

A PROBLEM ABOUT 2-DIMENSIONAL SEMANTICS: AN ANALYSIS
OF CHALMERS' 2-DIMENSIONALISM AND 2-DIMENSIONAL
ARGUMENT AGAINST MATERIALISM

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CHALMERS' 2-DIMENSIONALISM AND 2-DIMENSIONAL ARGUMENT
AGAINST MATERIALISM**

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ABSTRACT

A PROBLEM ABOUT 2-DIMENSIONAL SEMANTICS: AN ANALYSIS OF CHALMERS' 2-DIMENSIONALISM AND 2-DIMENSIONAL ARGUMENT AGAINST MATERIALISM

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This thesis is intended to achieve two main goals. First, it evaluates the historical development and the philosophical outcomes of the different semantic theories. This evaluation will comprise selected works that represent different kinds of 0-dimensional, 1-dimensional, and 2-dimensional frameworks. 0-dimensional or classical semantics will be analyzed throughout the works of Gottlob Frege and Bertrand Russell. The advancement in the modal logic and problems that emanated from the classical picture caused the emergence of the possible world semantics, as

known as 1-dimensional semantics. 1-dimensional semantics will be analyzed according to the contrasting theories formed by Saul Kripke and David Lewis. 2-dimensional semantics, on the other hand, enables philosophers to grasp the meaning from two different aspects, with respect to the concept of possible worlds. The semantic, metasemantic, logical, and philosophical approaches centered around the 2-dimensional semantics will be surveyed by referencing the works of philosophers David Kaplan, Robert Stalnaker, Gareth Evans, Martin Davies Lloyd Humberstone, and Frank Jackson. The second aim of this thesis is to depict the 2-dimensional framework of David Chalmers, considering the contextual and epistemic versions of it. As an outcome of the postulated framework, Chalmers can construct his "2-Dimensional Argument Against Materialism" that considers the possibility of the zombie-worlds. The thesis claims that this argument is unintuitive and philosophically unsatisfying to rule out the materialistic thesis. The argument will be investigated to find points open to criticism and postulate possible solutions against the unintuitive conclusions.

Keywords: 2-Dimensional Semantics, Modal Metaphysics, Naturalism, Dualism, Zombie Argument

ÖZ

2-BOYUTLU SEMANTİKLER HAKKINDA BİR PROBLEM: CHALMERS'IN 2-BOYUTLUCULUĞU VE MATERYALİZME KARŞI 2-BOYUTLU ARGÜMANININ BİR ANALİZİ

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Yüksek Lisans, Felsefe Bölümü

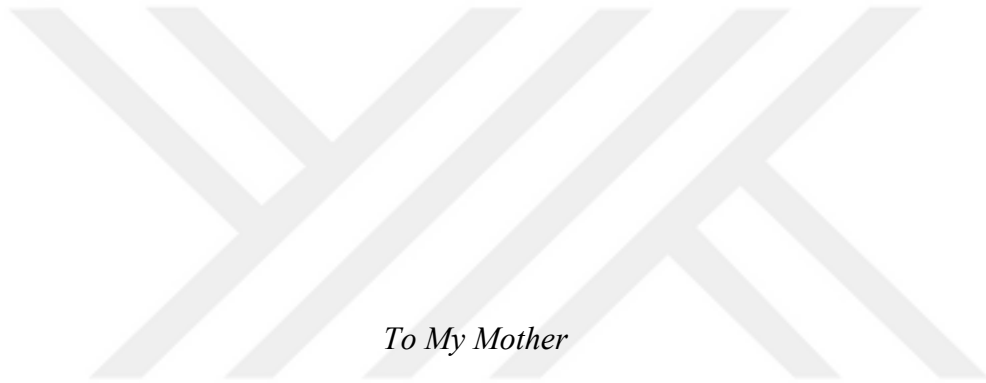
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Bu tezde iki temel amaç bulunmaktadır. İlk olarak, çeşitli semantik teorilerin tarihsel gelişimi ve felsefi etkileri incelenecektir. Bu inceleme, çeşitli türde 0-boyutlu, 1-boyutlu ve 2-boyutlu semantik teorileri temsil eden seçilmiş çalışmaları içerecektir. 0-boyutlu, ya da klasik semantik teoriler Gottlob Frege ve Bertrand Russell'in çalışmaları üzerinden incelenecektir. Modal mantık ve klasik tasvirde kaynaklanan sorunlar, 1-boyutlu semantik olarak bilinen mümkün dünyalar semantiğinin ortaya çıkmasına sebep olmuştur. 1-boyutlu semantik teoriler Saul Kripke ve David Lewis

tarafından ortaya konulan birbiriyle çelişik teoriler üzerinden analiz edilecektir. Diğer yandan 2-boyutlu semantikler, mümkün dünyalar kavramı üzerinden filozofların anlamı iki farklı açıdan kavramalarına olanak tanımaktadır. 2-boyutlu semantik çevresinde kümlenen semantik, metasematik, mantıksal ve felsefi yaklaşımlar David Kaplan, Robert Stalnaker, Gareth Evans, Martin Davies Lloyd Humberstone, ve Frank Jackson'ın çalışmalarına referansla incelenecektir. Bu tezin ikinci amacı ise David Chalmers tarafından ortaya konulan 2-boyutlu çerçeveyi, bağlamsal ve epistemik versiyonlarını da içerecek şekilde ele almaktır. Ortaya konulan çerçevenin bir çıktısı olarak Chalmers, zombi-dünyalarının imkansızlığını ele alan “Materyalizme Karşı 2-Boyutlu Argüman”ını öne sürebilmektedir. Tez bu argümanın sezgisel olmadığını ve materyalist tezleri ortadan kaldırmak için felsefi olarak tatmin edici olmadığını öne sürmektedir. Chalmers’ın argümanı muhtemel eleştiriye açık noktaları bulmak ve sezgisel olmayan sonuçlarına muhtemel çözümler önermek için incelenecektir.

Anahtar Kelimeler: 2-Boyutlu Semantikler, Kipsel Metafizik, Natüralizm, Düalizm, Zombi Argümanı



To My Mother

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CHAPTER 1

INTRODUCTION

The 2-dimensional semantics is a potent tool for considering meaning from different aspects. However, besides analyzing the meaning, the framework created by 2-dimensional semantics is used to make certain metaphysical assumptions for some philosophers. It seems that some 2-dimensional frames could be grounded on Cartesian conceivability arguments and property dualism. This thesis is constructed to achieve two primary goals. First, to show how 2-dimensional frameworks emerged in the history of philosophy and how they are working. Second, to analyze and evaluate Chalmers' 2-dimensional framework and his famous "2-Dimensional Argument Against Materialism". Even though 2-dimensional semantics are valuable in grasping different aspects of the meaning, Chalmers' usage of 2-dimensional frameworks is somehow off track. Some key concepts such as naturalistic dualism, conceivability, and epistemic intensions shall be reevaluated to whether they are well-defined and whether they achieve their agenda. Thus, the thesis contains six chapters which in their totality, tries to achieve these two aims.

Chapter 2 contains the historically relevant background of the 2-dimensional frameworks. Under 2.1, the 0-dimensional theories are analyzed throughout the works of Gottlob Frege and Bertrand Russell. Under 2.2, the basic structure of 1-dimensional or possible world semantics is depicted by referencing the works of Saul Kripke and David Lewis. The sections starting with 2.3 survey the various sorts of 2-dimensional frames. Theories by David Kaplan, Robert Stalnaker, Gareth Evans, Martin Davies,

Lloyd Humberstone, and Frank Jackson are evaluated to show how 2-dimensional frames work in their semantic, metasemantic, logical, and philosophical applications.

Chapter 3 is where we started to work on our second goal. Chalmers' 2-dimensionalism is described within different aspects. The underlying philosophical motives, contextual and epistemic understanding of 2-dimensionalism, and 2-Dimensional Argument Against Materialism are analyzed.

Chapter 4 evaluates Chalmers' claims with a critical stance. It seems that Chalmers is failing to define epistemic intensions in a non-circular way. Moreover, the zombie argument presupposes a dualistic understanding as a first step, and it is not conclusive in the sense that Chalmers is taking. Further, there could be problems about the role of natural laws in Chalmers' understanding. At last, we will consider the modal conceivability argument as thought experiments and try to achieve a more plausible analysis of thought experiments compatible with naturalism.

CHAPTER 2

FROM 0-DIMENSION TO 2-DIMENSION

This chapter will focus on the differences among 0-dimensional, 1-dimensional, and 2-dimensional semantics. Historically important figures and discussions shall be analyzed to create an understanding of the function of these theories. The chapter is organized into three sections.

In the first section, 0-dimensional theories will be discussed. Frege and Russell's philosophical approaches will be exemplified and analyzed to provide an understanding of the working mechanism of 0-dimensional semantics. Moreover, the theories of these two philosophers will help us understand further disputes based on their work.

The second section will be based on the 1-dimensional semantics or possible world semantics. As the prominent figures on this topic, works by Saul Kripke and David Lewis will be analyzed. The section also comprises a discussion about modal realism and modal fictionalism, which will be crucial in the following chapters.

The third section focuses on the 2-dimensional semantics. The sections will analyze the works of Robert Stalnaker, David Kaplan, Frank Jackson, Martin Davies and Lloyd Humberstone. This analysis shall provide some information about the history, structure, and various applications of 2-dimensional semantics.

2.1 0-Dimensional Semantics

0-dimensional semantics is called classical semantics. In a sense, 0-dimensional semantics are the simplest or the primary form of semantic inquiry in philosophy. The simplicity and the primacy here do not come from the easier applicability of the theories. Rather, this is due to their method of analysis. 0-dimensional semantics analyzes expressions throughout their meaning and truth values (True or False) according to the world we live in. In a more technical sense, the world we live in is called the "actual world". The primary working mechanism of the 0-dimensional semantic frameworks can be defined as assigning "extensions as the semantic values of particular expressions".¹ Following the definition, the semantic value of the "Hesperus" is the class of the things called "Hesperus". According to our world, the class is a single element set, only containing the "planet Venus".

To explain how a 0-dimensional framework considers the analysis of the sentence S1: "Quicksilver is hydrargyrum."

- (1) 'Quicksilver' is the name of the element mercury.
- (2) 'Hydrargyrum' is the name of the element mercury.
- (3) We know that 'Quicksilver' and 'Hydrargyrum' have the same extensions since they indicate element mercury. [From (1) and (2)]
- (4) In the sentence 'is' is used in the sense of 'identity', so S1 is an identity sentence between the expressions 'Quicksilver' and 'Hydrargyrum'.
- (5) Therefore, S1 is True. [From (3) and (4)]

We can demonstrate the conclusion by using a table, as in the following:

¹ Schroeter (2021)

Table 1: Truth Table of S1

Sentence	Truth Value
S1: "Quicksilver is hydrargyrum."	True

In the analysis, we used basic tools of semantics. To attain the meaning, we used extensions of the "quicksilver" and "hydrargyrum" and proved that they are coextensive ((1), (2), (3)). The structure of the sentence proved that it is an identity statement (4). As an identity statement that contains two coextensive terms, sentence yield value True (5).

To understand how 0-dimensional theories can affect philosophy, we can briefly mention Russell's work on the philosophy of language. Russell's theory of descriptions is best exemplified under his two texts, namely "On Denoting"² and "Knowledge by Acquaintance and Knowledge by Description"³. In "On Denoting" Russell focuses on the logical reconsideration of certain types of denoting phrases. For our current purposes, we shall focus on another cardinal part of his theory that can be regarded as the epistemological extent of his theory.

Russell differentiates between two types of knowledge, namely, knowledge by acquaintance and knowledge by description. The acquaintance is gathered throughout direct cognitive relations or direct awareness⁴, whereas the description manifests as the phrases in the forms of "a so-and-so" and "the so-and-so".⁵ From that perspective, I know the blackness of my mug by acquaintance since I am seeing it directly. On the

² See Russell (1905)

³ See Russell (1910)

⁴ Russell (1910), p. 108

⁵ Russell (1910) p. 112

other hand, I can know the object "the biggest mug" only through its description since I do not hold such-and-such an acquaintance with the such-and-such object. Here, Russell takes proper names as descriptions since true descriptions can be substituted with the proper names.⁶ In this regard, the proper name "Eren" is not only associated with or corresponds to the description of "Brother of Taylan", but also could be used instead of it.

Russellian theory of descriptions, at its core, depends on the logical analysis and the epistemological consideration of the denoting phrases. In a nutshell, this theory is known as the descriptivism, and links with the important discussions about proper names. I believe that it is enough to depict how 0-dimensional semantic frameworks work. After this point, we shall turn to analyze some key ideas from Frege.

2.1.1 Frege's Sense and Reference

Frege, sometimes considered as the pioneer of analytic philosophy, worked on a range of topics about philosophy of mathematics, logic, and language. In this section, we will deal with concepts from his essential paper, "On Sense and Reference" (Ger. *Über Sinn und Bedeutung*).

Textbooks often construct concepts of "sense" and "reference" around two puzzles that Frege articulates. In "On Sense and Reference"⁷ Frege begins to unfold his thoughts by asserting his first puzzle, often referred to as "The Identity Puzzle". There could be two different types of identity; first, the formal structure of " $a=a$ ", where the second is " $a=b$ ". To illustrate:

⁶ Russell (1910) p. 114

⁷ See, Frege (1997), pp. 151-171

S2: "Hesperus is Hesperus" [In the form $a=a$]

S3: "Hesperus is Phosphorus" [In the form $a=b$]

Both of these sentences, S2 and S3, are identity statements. Nevertheless, how can one be able to justify these identity claims? It is easy in the case of S2. "Hesperus" is identical to itself due to the Law of Identity in the Aristotelian sense. A thing must be identical with itself, and the negation of this is unthinkable. Since it is an output of logic, we can claim that it is justified *a priori*.

Compared with the " $a=a$ ", things are more complicated for the sentences having the form " $a=b$ ". *A priori* reflection seems not to be helpful in such cases. Rather, to justify the identity between "Hesperus" and "Phosphorus", we need a different approach. Let us consider the definitions of these proper names:

(Def) Hesperus: the brightest object in the evening sky.

(Def) Phosphorus: the brightest object in the morning sky.

However, by definition, "the brightest object in the evening sky" is not identical to "the brightest object in the morning sky". Thus, one needs empirical data or *a posteriori* verification. Since these are the names of objects in the sky, they need to be pointing, denoting or referring to some concrete object. The following is the reference relations for "Hesperus" and "Phosphorus":

Ref (Hesperus) = the planet Venus

Ref (Phosphorus) = the planet Venus

Thanks to the astronomical observations, we know *a posteriori* that both "Hesperus" and "Phosphorus" point to Venus. Now, one can claim that S3 is True.

Frege stressed this particular situation, and he claims that there is a cognitive difference⁸ between these two types of identity sentences, as we proved so far. To solve this puzzle, Frege asserts his differentiation of "sense" (Ger. *Sinn*) and "reference" (Ger. *Bedeutung*). Reference for the expressions is what they stand for or

⁸ Frege (1997), p. 151

what they denote. In our case, it was the planet, Venus. However, the source of the cognitive difference is the "sense", or their mode of presentation.⁹ The planet Venus was defined and conceived differently. Even "Hesperus" and "Phosphorus" have the same reference, they have different senses. Hence, the puzzle was solved by revealing the difference between the denotation and mode of presentation.

Before starting the second puzzle, we shall touch on some key points of Frege's theory. Names with no referents, or empty names such as "Zeus" or "Odin", also have senses. This is possible because even without caring about the reference of those names, we could postulate senses about them. Further, Frege's distinction between sense and reference could apply to the sentences. At the sentential level, the sense and reference are affected by the composition of the expressions. Reference is its truth value, and the sense is the thought expressed by the sentence. Let us continue with the second puzzle.

The other puzzle is known as the "Propositional Attitude Puzzle", and Frege discusses such occurrences under the name of indirect speech. Propositional attitudes are the mental relations of an agent towards a proposition. Desires, beliefs, intension, and other kinds of mental states associated with a declarative sentence might be counted under the propositional attitudes. The puzzle could be illuminated as in the following:

- (1) Yaşar Kemal is the author of *İnce Memed*.
- (2) Yaşar Kemal is Kemal Sadık Gökçeli.
- (3) Therefore, Kemal Sadık Gökçeli is the author of *İnce Memed*.

In this example, the conclusion is True since the identity between two names ensures it by Leibniz's Law (or, indiscernibility of identicals). But, consider the following example:

- (1) Eren believes that Yaşar Kemal is the author of *İnce Memed*.
- (2) Yaşar Kemal is Kemal Sadık Gökçeli.
- (3) Therefore, Eren believes that Kemal Sadık Gökçeli is the author of *İnce Memed*.

