)(x \in C \rightarrow (y \in D \wedge P(x,y)))$

(13') $(\forall x)(x \in C \rightarrow x \in E)$ (From 11', 12' and Definition 1')

(14') $(\forall x)(\exists y)(x \in Q \rightarrow (y \in C \wedge P(x,y)))$

(15') $(\forall x)(x \in Q \rightarrow x \in E)$ (From 14', 15' and Definition 1')

(16') $(\forall x)(\exists y)(x \in M \rightarrow (y \in D \wedge P(x,y)))$

(17') $(\forall x)(x \in M \rightarrow x \in E)$ (From 11', 16' and Definition 1')

(18') $(\forall x)(\exists y)(x \in M' \rightarrow (y \in M \wedge P(x,y)))$

(19') $(\forall x)(x \in M' \rightarrow x \in E)$ (From 17', 18' and Definition 1')

(20') $(\forall x)(\exists y)(x \in T \rightarrow (y \in C \wedge P(x,y)))$

(21') $(\forall x)(x \in T \rightarrow x \in E)$ (From 13', 20' and Definition 1')

(22') $(\forall x)(\forall y)(x \in N \wedge y \in E \rightarrow \neg P(x,y))$

(23') $(\forall x)(x \in N \rightarrow \neg x \in E)$ (From 22' and Definition 1')

- (24') $(\forall x)(\forall y)((x \in U \wedge y \in E) \rightarrow \neg P(x,y))$
- (25') $(\forall x)(x \in U \rightarrow \neg x \in E)$ (From 24' and Definition 1')
- (26') $(\forall x)(\forall y)((x \in F \wedge y \in E) \rightarrow \neg P(x,y))$
- (27') $(\forall x)(x \in F \rightarrow \neg x \in E)$ (From 26', and Definition 1')
- (28') $(\forall x)(\exists y)(x \in H \rightarrow (y \in E \wedge P(x,y)))$ (Analytic Statement)
- (29') $(\forall x)(x \in H \rightarrow x \in E)$ (From 28' and Definition 1')
- (30') $(\forall x)(\exists y)(x \in I \rightarrow (y \in E \wedge P(x,y)))$ (Analytic Statement)
- (31') $(\forall x)(x \in I \rightarrow x \in E)$ (From 30' and Definition 1')
- (32') $(\forall x)(\exists y)(x \in V \rightarrow (y \in E \wedge P(x,y)))$
- (33') $(\forall x)(x \in V \rightarrow x \in E)$ (From 32' and Definition 1')
- (34') $(\forall x)(\exists y)(x \in E \rightarrow (x \neq y \wedge P(x,y) \wedge P(y,x)))$
- (35') $(\forall x)(\forall y)((x \in E \wedge y \in E) \rightarrow (P(x,y) \rightarrow P(y,x)))$
- (36') $(\forall x)(\forall y)(\forall z)((P(x,y) \wedge P(y,z)) \rightarrow P(x,z))$
- (37') $(\forall x)(\forall y)(\neg y \in E \rightarrow (\neg x \in E \vee \neg P(y,x)))$ (From Definition 1)
- (37'') $(\forall x)(\forall y)(x \in E \rightarrow \neg P(y,x)) \leftrightarrow \neg A(y)$ (Analytic Statement)
- (37''') $(\forall x)(\neg x \in E \rightarrow \neg G(x))$ (From 5', 37' and 37'')
- (38') $(\forall x)(\neg x \in E \rightarrow \neg K(x))$ (From 4' and 37''')
- (39') $(\forall x)(\forall y)(x \in J \leftrightarrow (y \in E \rightarrow \neg P(x,y) \wedge \neg P(y,x)))$
- (39'') $(\forall x)(x \in J \rightarrow \neg x \in E)$ (From 39' and Definition 1)
- (40') $(\forall x)(x \in J \rightarrow \neg K(x))$ (From 38' and 39'')

Definition 2': $(\forall X)(\forall Y)(\forall x)(\forall y)(R(X,Y) \equiv (X \cap Y = \emptyset \wedge Y \subseteq E \wedge X \subseteq E \wedge ((y \in Y \rightarrow \neg y \in E) \square \rightarrow (x \in X \rightarrow \neg x \in E))))$