⁹ Frege (1997), p. 152

In this example, the conclusion yields False since Leibniz's Law seems inapplicable. There could be a possibility of the agent not knowing that "Yaşar Kemal is Kemal Sadık Gökçeli", and in that case, we cannot secure our conclusion.

To solve this problem, Frege assumes a shift between the sense and the reference. We know that, in customary settings, the reference of a sentence is its truth value. Nevertheless, propositional attitude sentences denote the person's thoughts about an object rather than the object itself. Here, the reference relation of the expression is established with a belief rather than with a truth value. Thus, in the case of propositional attitudes, the reference of an expression shifted to its sense.

Under this section, we introduced Frege's concepts of sense and reference. These concepts will be valuable in our discussions relating to Russell and Kripke. Beyond that, Chalmers considers Frege's theory of sense as the first step of 2-dimensionalism; this point will be discussed in Chapter 3.

Until this point, we have only dealt with the 0-dimensional semantics, which will create a basis for many works by 1-dimension or 2-dimension theorists. Now, we need to start considering 1-dimensional semantics.

2.2. 1-Dimensional Semantics

1-dimensional semantics, or possible world semantics, is developed as an enriched critique of the 0-dimensional semantics. The enhancement is mainly caused by developing and deploying "necessary" and "possible" modal operators into semantic theories. The change in the semantic theories could be illuminated by the examples of necessary and possible propositions. A necessary proposition is True under all truth-conditions that can be asserted. On the contrary, the truth value of a possible proposition can change due to different truth conditions. Take the statement " $2 \times 6 = 12$ ". Since the proposition does not contain an internal contradiction, it is true under all conditions. Thus, it is necessary. Nevertheless, the proposition "Alexander the Great

is the student of Aristotle" is a possible proposition. The proposition is True in our world. However, its truth value might be altered in different conditions. Things might have gone differently in history, and the relation between Aristotle and Alexander the Great might have never been actualized. Then, the sentence will be false according to conditions presupposed by our new world. In this sense, there is an intuitive difference between necessary and possible statements that can be discovered by asking the question, "Whether this could have been otherwise?".

This question is crucial since it is one of the main ideas behind the 1-dimensional semantics. Every alternative answer to the question means different possible worlds. To put it more philosophically, in possible world semantics, "the semantic value of an expression is an intension, a function that assigns an extension to the expression 'at' every possible world".¹⁰ To illustrate, the intension of the "teacher of Alexander the Great" might mean "Xenocrates" for an arbitrary possible world w^i . On the other hand, the name "Alexander the Great" picks out the same individual where the individual exists.

The basic working mechanism of the 1-dimensional semantics, in a nutshell, is explained above. Now, we need to consider the different approaches of Kripke and Lewis.

2.2.1 Kripke: Basic Notions from *Naming and Necessity*

Besides being among the most prominent philosophers in the 20th century, Saul Kripke is a founding figure of 1-dimensional semantics, especially considering his work on

¹⁰ Schroeter (2021)

¹¹ " w " is used as a symbol for denoting the possible worlds.

the modal logic, and philosophy of language. This section will be centered on his seminal work *Naming and Necessity*¹².

Thus far, we have examined Frege and Russell's theories. Despite having different merits, and being different types of apparatuses, both of their theories have a particular emphasis on the descriptions. From a Russellian point of view, a proper name, and definite descriptions associated with it, are in a sense, synonymous. On the other hand, Fregean analysis of the meaning of proper names is tied with their descriptions regarding their senses. For the sake of simplicity, we can call their view descriptivism. In a nutshell, descriptivism often characterized with associating proper names are abbreviations of associated definite descriptions. Kripke's philosophical approach is motivated by a radical departure from the descriptivist theory of the names. Assuming that the views of Frege and Russell are false,¹³ Kripke propounds three cardinal arguments about the nature of the names. For our current purposes, we will analyze his argument on rigid designators only.

In the argument, Kripke focuses on the modal relations between the proper names and associated descriptions. Let us take a proper name, such as "Georgy Zhukov" and an associated definite description "the Commander of Parade of Victors". Moreover, also consider two sentences S4: "Georgy Zhukov is Georgy Zhukov", and S5: "Georgy Zhukov is the Commander of Parade of Victors", according to our actual world ($w_{@}$ ¹⁴), and other possible worlds w_1 , w_2 , and w_3 . In w_1 , Zhukov is not the commander, but Konev is, and S5 is false; in w_2 , Zhukov does not exist at all; and in w_3 , Zhukov was executed instead of Tukhachevsky, and the sentence is false again. Thus, the 1-dimensional analysis of the sentences will be something like that:

¹² See Kripke (1980)

¹³ Kripke (1980), p. 29

¹⁴ Symbol "@" is used for denoting the actual world.

Table 2: Truth Values of Sentences S4 and S5

	$w@$	w_1	w_2	w_3
S4	T	T	F	T
S5	T	F	F	F

Rather than picturing the slippery hills of Soviet politics, the tableaux prove that the analysis of the sentences varies concerning different sets of possible worlds. S4 is True in all cases, except the w_2 , where the individual is not existing. On the other hand, the sentence S5 is True in the actual world, since one might postulate alternative conditions that can alter the truth condition of the sentence. By stressing these points, Kripke makes a theoretical foundation, namely the concept of rigid designation. A rigid designator is something that designates the particular object in all possible worlds where the object exists.¹⁵ The names are rigid designators since they point to the exact individual in all possible worlds. On the contrary, even definite descriptions can fix the meaning of names in some occasions and cannot persist the relation in all possible worlds. Thus, the names and their descriptions are not the same when the concept of rigidity is elaborated in the picture. Kripke offers an alternative theory that depends on the historical reference; an object is named with an initial baptism, and the relation is sustained in further usages.¹⁶

Kripke's theoretical achievement is not only limited to rigid designators. Connected with his theoretical frame, he made a significant contribution to the point where epistemology and metaphysics intersect. Since Kantian philosophy, for many philosophers, the concepts of necessity and *a prioricity* are taken as intertwined concepts. Metaphysical necessities are open to *a priori* investigation and justification. On the contrary, *a posteriori* knowledge is coupled with contingency. Kripke's

¹⁵ Kripke (1980) p. 48

¹⁶ Kripke (1980) p. 96

philosophical findings strongly contrast with the classical thesis as he introduces the concepts of contingent *a priori* and necessary *a posteriori*.

Kripke's argument about the existence of contingent *a priori* truths is based on the separation of metaphysical and epistemological domains; the epistemological status is not directly related to the metaphysical profile of the objects.¹⁷ In the original example, Kripke considers the sentence "Length of the stick S is one meter".¹⁸ Following the same vein, let us take the example of "International Prototype of Kilogram weighs one kilogram". This sentence is True, since there is a such-and-such iridium cylinder used to determine the weight of one kilogram in the Metric System.

First, we need to consider whether this sentence is necessary or not. Within a given time interval, such as t_0 , one can conclude that "International Prototype of Kilogram" is necessarily "one kilogram". It is true that "one kilogram" does rigidly designate "one kilogram". Nevertheless, the iridium ball faces different physical powers that affect its weight throughout time as a physical object. Therefore, it is not a rigid designator. Since this is an identity statement containing a rigid designator and a non-rigid one, the identity established between those is not preserved in every possible world. Hence, the sentence is not necessary, but it is contingent.

We know that "International Prototype of Kilogram weighs one kilogram" is contingent. Still, one must show whether this is *a priori* or *a posteriori* to claim that the sentence is an example of contingent *a priori*. Classical epistemology has the tendency of considering this sentence as *a posteriori*, since it is contingent. After the initial fixation of the meaning, the process of consideration about the weight is not *a posteriori*, but *a priori*. One needs only to remember or recall the definition as an automated process. Therefore, the sentence "International Prototype of Kilogram weighs one kilogram" is an example of contingent *a priori* truths. After this point, we shall focus on the necessary *a posteriori* truth.

¹⁷ Kripke (2001), p. 83

¹⁸ Kripke (1980) p. 54

Discussions on the necessary *a posteriori* truths are more complex. Kripke considers three types of necessary *a posteriori* propositions. The first one is the necessary identity between the proper names. Our famous sentence "Hesperus is Phosphorus" contains two rigid designators; the identity will be maintained for every possible world in which this name exists. Then, the proposition is necessarily true. Further, as discussed in section 2.1.2, the identity relation between names "Hesperus" and "Phosphorus" could only be achieved with *a posteriori* astronomical investigation. In general, this argument applies to any sentence establishing an identity relation between different proper names such as "Cicero is Tully" or "Yaşar Kemal is Kemal Sadık Gökçeli".

The second sort of necessary *a posteriori* truths is theoretical identities. The discussion about the theoretical identities primarily focused on the natural kind terms. Kripke considers examples such as "light is a stream of photons", "water is H₂O", "lightning is an electrical discharge", "gold is the element with the atomic number 79".¹⁹ By nature, every actual example of a natural kind shares the exact features with the rest of the class. To illustrate, every sample of element gold has atomic number 79. If one is talking about a gold sample that has atomic number 78 or 80, possibly making a linguistic mistake or is confused about chemistry. Thus, these statements are necessary, and they depend on a *a posteriori* knowledge by their nature. The discussion about the theoretical identities is crucial since it will be cordially associated with the third kind of *a posteriori* necessities.

The third kind of necessary *a posteriori* propositions are the sentences made with reference to essential properties. Essential properties are defined as properties that are an object that cannot exist without them, and except trivial essential properties, as such self-identity, these are *a posteriori* in general.²⁰ Kripke's classic examples contain

¹⁹ Kripke (1980) p. 116

²⁰ Kripke (2001), pp. 80-81

propositions about the origins of the objects, material or hereditary.²¹ He argues that the essential properties cannot change within time, and the object could not be that particular object without having the essential properties. To illustrate, let us consider a particular mug. The mug might undergo various cosmetic changes during a time interval; it might be broken or washed out of its paint. Nevertheless, the changes will only affect the accidental properties; the essential properties such as the physicochemical composition or the origins of its constituent materials shall proceed over time. All of those essential properties are in the area of *a posteriori* knowledge rather than *a priori*. Thus, from a Kripkean point of view, propositions about essential properties are both necessary and *a posteriori*.

I claim that the essential properties have undeniable importance for Kripkean understanding of metaphysics and epistemology. In the rigidity relations, except the trivial and *a priori* claims, most of the possible sentences are formed with appealing to essential properties. This relation between the rigid designation and essential properties are stated by Scott Soames as in the following:

If *n* is a rigid designator of *o*, and *F* is a predicate expressing the property *P*, then the claim that *P* is an essential property of *o* is equivalent to the claim it is necessary that if *n* exists, then *n* is *F*²²

On the other hand, the research into the natural kinds is about the discovery of relevant scientific findings and serves as discoveries of the essences in a broad sense. Moreover, proper names and natural kind terms could serve as name tags that sustained by historical chains for the relevant essences. Thus, from that point of view, Kripkean analysis of possible worlds, or the 1-dimensionalism of Kripke, turns to be a program that profoundly enhances essential claims into the semantic analysis.

Thus far, we have discussed Kripke's possible world semantics. Now we shall focus on an alternative approach that is formed by David Lewis.

²¹ Kripke (2001), p. 81; Kripke (1980), p. 113

²² Soames (2003), p. 347

2.2.2 Lewis on Modal Realism

David Lewis has numerous contributions to the theory of 1-dimensional semantics. His work on the counterfactuals and counterpart theory are just some of these. It will be almost impossible to encapsulate his philosophical achievements in detail within the limits of a short section. Rather, we will focus on his understanding of possible worlds based on his modal realism by considering his famous chapter "A Philosophers' Paradise" from *On the Plurality of Worlds*.²³ Nevertheless, before analyzing the tenets of his modal realism, we shall underline four particular points about Lewis and his philosophical agenda.

First of all, Lewis is a realist in the broadest sense of the term. Daniel Nolan claims that Lewis is both a scientific and modal realist who internalized a materialist approach.²⁴ Therefore, Lewis holds that all the relations uncovered by science and metaphysics are real and independent truth bearers; his materialism, on the other hand, comprises the idea that the physical story of the world is a complete picture.²⁵ Realism and materialism will be critical concepts for Lewis' model since these are not just *de facto* positions gained after his philosophical efforts, but also these serve as a general pathfinder for his philosophical inventions.

Second, Lewis has a historical background on investing in modal realism. This background might be traced back to his early work on the counterfactuals claimed by Weatherson.²⁶ We can assume that the following paragraph is a precursor for the manifestation of modal realism:

²³ See Lewis (1986)

²⁴ Nolan (2005), p. 26

²⁵ Nolan (2005), p. 26

²⁶ Weatherson (2021)

I believe that *there are possible worlds other than the one we happen to inhabit* ... I believe, and so do you, that things could have been different in countless ways. But what does this mean? Ordinary language permits the paraphrase: there are many ways things could have been besides the way actually are...I therefore *believe in the existence of entities that might be called "ways things could have been"*. I prefer to call them "possible worlds".²⁷

At its face value, this paragraph defines what possible worlds are. Those are the paraphrases of the situations or state of affairs we have encountered in our daily lives. Every paraphrase directs us to another possible world; every possibility should create its world that is actualized. These are the primary conclusions from the paragraph. Under careful investigation, it is easy to see that emphasized parts contain existential claims, a commitment to the existence of possible worlds that are distinct from our world. Lewis will be frankly declaring this commitment in his later work, besides making substantial changes.

Third, modal realism could also be a systematic requirement rather than a philosophically enriching theoretical foundation. Bricker argues that, by accepting the existence of the possible worlds, Lewis can systematize his philosophical approach towards a total theory that is philosophically economical and consistent.²⁸ Following this particular interpretation, the systematizing value of the theory is somehow prior to the philosophical achievements. Still, we need to note that Lewis emphasizes the philosophical gains of his hypothetical standpoint. The fourth point best supports alternative interpretation.

Fourth, the plausibility of the hypothesis of the plurality of worlds is dependent on cost-efficiency in a sense. The philosophical paradise could be established by bearing the burdens of the hypothesis. The hypothesis is serviceable, which serves as an indicator of its truth.²⁹ Thus, it is pragmatically favorable. The hypothesis grounds the

²⁷ Lewis (2001), p. 84; see also Weatherson (2021); Emphasis added

²⁸ Bricker (2006), p. 247

²⁹ Lewis (1986) p. 3

modal notions and those impact the diverse areas of the philosophy. For philosophical advancement, Lewis claims that the ontological price that we should pay due to his hypothesis is lower than the other competing hypotheses.³⁰

However, what is modal realism, and what is our burden as philosophers to tolerate reaching safe-havens? Modal realism is the acceptance of the hypothesis that the plurality of worlds that underlines our world and other possible worlds are not different.³¹ Numerous possible worlds differ in the actualized possibilities. For example, there is a world inhabited by "four-legged blonde Martians", or "talking donkeys", and so on. Although these worlds have varied in their contents, they all share the same status or category; even it seems a little bit unintuitive. Moreover, the worlds exist in the same mood that "our world" exists; there is no difference between their reality³². They are not fictitious, or real when compared with one another. The worlds are not our invention. Stipulations, assertions, descriptions, and other kinds of applications only have a certain effect on the worlds, but these cannot create a world³³. To sum up, possible worlds are real, independent from us, varied in their number and content, but not different from our world in kind.

Besides, Lewis introduces four important tenets about the possible worlds: isolation, concreteness, plenitude, and actuality. Possible worlds are both spatiotemporally and causally isolated. They are spatiotemporally isolated since they are not worldmates. The term "worldmate" is used for individuals who share the same world³⁴ and the concept clearly depends on the physical relations. Moreover, a possible world is a

³⁰ Bricker (2006), p. 248

³¹ Lewis (1986), p. 2

³² Lewis (1986), pp. 2-3

³³ Lewis (1986), p. 3

³⁴ Lewis (1986) p. 69

unified thing composed of the individuals and relations among those inhabitants. Unified things are wholes or composites instead of being fractured or fragmented. Following these, all spatiotemporal relations about the possible worlds must remain among the worldmates as interrelations. In conclusion, the worlds are isolated. Besides that, depending on causation and counterfactuals, Lewis also claims that no trans-world causation exists between the possible worlds.

Another requirement of the possible worlds is to be concrete. This is necessary; if possible worlds are alike our world in the ontological status, or our world is just one of numerous possible worlds, this requires that other possible worlds will be also concrete as well as ours. Yet, Lewis discusses the concreteness to overrule any ambiguities. Possible worlds contain concrete examples; they are particulars, they are spatiotemporal, and they are not abstractions.³⁵ Thus, they are concrete. Further, plenitude is an important problem. To work on logical space, we need plenty of possible worlds. Lewis illuminates this by citing that "There are no gaps in logical space; no vacancies where a world might have been, but isn't".³⁶ Lewis uses an enhanced version of the principle of recombination to solve this problem. According to Lewis, the number of possible worlds is enough for philosophers to sail into logical space.

Lastly, actuality must be investigated to understand the possible worlds. Lewis argues against the absolute actuality that leads to some problems; rather than defying a position that could be called "indexical analysis" of actuality.³⁷ The indexical analysis aims to specify the utterance conditions or context in which the term is used. When we claim that something is actual, our analysis shall consider a subject, a time, and a place. The philosophical conclusion of the analysis leads us to consider the meaning of the actual; if something is "actual", then it must be bound to a specific possible world in a

³⁵ Lewis (1986), pp. 82-86

³⁶ Lewis (1986), p. 86

³⁷ Lewis (1986), p. 92

time interval. For example, when I utter the sentence S6: "I am the actual author for this thesis", the scope of the actuality only comprises our ordinary world. Considering this fact, Lewis takes the meaning of actual as "this-worldly"³⁸ and it applies only between the worldmates. In this sense, every world is actual for its inhabitants, and one can only talk about the actuality of the possible world they exist in. More or less, this could also be derived from some of the ground assumptions of modal realism. If our world is not ontologically prioritized against any possible worlds, then the actuality claim could not be accredited only for our world. On the other hand, if worlds are causally disconnected, and causal relations are only interrelations, then the actuality claims are only bound to the related worldmates. The "actual" and indexical analysis will be critical for not only understanding Lewis' 1-dimensionalism, but also it will be fruitful for our discussion of Kaplan's 2-dimensionalism.

Up to this point, we have summarized what modal realism is for Lewis. Modal realism is an ontological commitment or an existence claim for the possible worlds. Moreover, I support the claim that the Lewisian hypothesis is a part of the whole; the systematicity is the crucial factor behind the many unintuitive-looking theoretical moves and conclusions. As a metaphysical and scientific realist also holding a materialist account, Lewis tries to understand the worlds according to his agenda, and this agenda takes him to the postulation of the plurality hypothesis. Even though I feel a philosophical sympathy for Lewis' ground motives, I still have some concerns about modal realism. These concerns will become clearer after the discussion of the framework proposed by Chalmers. Now, we shall reconsider Kripke's possible worlds to compare them with the modal realist picture.

³⁸ Lewis (1986), p. 92

2.2.3 A Reconsideration of Kripkean Possible Worlds

There are different philosophical positions regarding the structure and ontology of the possible worlds. Lewis coins his position as modal realism. However, this is not the only feasible interpretation; there are various ways of interpreting. The ersatzist approaches, haecceitism, modal fictionalism, modal conceptualism, and different versions could be taken under this approach. These concepts are fruitful to create a taxonomy for philosophical standpoints. But now, they are just concepts that need to be explained. Now, for simplicity and coherence, I would like to focus on the Kripkean approach to the possible worlds and denote some thoughts.

Kripke's motivation for analyzing the possible world semantics depends on creating an area of application for the modal logic and further clarifications about certain related concepts.³⁹ Nevertheless, I believe that neither his analysis nor his philosophical agenda could not be narrowed down to formal concepts. Kripke's thesis, after all, also contains an enhancement for epistemology and metaphysics. Kripke achieves this not just by fine-graining some existing concepts, but also by offering positive theoretical frames for further research. Kripke assumes that possible worlds are "total 'ways the world might have been', or states or histories of the entire world".⁴⁰ I believe that this explanation is too much *a la* Wittgensteinian; in a strict sense, it takes us towards to the concept of state of affairs.⁴¹ Thus, a possible world could be defined as the totality of the state of affairs. Moreover, for Kripke, possible worlds are tied with the "idealization" and "abstraction" from the literal concept of possibility.⁴²

³⁹ Kripke, (1980), p. 19

⁴⁰ Kripke (1980), p. 18

⁴¹ See Wittgenstein (2021)

⁴² Kripke (1980), p. 19

Kripkean possible worlds are neither spatiotemporal nor open to empirical investigation. Rather, possible worlds are stipulated. The stipulation is about the descriptions; we picture possible worlds by "descriptive conditions we associate with it".⁴³ Following these, Kripkean possible worlds are rather literal and abstract in their nature. They are effective apparatuses based on the daily notion of possibility and grounded on the formal structure of the modal logic. On this point, essential claims have become important. What Kripkean analysis offers is entrenched essentialism of an ontological sort. Beyond being merely stipulations, rigid designators or essential predicates are the persistent ontological items among the possible worlds.

The Lewisian hypothesis and Kripkean analysis of the possible worlds stand in contrast. The contrast is evident in their respective literature since each philosopher directly criticizes the other's fundamental assumptions. Lewis is directly arguing against the role of the stipulation; moreover, he is again taking a position directly against the abstraction from the possibilities to form possible worlds. The Lewisian hypothesis of the plurality of the worlds then becomes utterly incompatible with the Kripkean consideration of possible worlds. On the other hand, Kripke considers Lewisian analysis of counterpart relations as bizarre and even false⁴⁴ on many occasions. Thus, modal realism and Kripke stand as two irreconcilable positions.

Yet, it is hard to put Kripkean analysis directly into a category. On the one hand, Kripke seems to be a modal fictionalist of a certain sort, especially necessary propositions are excluded from the picture. On the other hand, he seems like a modal conceptualist due to stipulations.⁴⁵ Besides trying to fit his analysis into a category, it is more feasible to consider Kripke's analysis as a unique and primitive position settled against the Lewisian hypothesis. It might be tentatively denoted as a sort of anti-realism considering its relation with modal realism.

⁴³ Kripke (1980), p. 44

⁴⁴ Kripke (1980) p. 45

⁴⁵ See Salmon (1996) as an opposing critique

Thus far, starting from section 2.2, we have focused on 1-dimensional semantics. To summarize, the general notion of possible worlds semantics, Kripke's fundamental theses from the *Naming and Necessity*, Lewis' modal realism, and Kripkean understanding of possible worlds are analyzed. Now, we shall move on to 2-dimensional semantics and its different applications.

2.3 2-Dimensional Semantics

2-dimensional semantics, as far as I am concerned, is a result of the previous developments that happened in the semantic theories. Problems of 0-dimensional semantics and the developments in the modal logic caused the birth of 1-dimensional semantics. 2-dimensional semantics, on the other hand, is an enhanced product of 0-dimensional and 1-dimensional semantics. However, what precisely 2-dimensional semantics is?

First, we can try to define 2-dimensional semantics on the grounds of its basic structure. Schroeter defines 2-dimensional framework as a merely formal tool; and according to her, to ensure that the frames are applicable as semantic theories, they must fulfill the following criteria:

- (i) explain what exactly the two possible world parameters represent,
- (ii) explain the rules for assigning 2D semantic values to a person's words and sentences,
- (iii) explain how 2D semantic values help in understanding the meanings of the person's words and sentences.⁴⁶

Following the first criterion, a 2-dimensional semantic theory must explain the possible worlds. Here, the explanation could be unfolded in two ways. First, the theory might unfold its interpretations on the concept of the possible worlds. Second, it might

⁴⁶ Schroeter (2021)

involve the relevant descriptions of the state of affairs in the possible worlds under analysis. I claim that the first one is more of an optional theoretical choice; the second one is a necessary part of a semantic theory. Possible worlds might be taken as primitive. Nevertheless, for the sake of achieving a semantic analysis, the relevant contexts, scenarios, or state of affairs about the possible worlds must be defined.

The second criterion is determining and explaining the rules of 2-dimensional semantic values. In classical semantics, we define semantic values as the truth conditions and the relevant rules about truth and meaning. 2-dimensional semantic values will differ from what we encounter in 0-dimensional semantics. This is due to the nature of the 2-dimensional framework; it includes at least two dimensions of meaning, and there must be some regulating particular semantic values. A-intensions, C-intensions, character and content will be some of those.

The third criterion is relatively simpler. It is about the purpose and scope of the theory, in general. 2-dimensional semantic values are asserted to analyze the meaning. Therefore, they must illuminate new aspects of a certain expression, or they at least contribute to our understanding about that. Nevertheless, ontological or epistemological conclusions of 2-dimensional frameworks will be added to the picture and their contributions to the meaning. Often, a semantic theory is not just about the meaning, but create many philosophical outcomes.

Also, 2-dimensional semantics can be defined by how theories work. Chalmers provides a general description of the 2-dimensional approach as recognizing "two 'dimensions' of the meaning or content of linguistic items".⁴⁷ Basically, in semantics, expressions are associated with their intensions and extensions. In classical semantics, intensions are the properties denoted by an expression, where extensions determine the scope of application of the expression or their references. To illustrate for the term "cat", the extension of the term is the set of cats, whereas the term's intension could be written as "domesticated quadruple feline". In 2-dimensional semantics, most frequently, the extension and intensions of the expressions are associated with different

⁴⁷ Chalmers (2009b), p. 1

possible worlds. For example, while considering *a posteriori* necessities, Chalmers introduces two different kinds of intensions, namely primary and secondary intensions. Primary intensions consider reference fixing in the actual world, and secondary intension depends on the referent from the counterfactual worlds.⁴⁸ Therefore, with 2-dimensional frameworks, semantic analysis is broadened with two elements; different aspects of meaning are concerned, and possible worlds are added to the picture. Generally speaking, 2-dimensional frameworks grasp the meaning and the relations of the expressions via deploying two different dimensions of meaning and consider them into a matrix or a bilateral context that at least contains possible worlds.

In a nutshell, the concept of 2-dimensional semantics can be summarized as above. Now, we shall focus on the different versions of the 2-dimensional semantics developed by Kaplan, Stalnaker, Davies, Humberstone, and Jackson.

2.3.1 Kaplan on Indexicals

On many occasions, Kaplan's theory of indexicals and related concepts are considered as one of the early instances of the 2-dimensional frameworks. Historically, theoretical building blocks of the 2-dimensional semantics could be associated with many names; but I prefer to start our inquiry with Kaplan. In a sense, Kaplan's theory of indexicals builds upon the ground that was established by Frege, Russell and Kripke.

Maybe it will be more plausible to start with his relation with the philosophers mentioned above. In the Preface section of "Demonstratives", Kaplan characterized his semantical theory as a theory of direct reference that also relates with the work of Kripke and positions his theory against Fregean semantics.⁴⁹ Direct reference theory,

⁴⁸ Chalmers (1996), p. 57

⁴⁹ Kaplan (1989b), pp. 483-488

at its face value, considers the relation between the objects and their names as a relation based on unmediated referencing. We have seen the descriptive relations in Russell's theory of description and Fregean senses – those are often omitted from the picture by the direct reference theorists. More specifically, Kaplan aims at the Fregean senses of the proper names and demonstratives following a similar route with Kripke. The senses, and descriptions will be eliminated in the analysis of the indexicals and their meaning. In a sense, Kaplanian semantics will be lined up alongside the Kripkean theory against the Frege-Russell⁵⁰ view. We will try to further elaborate more on this issue of anti-descriptivism.

Kaplan's primary intention was to create a theory for the demonstratives. His semantic theory will be applicable to the pronouns (e.g., I, my, her, his), adverbs (e.g., here, tomorrow, yesterday), and adjectives (e.g., actual, present). At first glance, those words share a common feature; the meaning and truth value of the sentences containing them is mainly dependent on the environment of the utterance. Kaplan calls such words indexicals. More technically, an indexical is defined by him as a word that its "referent is dependent on the context of use" and "the meaning of the word provides a rule which determines the referent in terms of certain aspects of the context".⁵¹ The quoted definition needs further elaboration. We shall dichotomize the definition and analyze it accordingly.

At first, we shall focus on the reference relation of the indexicals. Consider the sentence S7: "I am the Commander of Parade of Victors" is uttered by Semyon Budyonny and Georgy Zhukov. In the first utterance, the pronoun "I" denotes the Semyon Budyonny and, in the second, it refers to Georgy Zhukov. It is easy to see this feature in the "I". Further, this point could be extended to the adverbs and adjectives. In a sentence, such as S8: "I am happy to be sitting here", "here" might refer to different places in different cases of utterances. For example, "here" might refer to "dental chair", or "my chair in the office". Since the referent differs in different contexts of

⁵⁰ The phrase originally belongs to Kripke, see Kripke (1980), p. 27

⁵¹ Kaplan (1989b), p. 490

uses, the truth value of the sentence is also. Considering S7, the first utterance yields false, where the second is true; and in the sentence S8, again, the prior is false where the second is true. Thus, indexicals' reference relation depends on the context, even from an intuitive analysis of them.

Further, we need to consider the second part. It states that meaning of an indexical supplies a rule for determining its' referent. Some indexicals require further clarifications. For example, when one utters a sentence like S9: "Take *that*", the sentence is often accompanied by an act of pointing since the object must be demarcated from the others. Kaplan used to call these indexicals *true demonstratives*, and considers *that* as their paradigm.⁵² The meaning of those indexicals is dependent on both the demonstration and rules of the language. To illustrate, "her" denotes female subjects, and "it" is used for animals and inanimate objects. On the other hand, there are *pure indexicals* that do not need any demonstration.⁵³ "I" is the most famous example of pure indexicals; the person who says "I" does not need to signify herself. Thus, the linguistic rules are the only determiner of the referent in the case of pure indexicals. This point is where Kaplan's theory contrasts with Frege's since the sense relation for the pure indexicals taken out of the picture. The meaning of a pure indexical is only associated with its reference. Soames emphasizes this point as one of the cardinal reasons to claim that Kaplan is an anti-descriptivist.⁵⁴

Considering their structure, indexicals are different for the proper names or the natural kind terms; even they are mainly used interchangeably with those words. Thus, they have a different governing mechanism. Kaplan explains this mechanism by using content, circumstance, and character. The deployment of those concepts creates two different kinds of meaning, and this will lead to the 2-dimensionality of Kaplan.

⁵² Kaplan (1989b), p. 490

⁵³ Kaplan (1989b) p. 490

⁵⁴ Soames, (2005), pp. 24

The first dimension of the meaning for Kaplan is *content*. Kaplan takes content as the proposition at the sentential level and objects at the level of meaningful sub-sentential elements (such as indexicals and predicates).⁵⁵ On the other hand, a circumstance of evaluation is the states that we use to evaluate contents. Following that, under an evaluation, the content of a sentence will give the truth value, whereas a singular term results in picking the relevant object.⁵⁶ Therefore, by stabilizing the relation between content and circumstance, Kaplan considers content as "a function from circumstances of evaluation to an appropriate extension".⁵⁷ Consider two sentences below:

S10: I am sick today.

S11: Taylan was sick yesterday.

If I utter the S10, and S11 is uttered just one day after the utterance of S10, it is possible to say that these two sentences have the same content since both of those are yielding to the proposition "Taylan is sick at t_0 ". On the other hand, these sentences will be True under a circumstance such as "at t_0 , Taylan's blood pressure is over 17". The contents need to be evaluated within the circumstances, but what determines their scope? The amount of information required from a circumstance depends on the specificity of the contents and operators included in the language.⁵⁸ Consider the following sentences:

S12: In 850, the King of France was bald.

S13: The present King of Lesotho is bald.

The contents of the S12 and S13 impose arrangements for relevant circumstances. S12 is False since, at 850, the King of France was not a bald man but only known as Charles the Bald. S13 is True since the actual ruler of Lesotho, III. Letsie is a bald man. Thus

⁵⁵ Kaplan (1989b) pp. 500-501

⁵⁶ Kaplan (1989b) pp. 501

⁵⁷ Kaplan (1989b) p. 502

⁵⁸ Kaplan (1989b), p. 502

far, Kaplan only mentioned the extensions, but he still falls short of fully depicting the meaning of indexicals.

The second dimension of the meaning is the *character*. Character determines the content of the expression in every context, and it can be stated as a function from contexts to contents.⁵⁹ The character is vital for the indexicals; these are context-sensitive, whereas non-indexical expressions have fixed characters.⁶⁰ Consider the following sentences:

S14: Taylan is 170 cm tall.

S15: I am 170 cm tall.

In S14, "Taylan" is a proper name and, regardless of the context of the utterance, it picks the same individual, namely "Taylan Cüyaz"; so, the character of the expression is fixed. Consider that I utter S15, and the character of "I" is "Taylan Cüyaz". In that case, the content will be the same, as we investigated before. However, their character is different. "I" does not function as "Taylan Cüyaz" in every possible context; it will be varied in different uses. S15 might be uttered by "Eren" or any other individual, and its character will be different according to the utterer. Thus, considering that even two expressions have similar contents, they might not share the same character.

By conducting his analysis and distinguishing between the character and content, Kaplan is able to establish a 2-dimensional semantic theory mainly based on the indexicals. At the beginning of the section, we state that Kaplan is arguing against the Fregean-Russellian view and trying to pinpoint its weaknesses. However, we still do not touch upon the point on which Kaplan's theory relates to Kripke. The following section will consider the relations between the theory of indexicals and Kripkean possible worlds semantics.