Definition 3': $(\forall X)(\forall Y)(\forall x)(\forall y)(\forall z)(R'(X,Y) \equiv (X \cap Y = \emptyset \wedge Y \subseteq E \wedge X \subseteq E \wedge \square n ((y \in Y \rightarrow \neg y \in E) \square \rightarrow (x \in X \rightarrow (\neg x \in E \wedge (Q(x,z) \rightarrow \neg z \in E))))))$

(41') $(\forall x)(\forall y)(R'(X,Y) \rightarrow R(X,Y))$ (From Definition 2' and Definition 3')

(42') $(\forall X)(\exists Y)(X \cap Y = \emptyset \wedge (X \subseteq C \cup T \rightarrow Y \subseteq M \cup M')) \wedge \square n ((y \in Y \rightarrow \neg y \in E) \square \rightarrow (x \in X \rightarrow (\neg x \in E \wedge (Q(x,z) \rightarrow \neg z \in E))))$ (Physicalist Presupposition)

- (43') $(C \cup T) \subseteq E \wedge (M \cup M') \subseteq E$ (From 14', 18', 20' and)
- (43'') $(\forall X)(\exists Y)(X \subseteq C \cup T \rightarrow Y \subseteq M \cup M' \wedge R'(X, Y))$ (From 42', 43' and Definition 3')
- (44') $(C \cup T) \cap (M \cup M') = \emptyset$ (Metaphysical Presupposition)
- (44'') $R'(C \cup T, M \cup M')$ (From 43'' and 44' and Definition 3')
- (45') $(\forall X)(\exists Y)(X \cap Y = \emptyset \wedge ((X \subseteq (H \cup I)) \rightarrow (Y \subseteq (E - (H \cup I)))) \wedge \Box n((y \in Y \rightarrow \neg y \in E) \Box \rightarrow (x \in X \rightarrow (\neg x \in E \wedge (Q(x, z) \rightarrow \neg z \in E))))))$ (Metaphysical Presupposition)
- (46') $(H \cup I) \subseteq E \wedge (E - (H \cup I)) \subseteq E$ (From 28' and 30')
- (46'') $(\forall X)(\exists Y)(X \subseteq H \cup I \rightarrow Y \subseteq (E - (H \cup I)) \wedge R'(X, Y))$ (From 45', 46' and Definition 3')
- (47') $(H \cup I) \cap (E - (H \cup I)) = \emptyset$ (Analytic statement)
- (47'') $R'((H \cup I), (E - (H \cup I)))$ (From 46'', 47' and Definition 3')
- Definition 4': $(\forall x)(\forall y)(\forall z)(\forall Y)(x \in W \equiv \neg (y \in Y \wedge (z \in E \rightarrow \Diamond(\neg y \in E \wedge (z \neq y \rightarrow z \in E))) \wedge (R(\{x\}, Y))))$
- (48') $(\forall x)(\exists y)(\forall z)(O(x) \leftrightarrow (L(y, x) \wedge (z \in E \rightarrow (\Diamond(\neg y \in E \wedge (z \neq y \rightarrow z \in E))))))$ (Metaphysical presupposition)
- (48'') $(\forall x)(\forall y)(L(y, x) \rightarrow x \neq y)$ (Analytic statement)
- (48''') $(\forall x)(\forall y)(L(y, x) \rightarrow \{x\} \cap \{y\} = \emptyset)$ (From 48'')
- (48''''') $(\forall x)(\forall y)(L(y, x) \wedge x \in E \rightarrow \{y\} \subseteq E)$ (Metaphysical presupposition)
- (48''''''') $(\forall x)(\forall y)(L(y, x) \rightarrow (\neg y \in E \Box \rightarrow \neg x \in E))$ (Analytic statement)
- (48''''''''') $(\forall x)(\forall y)(L(y, x) \rightarrow R(\{x\}, \{y\}))$ (From 48''', 48''''', 48'''''' and Definition 2)
- (48''''''''''') $(\forall x)(O(x) \rightarrow \neg x \in W)$ (From 48', 48'''''' and Definition 4)
- (49') $(\forall x)(\forall Y)(x \in W \leftrightarrow \neg O(x) \wedge \neg R(\{x\}, Y))$ (From 48' and Definition 4)

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