⁵⁹ Kaplan (1989b), p. 505

⁶⁰ Kaplan (1989b), p. 506

2.3.1.1 Theory of Indexicals Meets with the Possible Worlds

This section analyzes the relation between Kaplan's theory and possible worlds. To uncover this relation, we need to look at concepts of direct reference and rigid designator. We have already underlined the fact, on many occasions, that Kaplan intended to develop a theory of direct reference; in which he considers indexicals as directly referential. Nevertheless, we are yet to define the concept. Kaplan identifies being directly referential for an expression as in the following: "...whose referent, once determined, is taken as fixed for all possible circumstances...".⁶¹ Kaplan claims that all directly referential terms are rigid designators in a unique sense. We have already stated the classical conception of a rigid designator, originating from *Naming and Necessity*. Kaplan claims that Kripke's conception has some bottlenecks that need to be widened. This will be achieved by his evaluation of the directly referential terms.

Two essential features of the directly referential expressions must be discussed. First, the reference-fixing that Kaplan mentions is dependent on the semantic rules. Reference fixing by semantic rules is relatively straightforward in the indexicals. Recall the sentence, S15: "I am 170 cm long", after considering "I" refers to Taylan for this proposition, we could infer that, for this *context*, after the reference-fixing, "I" will refer to Taylan in all possible *circumstances of evaluation*. The second point that we should consider is the italicized concepts. Kaplan warns us not to conflate the circumstances of evaluation and the context of utterances; "a direct referential term might designate different objects when used in different *contexts*. But when evaluation had been done in a given context, only a single object would be relevant to the evaluation in all circumstances"⁶².

⁶¹ Kaplan (1989b), p. 493

⁶² Kaplan (1989b), p. 494

These two features picture the following conclusions. Directly referential terms are rigid designators. As being directly referential terms, indexicals behave as rigid designators; with reference-fixing in the possible world taken as actual, the indexical directly refers to the same object in every circumstance of evaluation. The reference-fixing is not dependent on the circumstance of evaluation. Thus, holding such an account could relate his theory of indexicals with the Kripkean possible world semantics.

Still, there is a missing point. To evaluate different possible worlds, one needs to clarify the concepts, contexts, and *circumstances of evaluation* even further. Here, Kaplan's solution uses the index theory to encapsulate the contexts. A quadruple $\langle w, x, p, t \rangle$ might be used for writing the context of indexicals: here, w stands for a possible world, x is a person, p is the place, and t is time⁶³. This creates particular problems for the index theory. Kaplan gives a paradigmatic example "I am here now"⁶⁴. This sentence is problematic since it means the same as "Taylan is in Ankara on 1.12.2021". The first sentence is universally True for any existing subject, but the second is *a posteriori*. If one argues for restricting the contexts, that will conflate contexts with evaluation circumstances. Thus, to overcome these problems, Kaplan endorses a view, known as double-indexing: beside the contexts, also circumstances of evaluation must be represented in indices⁶⁵. Double indexing contexts and circumstances of evaluation and double meaning gathered by character and content creates two essentials that characterize Kaplan's 2-dimensionalism.

After all, Kaplan's 2-dimensionalism is now ready to be fully-functional in possible world semantics. However, to facilitate our efforts, we might introduce Stalnaker-style 2-dimensional matrices⁶⁶. The 2-dimensional matrices are an easy way to depict the

⁶³ Kaplan (1989b), p. 509; also Kaplan (1979), p. 82

⁶⁴ Kaplan (1989b), p. 509; also Kaplan (1979), p. 82

⁶⁵ Kaplan (1989b), p. 509

⁶⁶ See Stalnaker (1999)

conclusions inferred from a 2-dimensional semantic framework, and it is widely used in many introductory texts to enhance the readers' grasp of the issue.⁶⁷ Fundamentally, a 2-dimensional matrix consists of two axes. Although one can use 2-dimensional matrices to analyze sentences according to Kaplan's 2-dimensionalism, an arrangement on the matrices is still needed, at least on a conceptual level. Thus, we will consider the horizontal axis as the possible *circumstances of evaluation*, or the possible worlds that the sentence analyzed under; and consider the vertical axis as the *contexts of utterances* representing the expression by an index.

Let us start with sentence S16: "I am here". For any arbitrary person and possible worlds that person exists, the sentence will be True *a priori*, and necessary as we have talked about. However, let us consider that I utter that sentence, and its context corresponds to the index i_1 as in the following: $i_1 = \langle w_{@}, \text{ Taylan, Ankara, } t_0 \rangle$. The circumstances will be evaluated for three possible worlds; the actual world ($w_{@}$), w_1 , and w_2 . In the w_1 , at t_0 , Taylan is in Ankara, but in w_2 , he is located in İstanbul. Remember that, the circumstance of evaluation is not directly dependent on the circumstances, so I can use "here" to refer to Ankara while I am in İstanbul. Thus, the following matrix could be established for the sentence that we are investigating:

Table 3: Truth Value of S16

	$w_{@}$	w_1	w_2
i_1	T	T	F

This means that the sentence is contingent and *a posteriori* after the reference fixing. Also, let us investigate the content of "I" throughout our context i_1 .

⁶⁷ See Schroeter (2021) and García-Carpintero & Macià (2006), p.4 for prominent examples.

Table 4: Content of "I" According to i_1

	$w@$	w_1	w_2
$i_1: I$	Taylan Cüyaz	Taylan Cüyaz	Taylan Cüyaz

Therefore, we can demonstrate that "I" is a rigid designator after the reference fixing. This is an *a priori necessity* in a sense. Kaplan considers *a prioricity* as the character's feature, where the content supplies the necessity.⁶⁸ The sentence's content creates a necessity on the "I" that is Taylan Cüyaz, and after the fixation, the character is determined *a priori*. However, we know that the character of "I" is context-dependent. For this purpose, let us assume in two different contexts that the sentence is uttered by "Eren Cüyaz" in i_2 and by "Cafer Cüyaz" in i_3 . The matrix that considers the character of "I" will be like:

Table 5: Character of "I" According Different Contexts

	$w@$	w_1	w_2
$i_1: I$	Taylan Cüyaz	Taylan Cüyaz	Taylan Cüyaz
$i_2: I$	Eren Cüyaz	Eren Cüyaz	Eren Cüyaz
$i_3: I$	Cafer Cüyaz	Cafer Cüyaz	Cafer Cüyaz

The difference in the contexts supply contingency in contents, but the character is still determined *a priori*. Thus, the character of "I" here is contingent *a priori*.

⁶⁸ Kaplan, (1979), p. 85

Thus far, we have investigated examples of contingent *a priori*, contingent *a posteriori*, and necessary *a priori*. Still, a necessary *a posteriori* example is missing. Necessary *a posteriori* expressions, as seen in the Kripke, often include examples established between two rigid descriptions. Kaplan's theory of indexicals enables us to use rigidifying operators to create direct referential terms.⁶⁹ Therefore, descriptions like "inventor of the zip" or "teacher of the Alexander of the Great" can be rigidified by use of the operator "actual". Thus, consider the sentence "The *actual* teacher of Alexander the Great is Aristotle". The sentence is now necessary a priori; however, assume that historians found out that the teacher of Alexander the Great is not Aristotle, but Xenocrates. In that case, S17: "The actual teacher of the Alexander the Great is Xenocrates" is both necessary and *a posteriori*.⁷⁰ It is *a posteriori* since the character of "The actual teacher of the Alexander of Great" is found after empirical investigation, and it is necessary since the content of the sentence is a True identity claim. The matrix considering S17 under an arbitrary index i_2 is:

Table 6: Truth Value of S17

	$w@$	w_1	w_2
i_2	T	T	T

The matrix contains T's since the expression is necessary. Thus far, the section focused on Kaplan's theory associated with the Kripkean possible world semantics. It seems that Kaplan's theory of indexicals and its ramifications are enriching the 1-dimensional semantics and acting as an extension of Kripkean analysis. After all, we can conclude this with a citation from Kaplan: "[on the distinction of necessary and a priori] Although my distinction lies more purely within logic and semantics, and Kripke's

⁶⁹ Kaplan (1989a), p. 567-577

⁷⁰ For a similar argument, see Stalnaker&Baldwin (2001), p. 143

distinction is of a more general epistemic metaphysical character, both seem to me to be of the same structure".⁷¹

We shall proceed to other examples that apply 2-dimensional frames for other purposes.

2.3.2 Stalnaker on Assertion

Stalnaker is another proponent of the 2-dimensional frameworks. As we briefly touched at the former section, he is known for his 2-dimensional matrices. Further, the theories postulated by Kaplan and Stalnaker are different sorts of theories, even both of them are 2-dimensional frameworks. Stalnaker assumes that, as a theory of direct reference, Kaplan works on a semantic theory, whereas his theory is metasemantic since he tries to explain under which circumstances utterances gather their semantic content.⁷²

In "Assertion", Stalnaker sets his goal to create a theory that can cover the relations between content and context in a theory of speech using the fundamental concepts of the *proposition*, *propositional concept*, and *speaker presupposition*.⁷³ To analyze these concepts, Stalnaker uses the concept of possible worlds. Possible worlds are valuable tools for describing different states, and every different proposition depicts another state. A proposition is defined as in the following: it is the "content of an assertion or belief", and "a function from possible worlds into truth-values".⁷⁴ Following his idea of 2-dimensional matrices, truth-values of a proposition according to different possible

⁷¹ Kaplan (1979), p. 85

⁷² Stalnaker (2004), p. 310

⁷³ Stalnaker (1999), p. 79

⁷⁴ Stalnaker (1999), p. 79

worlds could be represented in a matrix. For the sentence S15: "I am 170 cm long" let us consider two arbitrary possible worlds i and k , where the relevant proposition is True in the prior and False in the latter. The corresponding matrix will be written as in the following:

Table 7: Truth Value Matrix for S15

i	k
T	T

The determination of the truth-values, as usual, made on the basis of facts that are considered for the world. The proposition expressed in S15 will be False in the possible worlds that I am longer or shorter than 170 cm. On the other hand, this sentence will be True in all possible worlds that I am precisely 170 cm long. In this sense, all propositions with the same content will yield the same truth-values for the same possible worlds. The sentence that "I am 1.7 m long" has the same content as our previous proposition; therefore, the represented function will be the same according to its truth values in the possible worlds. From there, we will clarify our usage of propositions as functions from possible worlds to truth values. This matrix is still 1-dimensional since it captures the truth-values from just one side.

Nevertheless, this is not the only way that facts determine the truth-values of the expressed proposition. Facts could have been otherwise –as we have repeated many times– and the truth value of the asserted proposition will be dependent on them. This is not just due to variation of the possibilities, but the variation of the possibilities according to the context of the utterance. A proposition is uttered within a context, and the conditions of the utterance are an inseparable dimension of meaning. In a context of utterance, the beliefs, attitudes, and other kinds of ground data could even influence the truth-value of the asserted proposition. Consider this with another example; in an utterance that Taylan, Eren, and Cafer are the participants, I uttered the sentence S18:

"You are lazy" to Eren; however, Eren thinks the proposition is true and Cafer thinks that it is false. Moreover, add this picture that the possible worlds *i*, *k*, and *j* respected our attitudes towards the proposition asserted. The corresponding matrix will be written as in the following:

Table 8: Corresponding 2-Dimensional Matrix for S18

	<i>i</i>	<i>k</i>	<i>j</i>
<i>i</i>	T	T	F
<i>k</i>	T	T	F
<i>j</i>	F	F	F

Stalnaker considers that the "vertical axis represents possible worlds in their role as context" and "horizontal axis represents possible worlds in their roles as the arguments of the functions which are propositions expressed".⁷⁵ This 2-dimensional matrix is an example of a propositional concept is defined by Stalnaker as a "function from possible worlds into propositions, or, equivalently, a function from an ordered pair of possible worlds into a truth-value".⁷⁶

Here, the horizontal axis has special importance since it gives us the particular truth-values of the propositions according to a pre-determinate possible world; every row represents different possible worlds. In our example, the horizontal axis of the *i* and *k* have the same truth-values, so that these possible worlds picture the relevant state the same. In contrast, the possible world *j* has an inconsistent picture with those two. Within the limits of the conversation, we could say that Eren and Taylan have similar

⁷⁵ Stalnaker (1999), p. 81

⁷⁶ Stalnaker (1999), p. 81

attitudes towards the proposition, or they are in agreement. The conversation is a central theme for Stalnaker since he tries to understand and model its nature. Although there is some left in the analysis of the matrix, we need to focus on the speaker's presupposition now. After that, we will turn to matrices again.

Concisely, the conversation is carried by the assumptions of the speakers. Presuppositions are the "propositions whose truth he takes for granted as part of the background of the conversation".⁷⁷ Presuppositions are made if the agent believes that the relevant proposition is True, or it could be taken as True for the sake of conversation. The propositions that are supposed by all agents in a conversation are denoted as "common knowledge" by Stalnaker.⁷⁸ The totality of the common knowledge shared among the speakers is considered as a context set. A context set is the "set of possible worlds recognized by the speaker to be the "live options" relevant to the conversation. A proposition is presupposed if and only if it is true in all of these possible worlds".⁷⁹ Under these concepts, let us return to our example conversation. We have already told Taylan and Eren are in an agreement; this agreement is due to their presuppositions regarding the laziness of Eren. Both speakers committed the Truth of the sentence "Eren is lazy". However, they might have different motives to accept that view. Taylan might think that Eren is lazy since he is not working more than 2 hours a day, and Eren might accept that due to his emotional mood for upcoming university entrance exams or just to calm down Taylan. On the other hand, Cafer might reject the asserted proposition due to his unconditional faith in Eren. Nevertheless, why does Taylan make such an assertion?

That might happen due to one feasible reason; to sustain a change in the context set. By asserting something, the speaker tries to add or exclude something from the

⁷⁷ Stalnaker (1999), p. 84

⁷⁸ Stalnaker (1999), p. 84

⁷⁹ Stalnaker (1999), p. 84

background of the other speakers. The rejection of assertion could prevent this. If it is not rejected and accepted, the context set will change according to the new Truth. Stalnaker claims that, the change will happen as the "context set is reduced is that all of the possible situations incompatible with what is said are eliminated".⁸⁰ Thus, in our example, Taylan asserts his claim to exclude Cafer's presuppositions against the assertion and create a compatible context set. Stalnaker's model effectively grasps the dynamics of the assertion in this sense. Yet, it has a crucial outcome; it is nonsense to assert a fact known by the speakers, since it cannot exclude any possibilities from the context sets. After considering diagonal propositions, we will discuss this problem.

Diagonal propositions are one of the analysis methods used in 2-dimensional matrices. They are the propositions that are expressed upper left to the bottom right of a 2-dimensional matrix. Stalnaker defines the diagonal proposition as "the proposition that is true at i for any i if and only if what is expressed in the utterance at i is true at i ".⁸¹ In a sense, diagonal propositions are signalers of the *a priori* truths. Stalnaker states that an *a priori* truth will be necessary if and only if its diagonal proposition is necessary. This will be most effective in understanding contingent *a priori* truths. Examine the scenario; a standard cylinder used to determine one kilogram's weight in the possible worlds i , k , and j it has different physical properties. Thus, the following matrix will be used to represent the proposition "The cylinder is one kilogram"

⁸⁰ Stalnaker (1999), p.86

⁸¹ Stalnaker (1999), p. 81

Table 9: Corresponding 2-Dimensional Matrix of "The cylinder is one kilogram."

	<i>i</i>	<i>k</i>	<i>j</i>
<i>i</i>	T	F	F
<i>k</i>	F	T	F
<i>j</i>	F	F	T

The diagonal proposition in the matrix contains only T's. Therefore, the asserted proposition is necessarily true; even it is contingent. Diagonal propositions are not just devices to determine *a priori* truths, but they are also used to "interpret, or reinterpret, assertion and other speech acts".⁸² This point is important because many propositions might not exclude any possibilities from the context set but can be informative. There is a tension here, and Stalnaker summarizes the problem as:

The tension is most acute with statements that seem to be informative (and so to exclude possibilities), but also necessarily true (and so to exclude no possibilities). The clearest cases of this kind are the necessary a posteriori statements that Saul Kripke brought to our attention in Naming and Necessity. It seems intuitively clear, for example, that identity statements with proper names such as "Hesperus is Phosphorus" and statements about the nature of natural substances such as "water is a compound of hydrogen and oxygen" convey substantive information about the world, but it also seems that such statements say something that could not possibly be false.⁸³

The following example shall demonstrate this tension. Taylan tells Eren, "Table salt is NaCl", but, instead of this, Eren thoughts that "Table salt is NaCl"; considering that *i*

⁸² Stalnaker (1999), p. 92

⁸³ Stalnaker (2004), p. 300

is the actual world, and k is a possible world there is table salt is NaCl, the following matrix could be formed:

Table 10: Matrix Considering the "Table salt is NaCl"

	i	k
i	T	T
k	F	F

The diagonal proposition here only proves that what Talyan is trying to convey is that in the actual world, the table salt is NaCl, but nothing else. It seems that Stalnaker's proposal says nothing about the necessity of an *a posteriori* proposition; it seems that the necessity is violated by adding a possible world that the identity is false. On the other hand, problems considering the necessary *a priori* could be formulated within Stalnaker's 2-dimensional framework. Manuel García-Carpintero and Josep Macià supply an example that depends on exploiting reference-fixing and the definition of the diagonal propositions with claiming that "...the proposition that is true at i considered as actual, as the actual world where the utterance takes place".⁸⁴ Basically, if we select a possible world that only has F's as in their horizontal axis to determine the propositional concepts, or our centered possible world, the diagonal propositions will be unnecessary, and thus one will never be able to consider the *a priori* appropriately in Stalnaker's model.⁸⁵

⁸⁴ García-Carpintero & Macià (2006), p. 7

⁸⁵ García-Carpintero & Macià (2006), p. 7; a similar kind of matrix is also considered by Soames, to show that Stalnaker's model is not able to explain a posteriori necessities, see also Soames (2006), p. 237

Is Stalnaker's 2-dimensional model an effective model for representing the notion of *a priori* and necessary *a posteriori*? Or, even this model has such and such requirements? I want to answer these questions in turn. First, on the problems about *a priori*, Stalnaker concludes that "...the metasemantic interpretation yields no account or representation of a priori truth or knowledge, and does not depend on any notion of the a priori" and he adds that the diagonal propositions, as operators, must be understood as working local and context-dependent.⁸⁶ Semantic theories that we have analyzed are very successful at explaining the role of the *a priori*, considering certain expression types. However, metasemantic theories have a distinct agenda than the semantic ones, so that they have different priorities. Metasemantic theories approach meaning from a general view and consider the question why certain expressions gather that specific value. Therefore, the role of the *a priori* might be narrowed into particular expressions. Moreover, Stalnaker's theory depends on external facts and their effects on the truth values. In a sense, it is a novel expression of the meaning externalism. In a 2-dimensional framework, things are challenging for an externalist theory since the facts of the possible worlds are not open to direct observation. Usually, we do not have any strict rules to determine facts; and it seems that we are only making some arbitrary stipulations. Note that the arbitrary stipulations in Kripke are 1-dimensional, and it is safer to make since typical examples are often the negations of the facts we encounter in our actual world. Thus, considering these two facts, it becomes clear to understand why the notion of *a priori* is not well-fit with the Stalnaker's picture.

Second, the philosophical investment on the necessary *a posteriori* depends on how much one is committed to Kripkean analysis. If one ultimately agrees with the Kripkean picture – like Soames⁸⁷ – for any model and Stalnaker's, it is a must to attune with the existence of informative necessities. Thus, the model fails. However, it is not a must since other explanations might still be valid. Also, most of the above-mentioned reasons apply to this topic. Externalism and 2-dimensional analysis create particular

⁸⁶ Stalnaker (2004) p. 312; Stalnaker (2004) p. 321

⁸⁷ See Soames (2006)

problems that we do not encounter in 1-dimensionalism. After all, to assert a necessary *a posteriori* truth into a 2-dimensional propositional concept, first, you need a possible world where that fact is false. Stalnaker's model can grasp necessary *a posteriori* from a perspective depending on the conversation. It supplies an appropriate model for the assertion of unknown facts that are both informative and necessary, even if lacking from a metaphysical agenda that solidly grounds the necessary *a posteriori* claims.

I believe that is enough to analyze Stalnaker's 2-dimensionalism. Since we elaborated on semantic and metasemantic versions of 2-dimensional frames, now we need to look at its various usages.

2.3.3 Evans, Davies, and Humberstone on Logical Developments

The 2-dimensional frameworks are not limited to semantic and metasemantic inquiries. Besides, philosophical logic is another area of application for it. Gareth Evans⁸⁸, Martin Davies, and Lloyd Humberstone⁸⁹ are probably the most well-known historical figures. Developments in modal logic and, as a result of possible world semantics, create new opportunities for developing formal tools specialized in these concepts. To analyze these developments, we will first introduce Evans' "superficial" and "deep" modality concepts. Second, the "fixatedly" operator shall be introduced from the works of Davies and Humberstone.

Evans' philosophical interest was developing a theory that could depict the existence of contingent *a priori* truths which is an outcome of Kripkean theory. As we have demonstrated before, contingency was a matter of metaphysics, whereas *a priori* is in the area of epistemology. Although such a distinction seems meaningful after

⁸⁸ See Evans (1979)

⁸⁹ See Davies & Humberstone (1980)

considering the Kripkean view, it is still objectionable. A true *a priori* sentence must not be dependent on any external justification; it will be True for every context that is asserted. In contrast, to call a proposition contingent, at least one falsifying example must be shown in any context. In their nature, contingency and *a priori* seem in a clash. Evans assumes that the dispute can be settled by assuming a contingent statement either could be *superficially contingent* or *deeply contingent*.

Superficial contingency is a matter of how a statement "embeds inside the scope of modal operators" whereas deeply contingency "depends upon what makes it true".⁹⁰ In other words, superficial contingency is a matter of logic, dependent on the operators included in the expression under consideration. On the other hand, to hold that an expression is deeply contingent, the world must add an extra factor; there must be a truth condition that affirms or denies the sentence. For example, the sentence S19: "Taylan is the youngest research assistant in the department" is deeply contingent; it needs confirmation or disconfirmation from the external conditions. S19 is False since at least one younger collaborator of his exists, according to the actual world. Further, if one states something like, "it is not necessary that not *p*" (or " $\sim \Box \sim p$ " or " $\Diamond p$ ") the related possibility is imposed upon "*p*" will be about the scope of the necessary operator, and thus it is a superficial contingent. Evans tries to ground this understanding on what he calls descriptive names.

Evans describes the descriptive names as "a name whose reference fixed by description".⁹¹ We know that descriptions are problematic for the Kripkean understanding since they are not rigid designators as the names. However, to overcome these problems, Evans assumes that a special category that he called descriptive names. In the descriptive names, the associated description, and the name must be exhibiting a semantical connection, where the Fregean sense and the reference of the name must

⁹⁰ Evans (1979), p. 161

⁹¹ Evans (1979), p. 162

denote the definite description contained in the sentence.⁹² The example he is considering is "Julius invented the zip".⁹³

Let us analyze this sentence under the proposed concepts. We know that, in our world, not Julius but, another person⁹⁴ invented the zip. Thus, this sentence is False, and it is contingent. If there were a man called Julius and he was able to invent the zip, the sentence would be True for at least one possible world. One might stipulate such a possible world, where Julius invented the zip. More technically, there is at least one (arbitrary) possible world, w , there the sentence yields value True. Therefore, the sentence is superficially contingent. Furthermore, the special reference-fixing between the "Julius" and "the inventor of the zip" validates the claim this *a priori*. By assuming this, Evans can show how a sentence both be *a priori* and superficially contingent, at least for a limited type of expression. Thus, although Evans' approach does not establish a 2-dimensional model, it is still a crucial step for later developments.

On the other hand, Davies and Humberstone are interested in further enrichments in the modal logic, also considering the theoretical frame that was established by Evans. In their paper entitled "Two Notions of Necessity", Davies and Humberstone make an analysis dependent on the introduced operators⁹⁵ " \Box " ("necessary"), " A " ("actual") and " F " ("fixedly") and " FA " ("fixedly actual").⁹⁶ The operator " \Box ", or box expresses the common understanding of the necessity. For any arbitrary sentence S , " $\Box S$ " means "it is necessarily the case that S ". In this sense, this is a claim of a universal necessity. On

⁹² Evans (1979), p. 162

⁹³ Evans (1979), p. 171

⁹⁴ Withcomb L. Judson according to our actual world, most probably

⁹⁵ The fixedly and actually operators previously taken under consideration by Humberstone one of his colleagues Crossley, and 1980 paper written by Davies and Humberstone often cites this work. For the relevant article, see Crossley and Humberstone (1977)

⁹⁶ Davies & Humberstone (1980) pp. 1-6

the other hand, the operator " A ", for an arbitrary S , " AS " means that S is actually true according to a possible world. A problem arises here; if S is true for any world considered as actual, then it will be necessary in the sense that " \Box ". This feature is symbolized as " $AS \rightarrow \Box AS$ ".⁹⁷ Following this, if S is True in our actual world, then it is true in any possible world, and vice versa; this creates an obligation to consider another operator, namely "fixedly".⁹⁸ Fixedly operator behaves as in the following: FS means that if S is true respect to a possible world w . The complex operator " FA " then, for a sentence S , if S is true guarantees that, FAS is true "just in case, for every world w , s is true at w considered as actual".⁹⁹ Moreover, " FA " could be used for a function in two possible worlds by considering that it is effective on an ordered pair of worlds such as $\langle w_1, w_2 \rangle$, where w_1 is the actual world and w_2 world that is used for interpretation.

Two significant results could be driven from this picture. First, there could be two distinct notions of necessity. The first form of the necessity is supplied by the " \Box ". It is the classical universal necessity that we have seen in the case of " A ". It is necessary for every possible world. The second form of the necessity is formed by using the " FA ", since it depends on the truth condition in the world that is considered actual, and it is not necessary to be true in the sense of " \Box ". By the second notion of necessity, Davies and Humberstone can capture the necessity given by the " FA ". Claiming that a sentence S is " FA " necessary, means that the sentence is necessary with respect to the possible world taken as the actual world. In cases considering contingent a priori – such as we have seen in the Evans – could be illuminated under the newly proposed concepts. Contingent *a priori* truths, including operator A , have necessary FA modalizations. Thus they are deeply necessary but superficially contingent.¹⁰⁰ On the

⁹⁷ For relevant axiom see Davies & Humberstone (1980), p. 2

⁹⁸ Humberstone & Davies (1980), p. 2

⁹⁹ Davies (2004), p. 86

¹⁰⁰ Humberstone & Davies (1980), p. 11

other hand, necessary *a posteriori* truths are included in the picture. Considering sentences like "Grass is actually green"; the element of observation creates the *a posteriori* part, and the sentence type responds to the "AS" where we can obtain necessary notion in the sense of " \square ".¹⁰¹

The second result is very vital for our current purposes. The operators "F" and "A" enable us to consider any possible world in two different roles. Davies says:

In any model, the evaluation function for a sentence is a mapping from pairs of possible worlds to truth values. In each pair, one world plays the role of the actual world and one plays the role of the "floating" world. The evaluation of a sentence can thus be represented in a two-dimensional array, in which each row is labelled with a world playing the role of the actual world and each column is labelled with a world playing the role of the floating world.¹⁰²

The model considered by Davies is not too different from the 2-dimensional models of Kaplan and Stalnaker. Moreover, Davies considers the *V-intensions*, *H-intensions* and *D-intensions*; V-intensions the columns that worlds "float"; H-intensions considers worlds as the actual world and about the " \square "-modalizations where they are not different from the horizontal intensions, or the circumstances of evaluations; and D-intensions are diagonal propositions that considers the truth values "at worlds considered as actual" and they are all about the "FA"-modalizations.¹⁰³ To illustrate, assume that S20: "Actually, Taylan is the longest in the family" where the sentence is true according to $w@$, and false in w_1 and w_2 . The corresponding table will be:

¹⁰¹ Humberstone & Davies (1980), p. 10; see also Schroeter (2021)

¹⁰² Davies (2004), p.87

¹⁰³ Davies (2004) pp. 87-88

Table 11: Matrix considering S20

	$w@$	w_1	w_2
$w@$	T	T	T
w_1	F	F	F
w_2	F	F	F

The diagonal of the sentence is not necessary, so it is necessary in the sense of "FA". The sentence was an *a posteriori* sentence containing "A", and in this sense, it is only necessary in the sense supplied by the "□" as horizontal analysis shows.

Thus far, we have shown how Evans' model contributed to 1-dimensional semantics and how Davies and Humberstone helped establish their 2-dimensional framework. After this point, we shall focus on Jackson's application of 2-dimensional frames.

2.3.4 Jackson and Conceptual Analysis

Frank Jackson uses his 2-dimensional framework in a unique way. Unlike the philosophers we analyzed so far, in his book *From Metaphysics to Ethics: A Defence of Conceptual Analysis*, Jackson considers a 2-dimensional framework to make conceptual analysis. Here, Jackson's application of 2-dimensional theory makes it closely related with the metaphilosophy; in a sense, it illuminates the nature of conceptual analysis as a way of doing philosophy.

He starts his inquiry by asking the question of "In what sense is conceptual analysis concerned with the a priori?".¹⁰⁴ To answer this question, he will depend on the 2-

¹⁰⁴ Jackson (1998) p. 47

dimensional logic, and he defines what he calls *A*-extensions and *C*-extensions. *A*-extension is extension of a term that applies in the actual world, and *A*-intensions are defined as the function that assigns actual worlds to extensions. On the other hand, *C*-extensions are extensions that the term applies in the counterfactual worlds except for the world regarded as the actual. *C*-intensions are defined as the function assigning counterfactual worlds to the relevant extensions. In some cases, the extensions, whether they are actual or counterfactual, might be the same – as well as their intensions – but in some cases, they are not. Jackson is interested in the second case. To understand this, he considers the Kripkean thesis of rigidity of natural kind terms, focusing on the example, "Water is H₂O". The *A*-extension of the water is what we call "water"; it can be the "the drinkable thing that covers the surface of the earth". But to ensure that the term rigidly designates water in all possible worlds, it must have a necessary *C*-extension that refers to its essence, namely H₂O. In that case, we use our *a posteriori* investigation methods to unveil the essence of the water; and after that, we will be able to consider *C*-extensions.

Therefore, Jackson concludes that, in general, philosophical activity regarding the analysis on the *A*-extensions are *a priori*, whereas *C*-extensions, in general, needs *a posteriori* knowledge of the actual world if we consider the essence-revealing scientific activities¹⁰⁵. On the other hand, analysis regarding the *A*-intensions and *C*-intensions are *a priori*¹⁰⁶. Also, the analysis conducted to illuminate differences regarding the intensions and extensions of the worlds is constructed *a priori*. However, why does Jackson need to make such clarifications? This is mainly due to Jackson's philosophical interests in the *a priori* conceptual analysis. Plunkett summarizes this interest as in the following:

...a chief function of language is to represent the world as one way or another by expressing thoughts that we have about how the world is, and concepts are representational components of our thoughts that help us to represent the world as one way or another. In turn, given the basic possible worlds framework that

¹⁰⁵ Jackson (1998), p. 51

¹⁰⁶ Jackson (1998), p. 52

Jackson uses to understand representation, we can say that the content of any given concept is a function from possible worlds to extensions, and that the project of conceptual analysis is the project of figuring out what functions from possible worlds to extensions are determined by different token concepts.¹⁰⁷

How will this analysis work? Let us illuminate this with the following example, based on one of the original examples of Jackson¹⁰⁸ about *a priori* deducibility:

- (1) H₂O covers the earth.
- (2) H₂O is the watery stuff that we ordinarily know.

Therefore, water covers the earth.

Here, the conclusion seems to depend on the *a posteriori* knowledge about the nature of our world. However, Jackson holds that the availability of the (2) ensures that the conclusion derived from (1) and (2) is *a priori*. Therefore, *a priori* conceptual analysis even works for *a posteriori* necessities. The *a priori* deduction of physical conclusions is an important cause for Jackson. In their paper, entitled "Conceptual Analysis and Reductive Explanation"¹⁰⁹ Chalmers and Jackson argued that macrophysical truths could be *a priori* deducible from the microphysical truths by a unique description of the world called *PTQI*. In the description, *P* stands conjunction of microphysical properties; *T* stands for "that's all" clause that says that world is like in *P*; *Q* stands for the conjunction of all phenomenal truths; *I* stands for the indexical information.¹¹⁰ By claiming this, they are able to show that conceptual analysis directed on the conditionals, conceivability, and extensions of the concepts are in general *a priori*. By doing so, they tied the nature of the philosophical conceptual analysis to the *a priori* methods. As an outcome of this, *a posteriori* knowledge is used only to formulate relevant sentences, or the descriptions that are within the interest area of conceptual

¹⁰⁷ Plunkett (2011), pp. 19-20

¹⁰⁸ Jackson (1998), p. 82-83

¹⁰⁹ See Chalmers & Jackson (2001)

¹¹⁰ Chalmers & Jackson (2001) pp. 316-320

analysis. In this sense, the reduced role of the *a posteriori* and wide-range availability of the *a priori* entailment is the motive behind Jackson's philosophical analysis that is dependent on 2-dimensionalism.

Since the philosophical outcomes and the central tenets of their theories share a vast similarity, rather than focusing on Jackson's work in more detail, we will switch to analyzing Chalmers' 2-dimensional framework.



CHAPTER 3

CHALMERS' 2-DIMENSIONALISM

This chapter focuses on the 2-dimensional semantics developed by David Chalmers. Here, an inevitable question arises: why does David Chalmers, among other 2-dimensional theorists, need a separate chapter? Compared with the founding figures of the 2-dimensional approach, such as Stalnaker and Davies, Chalmers wrote sparingly about the 2-dimensional framework. Some may even find it questionable to dedicate a whole to his theory. Nevertheless, I believe that there are some valid reasons to consider Chalmers as a cardinal figure of the 2-dimensional frameworks.

The history of analytical philosophy after the 1970s is somewhat shaped by the discussions about the phenomenal concepts. These debates caused a multifaceted and long-lasting battle between various camps trying to ground those concepts. The battle, after all, has not reached a satisfactory conclusion, new concepts still trigger novel problems. I believe that Chalmers and Jackson shine through as two cardinal figures within this dispute.

Why are these two philosophers so important? In a nutshell, both Chalmers and Jackson have systematic approaches. Both philosophers, after all, are two vigorous defenders and implementers of the 2-dimensional frameworks in the millennial era. Chalmers has an extensive agenda covering logic, epistemology, ontology, and mind. I believe that even his deployment of a 2-dimensional framework is in question; still, his philosophical approach is far from being shallow. Moreover, his 2-dimensional

argument directed to materialism is a unique defense of dualism. Thus, even if one could consider his philosophical conclusions unintuitive, unsatisfying, or philosophically defective, he is still an important figure to consider.

This chapter will consist of four sections. In the first section, Chalmers' philosophical agenda will be considered. The second section will consist of basics from his 2-dimensional framework, considering the contextual version. On the other hand, the third section shall focus on the other aspect of his 2-dimensional frame, namely epistemic 2-dimensionalism. The epistemic 2-dimensionalism is a point of origin to understand the importance of his "2-Dimensional Argument against Materialism". Lastly, the fourth section will be focused on depicting his argument against materialism.

3.1 Philosophical Motives: Golden Triangle, Naturalistic Dualism, and Modal Rationalism

At the beginning of section 2.3, we emphasized that 2-dimensional semantics is a formal tool to investigate the nature of meaning. Moreover, we have seen that various sorts of 2-dimensional theories are established by the different philosophers that deal with the different domains of philosophy. Following that, it is plausible to assume the specific aims of the philosophers often shape 2-dimensional frameworks. In this context, the philosophical motives of Chalmers play a cardinal role in understanding his 2-dimensional framework. Under this section, we will focus on his *golden triangle*, *naturalistic dualism*, and *modal rationalism*.

Chalmers set the goal for the 2-dimensional semantics to restore the connections between reason, modality, and meaning.¹¹¹ The term that he coined for this picture is the *golden triangle*. The golden triangle is established within the works of Frege, Carnap, and Kant. As we discussed before, Frege was the pioneer of understanding

¹¹¹ Chalmers (2004) p. 153, Chalmers (2006), p. 55

meaning in two different aspects with his concepts, namely, *sense* and *reference*. In a nutshell, drawing on the Fregean ideas, Chalmers assume that the cognitive significance of any concept is associated with its sense – rather than its referent, alternatively, its extension – and postulate his Fregean Thesis in the following:

Fregean Thesis: Two expressions "A" and "B" have the same sense if and only if " $A \equiv^{112} B$ " is cognitively insignificant.¹¹³

The Thesis becomes clear if one considers examples such as "Hesperus is Phosphorus"; the sentence is cognitively significant since "Hesperus" and "Phosphorus" have the same referent, but differ in their senses. Chalmers considers cognitive insignificance a matter of *a priori* reflection since it could be "trivially known by a rational being".¹¹⁴ It is trivial since a competent speaker could establish a bridge between two thoughts or definitions that are the same without appealing any *a posteriori* knowledge. For example, if "Hydrargyrum" and "Mercury" have the same intension, such as "the gray metal that liquid phase in the room conditions", one can derive the "Hydrargyrum=Mercury" without appealing reason only. Thus, Chalmers considers Frege as the first corner of the golden triangle due to his contributions to linking meaning with reason.¹¹⁵ Further, Chalmers attributes more than that to Frege. In the broadest sense, he assumes that Frege is a 2-dimensional theorist due to his recognition of the two aspects of meaning.¹¹⁶ Yet, I thought that it is broadening the scope of the term more than just a little; the 2-dimensional semantics, after all, necessitates a developed modal theory. After all, possible world semantics and an understanding of the modal terms are a must for 2-dimensional frameworks.

¹¹² Symbol " \equiv " is used for denoting material equivalence.

¹¹³ Chalmers (2004), p. 115; Chalmers (2006), p. 56

¹¹⁴ Chalmers (2004), p. 115; Chalmers (2006), p. 57

¹¹⁵ Chalmers (2004), p. 115; Chalmers (2006), p. 57

¹¹⁶ Chalmers (2009b), p. 1

Carnap will establish the relations between modality and meaning. In a nutshell, Carnap was able to show that, for any term, if and only if in all possible worlds their extensions are the same, they have the same intensions. To illustrate, "Hydrargyrum" and "Mercury" have the same intension, or they have the same meaning if and only if they depict the same extension in all possible worlds. If they have the same extension in all possible worlds then it is necessary that "Hydrargyrum is Mercury". Thus, the meaning is tied within the modality. Alternatively, if they are picking the same extensions, they have necessarily the same intension. Chalmers formulates the Carnapian Thesis, as in the following:

Carnapian Thesis: "A" and "B" have the same intension if and only if " $A \equiv B$ " is necessary.¹¹⁷

Still, the triangle has a missing element: the bridge between modality and reason. Kant will provide this by assuming a direct relation with *a priori* and necessity. What is necessary can be known without appealing the knowledge from external sources, and what could be known without experience is necessary. Kant fused the reason with modality in the same pot. Thus, the Kantian Thesis formulated by Chalmers is:

Kantian Thesis: A sentence S is necessary if and only if S is *a priori*.¹¹⁸

Therefore, we have a complete triangle constituted by the meaning, reason, and modality. By combing the Kantian Thesis with the Carnapian one, Chalmers derive another thesis that is closer to the Fregean principles, as in the following:

Neo-Fregean Thesis: Two expressions "A" and "B" have the same intension if and only if ' $A \equiv B$ ' is *a priori*.¹¹⁹

As a ramification from Chalmers' characterization of necessity, cognitive insignificance, and intensions, from Neo-Fregean Thesis, these concepts are interchangeable. Cognitive insignificance could be defined in terms of *a priori*; the

¹¹⁷ Chalmers (2004), p. 156; Chalmers (2006), p. 57

¹¹⁸ Chalmers (2004), p. 157; Chalmers (2006), p. 58

¹¹⁹ Chalmers (2004), p. 157; Chalmers (2006), p. 58

relation between *a priori* and intensions could define intensions something closer to the Fregean senses. The unifying element in this picture is the *a priori* reflection. It constitutes the very center of the golden triangle; without assuming a close relation between the *a priori* and the other elements, the triangle seems to be doomed to fail.

There is a rupture in the triangle after the Kripkean philosophy. As we know, one of the cardinal achievements of Kripke is detaching the necessary from the *a priori*. The existence of contingent *a priori* and necessary *a posteriori* truths led to the failure of the Kantian Thesis. The failure of the Kantian Thesis is followed by the failure in Carnapian Thesis and the Fregean Thesis. Therefore, an ideal 2-dimensional theorist's job is to relieve the Kripkean wounds on the triangle and create a path towards Neo-Fregean understanding of the meaning at most minuscule for Chalmers.

The golden triangle is a philosophically ambitious project: linking the domains of meaning, reason, and modality can collect everything representable in the scope of a rationalist point of view. It is the philosophical soulmate of "The Theory of Everything" as I stated elsewhere. For a philosophical theory with such a broad scope, metaphysics is almost inevitable on the scene. Furthermore, this is where Chalmers' agenda bonds with his two philosophical standpoints, namely, naturalistic dualism and modal rationalism.

The naturalistic dualism and modal rationalism are not just philosophical motives in Chalmers' 2-dimensionality, they serve as effective premises to derive strong conclusions. In this part, since we are dealing with the motivational part of the concepts and the strategic deployment of these shall be more visible in the subsequent sections with the examples.

Naturalistic dualism, as characterized by Chalmers, is arisen from the fact that, although the consciousness does not supervene on the physical logically, it supervenes on the physical naturally.¹²⁰ On the one hand, we know that contemporary science is sufficient to answer all physical questions. However, the conscious experience cannot

¹²⁰ Chalmers (1996), p. 124

be defined in physical terms. There must be at least one element that is not captured by the concept of physical. Chalmers argues that this position is not directly embracing a Cartesian dualism that assumes two different kinds of substances; instead, his position accepts the lawful dependence of the conscious experience on the physical while denying the direct entailment of the consciousness from physical.¹²¹ Following that suggestion, we will arrive at a special kind of property dualism. Chalmers' solution includes taking experience as primitive alike physical primitives and adding the psychophysical laws to show how such processes give rise to the experience.¹²² The theory is dualistic since it credits the experience as a distinct primitive from the physical, but what about its naturalism? Chalmers postulate three criteria to show his position is naturalistic, and those are:

- (i) Compatibility: The position is compatible with all the results of contemporary science.¹²³
- (ii) Lawfulness: All the conclusions will be gathered from a network based on laws and basic properties.¹²⁴
- (iii) Naturalness: The theory does not appeal to transcendence or myths to ground dualism.¹²⁵

Following this picture, the dualism embraced by Chalmers acts more like a scientific theory since it derives everything from primitives via specific laws. Moreover, unlike many dualist theories, it does not need to appeal to transcendence or other kind non-natural terms to show how the physical and mental interact. I believe compatibility is out of any doubt since contemporary philosophical theories need to be science-friendly

¹²¹ Chalmers (1996), p. 125

¹²² Chalmers (1996), p. 126-128; Chalmers (2017), p. 364

¹²³ Chalmers (1996), p. 128; Chalmers (2017), p. 364

¹²⁴ Chalmers (1996), p. 128; Chalmers (2017), p. 364

¹²⁵ Chalmers (1996) p, 128

to avoid direct refusals. Thus, by following this route, Chalmers tries to establish a dualistic theory that refuses materialism whilst remaining a naturalist.

Now, I intend to discuss the naturalism of Chalmers. What I understand from naturalism is very Quinean; there must be no room for any prior philosophy, and reality shall be taken as depicted by the science.¹²⁶ From acting on that ground, the direct rejection is inevitable, but we shall analyze Chalmers' criteria from a charitable way.

First of all, compatibility at least from a certain point of view, is out of our discussion. I instead take it for granted since contemporary science is an excellent tool for ruling out a thesis that stands contrary to science. However, I need to underline that this is the case if such-and-such evidence is at ready in hand.

Nevertheless, lawfulness is a matter of form. The formal criterion can be fulfilled without being a naturalist or not stating something scientific. For example, my mother can be very eager to use lawful derivations while making coffee fortune-telling; every shape could be associated with a certain meaning, and with holding some primitives and basic beliefs about the very nature of fortune-telling, she could postulate scientific lookalike conclusions. "It could as well be reckoned as science, however false"¹²⁷ as Quine said. All we shall do is consider that it is a form of scientific speculation, or a theory trying to achieve a well-entrenched position. Thus, formal structure means a little without compatibility.

However, we have compatibility on the one hand and lawfulness on the other. Still, this does not guarantee that the theory is naturalistic. Consider an astrologist making super-effective predictions about natural events by observing celestial bodies' movements in accordance with scientific endeavor and conclusions. For example, considering the Mercury retrograde, its particular angle with Venus, and the help of the esoteric relations, she can tell that there will be tension between China and America in the Pacific. Nevertheless, for the sake of argument, it might also be compatible with

¹²⁶ Quine (1995), p. 251

¹²⁷ Quine (1995), p. 252

what most intelligence analysts (in a sense, they could be regarded as social scientists) and political scientists forecasting about the issue. In that case, the naturalness criterion appears on the stage; the astrologist appeals to the mystical or – as they said – esoteric notions. However, in this sense, naturalism seems to need the conjunction of naturalness, compatibility, and lawfulness.

Nevertheless, it is not enough in a certain sense; consider that our astrologist never employs such esoteric notions in the explanation but take them as natural primitives that are the working background of her theory. This case satisfies the conjunction, but can we denote this position as naturalism? For Chalmers and other philosophers such as Joseph Levine¹²⁸ it is plausible to reconcile non-physical primitives with naturalism, especially considering the role of information. Information itself is not a purely physical thing, but it supervenes on the physical; the physical sort of information cannot grant those phenomenal outcomes.

I consider the argument from the information highly influential and hard to swallow for any naturalist committed to materialism. It seems that many naturalisms could be established by broadening the borders of nature. Here, since it is hard to fight against the information theory-based dualism, we shall focus on the original version of Chalmers. Three objections shall be formed under this topic. The first one is dependent on how one characterizes naturalism; one might assume that naturalism entails materialism, and following that interpretation, plausibly, all forms of non-materialistic naturalism turn into non-naturalisms. This is cost-efficient because it is easy, but it is also dangerous, and could still be defeated by formidable counter-examples.

The second objection is dependent on Chalmers' definitions of compatibility and lawfulness. Chalmers used to formulate examples that depended on conceivability. However, the laws that Chalmers wants to operate on, work from a different sort of methodology. To be consistent with science and nature, do we need to attribute conceivability to nature or ramify conceivability into scientific discourse? Or, do we need to consider conceivability as primitive? I believe that the methodology that we

¹²⁸ See Chalmers (2017) and Levine (2016)

used is still important to call something naturalistic, the conclusion's coherence means a little without coherence in the methodology. Thus, the unique role of conceivability is a problem for naturalism, since we are in the case akin to non-esoteric astrologists.

The third objection is directed to naturalness, and it is not disconnected from the second one. Indeed, Chalmers does not argue mystical elements to establish his version of dualism, but he commits to the existence of not naturally but logically possible zombies. However, I believe that considering the compatibility and naturalness, on the one hand, it seems a little bit bizarre to postulate such examples. Can one use non-natural possibilities to support the factual existence of natural properties, consistent with the science and trying to be using a natural set of language? Or are zombies primitives too? I believe that this also threatens his position as a naturalist, since the case resembles explaining shortcomings of a scientific theory by some unnatural, but logical terms.

Is Chalmers a naturalist at the end of the day? If we are willing to add a new non-physical primitive with the claim that appealing conceivability is consistent with being a naturalist, and accepting that non-natural possibilities could affect our ontological views without damaging naturalism, he is a naturalist. The price will be too high to accept the conclusion since naturalism's (classical) picture changed substantially. Moreover, to be a naturalist in Chalmers' sense, as a first step, one needs to accept dualism and defeat materialism. Following that, naturalism becomes even a philosophically trivial position or an ornament for decorating Chalmers' dualism. I believe that the concept of naturalistic dualism, at least the version defended by Chalmers', is asserted to overcome any attempt to criticize his position as labeling anti-scientific or anti-naturalistic. With assuming the "naturalistic" part, dualism seems friendlier for anybody holding an anti-dualist stance, due to scientific considerations.

Thus far, we have investigated the naturalist part of naturalistic dualism. Now we shall focus on the dualistic part. The dualism that Chalmers embraces could be best characterized by his emphasis on conceivability arguments. Conceivability arguments are familiar for any philosophy graduate, especially from Cartesian metaphysics. Conceivability is a road to possibility; what is conceivable is possible, and what is

inconceivable is impossible. Refutation of classical conceivability is not new for philosophy since the bridge between epistemic possibilities and ontological facts is not well established. However, Chalmers tries to use a 2-dimensional framework to develop a conceivability argument that is immune to the classical ways of refutation. His strategy can be encapsulated as follows: starting with an epistemic claim to reach modal conclusions, and from there, one might reach the ontological conclusions.¹²⁹ As pointed out by Chalmers, the most problematic aspect here is the gap between the epistemic claims and modal conclusions¹³⁰, and the gap shall be filled with a fine-grained understanding of *a priori* conceivability.¹³¹ Using that specific sort of conceivability, the wished ontological conclusions will be available for the dualists. Therefore, Chalmers's interest in 2-dimensional semantics is based on his dualistic purposes.

The unique deployment of the conceivability arguments is associated with Chalmers' dualism and linked with his other key concept of modal rationalism. To begin with, Chalmers distinguishes between primary and secondary conceivability. Primary conceivability is the coherent possibilities within the worlds considered actual, and secondary conceivability is the possibilities where the worlds are considered counterfactual.¹³² While primary possibilities are purely *a priori*, secondary possibilities are *a posteriori*.¹³³ The difference could be illuminated by appealing to the example of "Hesperus is Phosphorus"; one can construct relevant epistemic scenarios whether this sentence is True or False according to the world taken as actual, without appealing to any external knowledge. Thus, primary conceivability is

¹²⁹ Chalmers (2002), p. 145; Chalmers (2009b), p. 1

¹³⁰ Chalmers (2006), p. 2

¹³¹ Chalmers (2002), p. 146

¹³² Chalmers (2002), p. 157

¹³³ Chalmers (2002), pp. 158-159

dependent on the *a priori* reflection. Unlike this scenario, to consider the epistemic scenario "Hesperus is Phosphorus" in a counterfactual world, to know that whether this sentence is true or not, need to consult *a posteriori* knowledge that fixed the referents of these names in our actual world.

Following a similar route, Chalmers also defines 1-possibilities/necessities (primary) and 2-possibilities/necessities (secondary); the 1-possibilities are relevant to the world considered actual, and 2-possibilities about the counterfactual world. 2-possibilities correspond to metaphysical necessity, whereas the 1-possibilities correspond to the epistemic notion of *a priori*.¹³⁴ Then, if something is primarily conceivable, it corresponds to a priori possibility for a world considered as actual; *a priori* is always characterized as necessary within the borders of Chalmers 2-dimensionalism. So, the primary conceivability of a sentence S, entails that it is 1-necessary. Modal rationalism is the concept that ensures this derivation; it holds that modal facts are *a priori* accessible, and there is a link between the modal and rational domains.¹³⁵ Therefore, considering a coherent *a priori* epistemic scenario in a possible world considered as actual ends up with a possible world that actualizes it as a metaphysical scenario.

The role of modal rationalism could be criticized from many sides. Nevertheless, as far as I identified, the main problem is not so much different from the problems of modal realism. The possibilities are taken as genuine possible worlds, and a metaphysical commitment to their existence is inevitable. The problem is elucidated by Stalnaker, in the simplest form: "...the distinctions between possibilities that could possibly be made are distinctions that exist from the perspective of any possible world – distinctions that exist necessarily".¹³⁶ Therefore, I take the metaphysical or ontological baggage of modal rationalism and realism as the most problematic face of their understanding of modality.

¹³⁴ Chalmers (2002), p. 164

¹³⁵ Chalmers, (2002), p. 194

¹³⁶ Stalnaker (2012), p. 129

Thus far, we have evaluated the concepts of the golden triangle, naturalistic monism, and modal rationalism. After this point, we shall focus on the structure of the 2-dimensional framework postulated by Chalmers.

3.2 Contextual 2-Dimensionalism

The picture that we drew served to introduce Chalmers' philosophical agenda. Now we shall focus on the machinery employed to secure the goals in the agenda. Chalmers assumes that there could be two different understandings of the 2-dimensional semantics, namely the contextual and the epistemic. According to him, the main difference could be summarized as follows: "The contextual understanding uses the first dimension to capture context-dependence. The epistemic understanding uses the first dimension to capture epistemic dependence".¹³⁷ The contextual understanding could denote a classical picture of 2-dimensional frameworks; all the philosophers we evaluated so far either associate their theories with context-dependence or their frames analyzed under this term. In section 2.3, we briefly summarized what Chalmers understood from 1-intension and 2-intension, referencing his early work in *The Conscious Mind*¹³⁸; even his work on the book could be considered an example of contextual 2-dimensionalism. The job of the contextual theorist is, more or less, associating the 1-intensions with the context-dependence for the relevant expression. Three possible strategies for contextualist understanding will be taken under evaluation by Chalmers.

Nevertheless, the evaluation of contextual understanding is carried out under a particular characterization of 2-dimensional semantics, which is denoted as *core claims* by Chalmers. Those core claims serve as a philosophical manifesto or

¹³⁷ Chalmers (2004) p. 166; Chalmers (2006), pp. 52-53

¹³⁸ See Chalmers (1996)

declaration of intent for Chalmers' 2-dimensional understanding. Five main theses establish the ground of the core claims:

(T1) Every expression token (of the sort that is a candidate to have an extension) is associated with a primary intension, a secondary intension, and a two-dimensional intension. A primary intension is a function from scenarios to extensions. A secondary intension is a function from possible worlds to extensions. A two-dimensional intension is a function from ordered pairs of scenarios and worlds to extensions.

(T2) When the extension of a complex expression token depends compositionally on the extensions of its parts, the value of each of its intensions at an index (world, scenario, or ordered pair) depends in the same way on the values of the corresponding intensions of its parts at that index.

(T3) The extension of an expression token coincides with the value of its primary intension at the scenario of utterance and with the value of the secondary intension at the world of utterance.

(T4) A sentence token S is metaphysically necessary if and only if the secondary intension of S is true at all worlds.

(T5) A sentence token S is *a priori* (epistemically necessary) if and only if the primary intension of S is true at all scenarios.¹³⁹

T1 is uncontroversial on one side since it depicts the general characterization of 2-dimensionalsim, but Chalmers considers that 1-intensions must be understood from deploying the concept of centered worlds. Centered worlds could be taken as the n-tuples that contain "a world, an agent in that world and a time in the history of that world".¹⁴⁰ For example, a sentence such as "the first child of Cafer" picks "Taylan" if our world is our centered world, but in other scenarios, it can pick another subject such as "Eren". T2 is acceptable for the theories that are compatible with the compositionality axiom. T3 states that if the utterance and scenario are taken with respect to the same world, 1-intensions and 2-intensions are the same and the extension of the expression.

Theses T4 and T5 are two equal sides of a claim; T4 establishes that S is metaphysically necessary if and only if all rows (or, 2-intension) do contain only True,

¹³⁹ Chalmers (2009b), p. 9

¹⁴⁰ Kment (2017)

and T5 states that S is *a priori* if the 1-intension is True in all cases. T5 has a particular cardinality in Chalmers understanding of the 2-dimensional framework; he denotes T5 as "The Core Thesis" in another series of papers and, by appealing his golden triangle, also form a Neo-Fregean Thesis as in the following:

Neo-Fregean Thesis (2D Version): Two expressions "A" and "B" have the same 1-intension if and only if " $A \equiv B$ " is *a priori*.¹⁴¹

Thus, the Core Thesis must be taken as the ultimate assurance for the golden triangle; so, considering rationalism, the theory that Chalmers is seeking must conform with T5.

The first type of contextual strategy is considering the orthographic structures of the expressions. Orthographic contextual intensions are easy to challenge. Take the expression "all squares have four sides"; for an arbitrary centered world, the characters that used to formulate the expression might mean "some living beings are non-existent", and thus 1-intension would fail to be necessary. Therefore, the core thesis fails to define 1-intensions based on the orthography of target expressions.¹⁴²

The second type seems more familiar to us; linguistic contextual intensions take specific types of expressions – such as indexicals – to define 1-intensions. In this sense, this strategy could be best understood by referencing the Kaplanian 2-dimensional semantics. Chalmers argues against this understanding based on *a posteriori* necessities; the identities between names and natural kind terms contrast with the core thesis.¹⁴³ Here is why: they are not *a priori* and have the necessary 1-intensions. In every world that contains such objects, "Salt is NaCl" or "Yaşar Kemal is Kemal Sadık Gökçeli" is have necessarily True 1-intensions.

¹⁴¹ Chalmers (2004), p. 166; Chalmers (2006), p. 64

¹⁴² Chalmers (2004), p. 170; Chalmers (2006), p. 67

¹⁴³ Chalmers (2004) p, 171; Chalmers (2006), p. 68

The third and last strategy is defining contexts dependent on the semantic values of the expression tokens. Chalmers summarizes the strategy as "...semantic contextual intension of an expression token T is defined at centered worlds with a token of T's linguistic type at the center".¹⁴⁴ So, what happens if we hold this strategy? Considering the extensions as our linguistic types, we could gather necessary 1-intensions for every expression that shares the same extension. Thus, the core thesis fails in that case, again.

After considering these three problematic cases, Chalmers mentions a particular case for the sentences as such "Language exists", "I exist," and "I am uttering now".¹⁴⁵ These sentences are True whenever they are uttered and form necessarily True 1-intensions. Nevertheless, these are still not *a priori*. Chalmers advocates fine-graining on the concepts of *a priority* and True whenever uttered; where the prior one is dependent on rational or epistemic elements, the latter gathers its' truth-value purely dependent on the metalinguistic elements.¹⁴⁶ Thus, contextual applications are not sufficient to meet the standards of the core thesis.

After considering these examples, Chalmers' suggestion is to leave aside the contextual understanding for the sake of establishing the golden triangle. The cases that Chalmers evaluated under the contextual understanding are often discussed with their credibility of *a posteriori* necessities coherently. Nevertheless, by assuming the core thesis, Chalmers is directly acting against it. Thus, the project described by the golden triangle – so far at least – is shaped as a project aiming to take *a posteriori* necessities out of the picture. However, those are only the negative aspects or criticisms of the Chalmers directed to the contextualist version of 2-dimensionalism, and now we shall focus on the what Chalmers offers.

¹⁴⁴ Chalmers (2004), p. 172; Chalmers (2006), p.68

¹⁴⁵ Chalmers (2004), p. 174; Chalmers (2006), p. 70

¹⁴⁶ Chalmers (2004), pp. 174-175; Chalmers (2006), p. 70

3.3 Epistemic 2-Dimensionalism

Chalmers' strategy for satisfying the core thesis uses an epistemic-based interpretation of the 1-intensions. The first key concept to create an epistemic-dependent understanding of 2-dimensionalism is the *epistemic space*.¹⁴⁷ Roughly, epistemic space could be characterized as the totality of the epistemic possibilities. Epistemic possibilities are the assertions or claims that cannot to be refuted by *a priori*. For example, S21: "Salt is NaCl" and S22: "Salt is NaCN" are two different examples of epistemic possibilities. S21 is an example of *a posteriori* necessary truth, and S22 is *a posteriorly* false. However, following the characterization supplied by Chalmers, it is not possible to rule out S22 *a priori*, then it is an epistemic possibility, as well as S21. On the other hand, "Some triangles are four-sided" is not an epistemic possibility since it is *a priori* refutable.

The other idea that is necessary for the epistemic interpretation is the *scenarios*. Scenarios could be considered with reference to the possible worlds; "scenarios stand to epistemic possibility as possible worlds stand to metaphysical possibility"¹⁴⁸ as Chalmers said. The difference is that the scenarios are treated as centered possible worlds. Following the classical understanding of centered possible worlds, scenarios must contain the relevant information about history, physical truths, experiences and so on, and they must be considered actual. More clearly, Chalmers defines this as "'D is the case, I am F, and the current time is G', where D is a complete qualitative characterization of w, and F and G are qualitative descriptions that pick out the individual and the time at the center of w".¹⁴⁹ This is called *canonical specification* of a given centered world. Thus, one can construct a scenario around S22, here people

¹⁴⁷ Chalmers (2004), p. 176; Chalmers (2006), p. 75

¹⁴⁸ Chalmers (2004), p. 177; Chalmers (2006), p. 76

¹⁴⁹ Chalmers (2009b), p. 11

add potassium cyanide to their foods, or use of excessive potassium cyanide leads to high blood pressure.

This position contrasts with the classical Kripkean picture; since salt is necessarily NaCl due to essential properties, there could be no such metaphysically possible world. Moreover, there is another problem; contingent *a priori* and necessary *a posteriori* sentences that are in contrast with the core thesis must be eliminated. Thus, Chalmers restricts the class of application for the sentences that are *semantically neutral* or *qualitative statements*. In a nutshell, the idea is dependent on the intuitive difference between the terms like "gold", "Phosphorus" and "cause", "not" and so on. Following that, the prior class of the expressions needs to appeal to the actual world information to seek their extensions in the counterfactual worlds.¹⁵⁰ Therefore, natural kind terms and names shall be eliminated in the application since they are non-semantically neutral. Thus, all the analyses relevant to epistemic intensions are dependent on the *a priori* reflection of the ordinary competent speakers. After all, this restriction creates a problem, at least from a certain point of view, that shall be evaluated in Chapter 4.

Before defining epistemic intensions, one last step is required. Epistemic necessitation could be defined as, according to the truth-value of the sentences, just as in the following: for a sentence S, it is True under a scenario such as W, S is true if and only if W necessitates that S. Moreover, it could be definable under the canonical descriptions constructed via semantically natural terms. Following that suggestion, for a scenario W, and a sentence S, where D stands for the canonical description of the W, $D \supset S$ is epistemically necessary.¹⁵¹ Therefore, combining the scenarios, semantically natural descriptions, and epistemic necessitation, the epistemic intension could be defined by appealing to the truth-value of the target expressions, such as the epistemic intension (or 1-intension) of a sentence S, according to a scenario W, S is True if and only if it is epistemically necessary (or *a priori* coherent). On the other hand, 2-

¹⁵⁰ Chalmers (2004) p. 192; Chalmers (2006), p. 87

¹⁵¹ Chalmers (2004), p. 184; Chalmers (2006), p. 80

intensions are defined as metaphysical intensions.¹⁵² Following a similar route, the metaphysical intension (or 2-intension) of a sentence S, according to a scenario W, S is True if and only if it is metaphysically necessary.

Thus far, we defined epistemic 1-intensions. To show that epistemic 2-dimensionalism is compatible with the core thesis, one might consider the problematic sentences taken into consideration by Chalmers.¹⁵³ For example, we know that "Language exists" is a type of sentence that is true whenever uttered, but not *a priori* true. There might be some worlds that sentences refer to anyone; there might be worlds that are completely including objects that cannot form any language. Thus, this sentence is not *a priori* True, because I can hold both S and \sim S coherently. Thus, it has a contingent 1-intension and not *a priori*. This can pass the test since it is compatible with the core thesis.

Still, there is more to consider for characterizing Chalmers' epistemic 2-dimensionalism. To finish the characterization of his framework, we need to get deeper into the understanding of scenarios and consider the concept of scrutability. The above-mentioned scenarios could be understood as a reference to the possible worlds. As we have discussed in Lewisian possible worlds, Chalmers also deployed the notion of plenitude to uncover the nature of scenarios. He utters the relevant principle as in the following:

Plenitude Principle: For all S, S is epistemically possible if and only if there is a scenario that verifies S.¹⁵⁴

By stating this principle, epistemic 2-dimensionalism guarantees that, for every epistemically possible sentence, there is a corresponding scenario. If we consider the relation of the core thesis with this principle, it is plausible to say that it could be used to derive the thesis. Moreover, there is also a metaphysical side of the story since we

¹⁵² Chalmers (2009b), p. 12

¹⁵³ A similar strategy is also taken by Schroeter (2021)

¹⁵⁴ Chalmers (2004), p. 184; Chalmers (2006), p. 81

used to try to relate scenarios with the possible worlds. With considering this, Chalmers asserts another plenitude principle, namely metaphysical plenitude:

Metaphysical Plenitude: For all S, if S is epistemically possible, there is a centered metaphysically possible world that verifies S.¹⁵⁵

This claim ensures that for every possible epistemic scenario, there must be a metaphysically possible world that corresponds to that scenario, as the centered possible world. The interpretation of this principle entails something akin to the direct refutation of Kripkeanism. It is epistemically possible to create a scenario in which all tigers are not quadruple felines; instead, they are battery acid. However, since "tiger" is a natural kind, and a "quadruple feline" is a theoretical identity associated with that natural kind, it is metaphysically impossible to hold that tigers are battery acid. In epistemic 2-dimensionalism, for every epistemic possibility, there is also a metaphysical possibility that corresponds to that. Therefore, the set of metaphysical possibilities and epistemic possibilities are taken as the same. As far as I am concerned, this aspect of epistemic 2-dimensionalism may be open to criticism.

Nevertheless, scenarios could be defined under purely epistemic terms. In that case, we need such language L, which is enough to formulate epistemically complete hypotheses from infinite conjunctions of sentences. Therefore, the relevant plenitude thesis is written as in the following:

Epistemic Plenitude: For all S, if S is epistemically possible, then some epistemically complete sentence of L implies S.¹⁵⁶

Chalmers assumes that this epistemic characterization is more plausible for philosophers that would like to refute the metaphysical plenitude. The notion of a language that is able to support infinitary conjunction of the sentences is not an idea challenging to visualize; it will be like numbers, in a sense. However, the presupposed characterization needs to be more clearly defined to be meaningful. Still, considering that a language has such-and-such qualities does not change the picture, there still

¹⁵⁵ Chalmers (2004), p. 185; Chalmers (2006), p. 82

¹⁵⁶ Chalmers (2004), p. 189; Chalmers (2006), p. 84

exists a centered possible world for every epistemically complete sentence. I believe that this is still not taking us further to the metaphysical plenitude backed up with the modal rationalist claims. Here, the problem then turns to be an illusionary choice; whether one selects metaphysical or epistemic versions of the plenitude, still Chalmers' claims protect its strength.

The last concept that characterizes Chalmers is the *scrutability of truth and reference*.¹⁵⁷ Scrutability is defined as the ability of a subject to identify their sentences' truth-value and reference, without appealing any experimental data, when they are supplied with a satisfactory definition of their surroundings. More clearly, Chalmers defines it as:

Scrutability of Truth: For most terms T used by a speaker, then for any truth S involving T, there exists a truth D such that D is independent of T, and such that knowing that D is the case puts the speaker in a position to know (without further empirical information, on idealized rational reflection) that S is the case.¹⁵⁸

Semantically non-neutral terms, namely natural kind terms, and proper names, could be excluded from our picture; since they could be encapsulated by other terms. For example, one does not need to assert that "water is H₂O", since it can be contained in D. After all, Chalmers claims that epistemic 2-dimensionalism seeks that "speakers have a conditional ability to determine the referent of N ... given relevant information about the character of the actual world and given idealized rational reflection".¹⁵⁹ But, what qualifies as enough relevant information?

In Chapter 3, we have defined PQTI; for Chalmers, PQTI definitions are enough to picture the subjects' relevant information. Taking V as the minimal sufficient vocabulary and defining V-truth as the truth depends on the vocabulary, Chalmers postulate a strong form of scrutability, as in the following:

¹⁵⁷ Chalmers (2009b), p. 12

¹⁵⁸ Chalmers (2004), p. 196; Chalmers (2006), p. 90

¹⁵⁹ Chalmers (2009b), p. 18; see also Speaks 2010

Scrutability of Truth II: There is a relatively limited vocabulary V such that for any truth S, there is a V-truth D such that D implies S.¹⁶⁰

Thus, we have almost a complete picture of epistemic 2-dimensionalism. The 1-intensions are defined on epistemic terms to satisfy the core thesis and cautionary measures taken against *a posteriori* opposition. At the end of the day, Chalmers' project depends on awakening Kantianism, referencing Fregeanism. It is Kantian since it rebuilds the bridge between the *a priori* and the necessity, and it is Fregean since 1-intensions might be used to understand the cognitive difference between the terms or *senses*. Nevertheless, the 2-dimensional framework laid out by Chalmers has some ontological consequences, which shall be considered below.

3.4 The 2-Dimensional Argument Against Materialism

From a certain point of view, the most crucial outcome of Chalmers' 2-dimensional framework is his well-known zombie argument against materialism. The argument appears in his book *The Conscious Mind*¹⁶¹ and his article "The 2-Dimensional Argument Against Materialism"¹⁶². The version in the book is more straightforward and more familiar due to its famous name, *the zombie argument*. Thus, let us start with that.

The zombies Chalmers wants to assume do not resemble the zombies that we are familiar from the literature and cinema; rather than that, he will argue for the existence of the *phenomenal zombies*.¹⁶³ The notion of a phenomenal zombie is different from the brain-eater zombies. They resemble us. They are functionally and physically

¹⁶⁰ Chalmers (2004), p. 198; Chalmers (2006), p. 91; see also Chalmers (2009b)

¹⁶¹ See Chalmers (1996)

¹⁶² See Chalmers (2009a)

¹⁶³ Chalmers (1996), p. 95

identical to us, and they are living in their zombie world; what they are lacking are solely the phenomenal experiences.¹⁶⁴ They might buy their morning coffee from their Zombiebucks, and even they might be able to hold a conversation about it or seem to enjoy repeating their morning routine. Nevertheless, they will lack the qualitative side of our experiences, alternatively, qualia of drinking a coffee. Chalmers argues that such a scenario is not naturally possible but logically possible.¹⁶⁵ The logical possibility is maintained by considering the scenario as not *a priori* refutable, even within the ideal reflection conditions. Therefore, if it is not logically incoherent, the zombies are conceivable. If zombies are conceivable, then their existence is possible. Therefore, there is a possibility that mental does not supervene on the material; then the materialism is false. The argument could be summarized as in the following:

- (1) Materialism is the thesis that argues that everything is physical.
- (2) Zombies are conceivable
- (3) If zombies are conceivable, they are possible. [From (2)]
- (4) Thus, zombies are possible.
- (5) It is possible that there is a zombie world that is not physically distinguishable from our actual world. [From (4)]
- (6) If (5) is possible, then (1) is false.

Therefore, materialism is false. [From (1), (5), (6)]

At least thus far, the argument looks no different from a classical conceivability argument. However, what makes this argument unique is the 2-dimensional version of it. To illustrate, let P be a complete microphysical description, and Q be a phenomenal experience, then a fine-grained version of the argument¹⁶⁶ could be depicted as in the following:

¹⁶⁴ Chalmers (1996), p. 94

¹⁶⁵ Chalmers (1996), pp. 96-99

¹⁶⁶ To formulate this version, I will use Chalmers (2009a) mainly; see also Schroeter (2021) for a decent summary

- (1) Materialism holds modal commitments or at least it entails a modal thesis¹⁶⁷
- (2) $P \wedge \sim Q$ is conceivable
- (3) If $P \wedge \sim Q$ is conceivable, then there is a scenario that validates the claim. [From (2), epistemic 2-dimensionalism]
- (4) Thus, $P \wedge \sim Q$ is 1-possible. [from (2)]
- (5) If $P \wedge \sim Q$ is 1-possible, then its 1-intension is True [From (4), epistemic 2-dimensionalism]
- (6) If $P \wedge \sim Q$ has a True 1-intension, then a possible world confirms that scenario, or it has a True 2-intension. [From (5), metaphysical plenitude]
- (7) If there exists a possible world that verifies " $P \wedge \sim Q$ ", then materialism is false [From (1) and (6)]

Therefore, materialism is false. [From (1), (7)]

Let us analyze the argument. The premise (1) could be accepted since some materialist theories entail a modal thesis, although it is not a must for a materialist theory. By stating " $P \wedge \sim Q$ ", we mean that the microphysical facts are stabilized according to our world, and no phenomenal experience exists. This could be taken as a paraphrase of the zombie-world thesis, according to PQTI. According to this, premise (2) states that " $P \wedge \sim Q$ " is *a priori* coherent, or there is nothing to refute under an ideal reflection base; therefore, it is conceivable. Premise (3) is based on the epistemic 2-dimensionalism. If " $P \wedge \sim Q$ " is *a priori* coherent, there must be a scenario that makes the sentence True. Premise (4) establishes the bridge between conceivability and possibility; if some sentence is 1-conceivable, then it entails that 1-possibility. Following that, if " $P \wedge \sim Q$ " is 1-possible, there must be a scenario that verifies that " $P \wedge \sim Q$ " and it has a True 1-intension when that scenario is considered as actual, as underlined in the (5). Premise (6) applies the metaphysical plenitude principle; for an epistemic scenario, a metaphysically possible world exists corresponding to it. Thus, if " $P \wedge \sim Q$ " has a True, 1-intension, it also has a 2-intension that yields True. This means that there exists a zombie-world as a metaphysical possibility. Lastly, (7), based on the definition of

¹⁶⁷ Chalmers (2009a), p. 2

materialism, states that a metaphysically possible world considering zombies is refuting materialism.

In a sense, the philosophical climax of Chalmers' 2-dimensional project is the refutation of materialism on the grounds supplied by the framework. Considering this argument, he seems that he is able to overthrow materialism. However, is that the case at all? Can Chalmers be able to reject monistic theories by this argument in a conclusive way? Is there any way for materialists to be sympathetic to 2-dimensional frameworks if this is the case? These questions and others regarding 2-dimensionality will be answered in the next chapter.



CHAPTER 4

A CRITICAL EVALUATION OF CHALMERS' 2-DIMENSIONALISM

In this chapter, I intend to critically evaluate Chalmers 2-dimensionalism by referring to the relevant literature whenever it is possible. Even characterization of epistemic 2-dimensionalism is solid in the sense of philosophical methodology, and I believe it is not immune to any plausible criticisms. Moreover, even epistemic 2-dimensionalism and related concepts are in accordance with the conceivability; still, the role of conceivability and outcomes of the 2-dimensional zombie argument is question bearing in a sense. However, I do not intend to defend materialism but my position could be associated with some monistic tendencies. What I shall try to establish is not a monistic refusal of the Chalmers' theses, but it may be understood as what a naturalist sees when approaching the topic. Thus, I will show how a naturalist could approach the 2-dimensional frameworks.

4.1 A General Philosophical Evaluation of Chalmers 2-Dimensionalism

Chalmers' agenda is starting with an aim to vindicate the golden triangle with the help of the core thesis. The core thesis takes us to a position for considering another alternative than the classical contextual understanding of 2-dimensional semantics.

The alternative is the epistemic 2-dimensionalism Chalmers favors. Nevertheless, let us reconsider why Chalmers eliminate contextual understanding.

The contextual theories mainly start their philosophical journey to capture the meaning within two sides. Even though they have specific inabilities, many are sufficient to fulfill their agendas. Chalmers' main criticisms about those are dependent on their disinterestedness on the golden triangle, and incompatibility to the core thesis. However, is that a must for the 2-dimensional frames to be fulfilled? Obviously, I do not share a similar attitude with Chalmers. Many of them could be criticized in many aspects; for example, we can say that Kaplan's contextual 2-dimensionalism is mainly demonstrative-oriented, and Stalnaker's model has some problems with encapsulating the notions of *a priori* and necessary *a posteriori*. But, it is essential to remember that those are the semantic and metasemantic theories; they are interested in different aspects of meaning. Here I have two points to argue against Chalmers.

First, even the contextual theories are interested in the meaning, they have a certain explanatory power on the issue. What Chalmers' trying to achieve, at least in the first step, is reviving the golden triangle to reach philosophical heavens, which could enhance our picture by linking the language, epistemology, and ontology. Considering such an ambitious project, it is almost natural to think that a theory will exponentially enlarge its explanatory power, at least since it aims to bring different areas together. Nevertheless, we know that Chalmers' epistemic 2-dimensionalism is restricted to the usage of natural kind terms and proper names since they are not semantically natural; the PTQI definitions will already capture them. However, is not that a problem about the explanatory power of the framework? For recapturing the notion of necessary *a priori*, we are forced to leave *a posteriori* and contingent *a priori*. I am not sure whether this has any benefit in broadening the explanation, or whether it serves to enhance our philosophical understanding about the world. Thus, it is essential to reconsider what we are sacrificing to achieve what; it seems that we are leaving the post-Kripkean epistemology and possible world semantics – as along with the contextual 2-dimensionalism – to achieve the revival of a hardcore Kantian epistemology with some Fregean benefits, that serves little beyond than ground

dualistic purposes. Therefore, Chalmers' actual criticism evolves to interrogate those contextual 2-dimensional frameworks harshly, for why they are not dualistic enough, or why they are not as Kantian as Chalmers demanded.

The first criticism might be defeated, on the grounds that dices are loaded from the start to leave out Kripkean understanding. Nevertheless, I am arguing for the plausibility of a Kripkean epistemology; rather, I am arguing that Chalmers' account does not explain as much as it promised. Considering this, there is also another argument that relates to this.

Second, let us reconsider the golden triangle. It is the motto for encapsulating meaning, modality, and reason. I am very sure that Chalmers can connect modality and reason, but where is the meaning? With asserting the scrutability of truth thesis and considering a restricted vocabulary, we assume that epistemic 1-intensions are working with the *a priori* truths best, and we are making some *a priori* entailments from that vocabulary. However, we do not need to appeal to any notion of meaning in that case. *A priori* knowable sentences are already stated in the PTQI base, and therefore, they are not informative in a sense. To overcome this problem, Chalmers assumes that 1-intensions might take truth-values as their semantic content, and still, it will be linked to the meaning in a sense.¹⁶⁸ One should remember that the truth-condition is already contained in PTQI; in that case, for a competent speaker, considering the truth-value of a specific sentence is only a matter of checking the derivation rules. In this sense, it is more like a metasemantic or logical consideration of syntactic content. After all, it depends on the truth-rule of a material conditional; since PTQI is taken for granted, we will only look at whether the sentence is True or not.

Let us reconsider this picture with a necessary *a priori* sentence with a necessary 1-intension. Take the expression "squares are four-sided"; in that case, does one need to appeal to any kind of meaning to analyze this sentence? The sentence is analytic, and PTQI guarantees its truth. Whatever we shall do is only looking at PTQI to search

¹⁶⁸ Chalmers (2009b), pp. 14-15

whether this is true or not. Is this approach circular, and rule out the meaning from the picture?¹⁶⁹ It seems so. In this sense, considering 1-intension does not require anything about the meaning, and 1-intensions is circularly defined.

The problem of circularity is most evident, if we consider the main theses that supplied by Chalmers, as Raatikainen proved so far. When we look for the core thesis, it states as "S is a priori iff S has a necessary 1-intension,"; but the necessity of 1-intensions is defined as the being *a priori*. In this sense, what Chalmers is arguing is not different from saying that "only a roundabout way of saying that what is a priori knowable is a priori knowable".¹⁷⁰ Therefore, we see that everything that characterizes Chalmers' 2-dimensionalism turns around the concept of *a priori*.

Philosophically, Chalmers' project seems solid at first glance, however, after a reconsideration, it seems that it has some flaws in it. Moreover, Chalmers tries to convince us to hold something to leave out some other. We shall leave the contextual 2-dimensionalism to their explanatory inabilities, but what Chalmers' construct is leaving out an important part of our contemporary epistemology. However, even though we take the bitter pill and accept that, an important piece is still left out; namely, meaning. Without meaning, it is questionable whether the golden triangle is holding together or not. On the other hand, it is still problematic that something exists as the golden triangle, since most relevant definitions could be reduced to "*a priori* is *a priori*".

4.2 Zombies!

The existence of phenomenal zombies is taken into consideration by many philosophers. I want to focus on the direct arguments related to the zombies in this

¹⁶⁹ For a similar argument, see Raatikainen (2021)

¹⁷⁰ Raatikainen (2021), p. 15

section. To begin with, in his book *Knowledge, Possibility and Consciousness*, John Perry takes the zombie argument under evaluation and considers that zombies are not viable to argue for dualistic purposes. However, they presuppose a certain kind of epiphenomenalism. He concludes that there is no reason to accept the existence of zombies unless we are epiphenomenalists.¹⁷¹ Following a similar point, Robert Kirk argues that the conceivability of zombies is necessitating the conceivability of the epiphenomenal qualia. In any case of failure of the epiphenomenal qualia, the zombie world is doomed to fail, and we have enough evidence for rejecting the epiphenomenal qualia.¹⁷² On the other hand, Daniel Stoljar, argues that there might be two possible understandings of the physical, namely, theory-conception and object-conception.¹⁷³ The object-conception assumes that we are not fully aware of the underlying intrinsic physical properties of the objects, and this acts as a blocking element for the conceivability arguments.¹⁷⁴ Therefore, since we cannot understand those facts, we could not conclude whether zombies are unconscious or not.

Chalmers considers the arguments of Perry and Stoljar. Chalmers broadly considers Stoljar's position as a type of "Russellian Monism"; in his 2009 version of the argument, he offers a Russellian Monism compatible type of it.¹⁷⁵ Therefore, Stoljar's argumentation threatens Chalmers' position as expected. Further, Perry's argument is refuted by Chalmers since there is some non-epiphenomenalistic understanding that also accepts the zombie conceivability.¹⁷⁶ Thus, claims Kirk gives seem to fail by

¹⁷¹ Perry (2001), p. 80

¹⁷² See Kirk (2008)

¹⁷³ See Stoljar (2001)

¹⁷⁴ Stoljar (2001), p. 408

¹⁷⁵ See Chalmers (2009a)

¹⁷⁶ See Chalmers (2009a)

Chalmers this consideration; epiphenomenal qualia and zombie-worlds are two different notions.

I think that the argumentation about the zombies falls short of overcoming Chalmers 2-dimensional argument. In the first version, zombies are used extensively; but we need to consider the second, epistemic 2-dimensional version of the argument. " $P \wedge \sim Q$ " is a paraphrase of the zombie-world, but not the direct citation. It might be considering the possibilities of the zombies or lack of another fundamental concept that is included by "Q". Therefore, Chalmers does not even need to illuminate his idea of the zombies; he clearly states that this problem is applicable in any kind of change in the experience without changing the physical structure, such as in the experience of color. Moreover, zombies act similar to empty names; without a direct reference, there will always be room for making new arrangements in the concepts.

We might try to characterize zombies closer to the fictional names or entities as philosophical speculation. I am almost sure that this argument is not too sound philosophically, but I would like to be charitable. We know that Chalmers distinguishes between phenomenal zombies and fictional – Hollywood-type – zombies. We also know that the Fregean analysis of a zombie certainly yields a sense, but lacks a referent. In that case, the truth-value of the sentences containing "zombies" will either be evaluated from its entailment from PTQI by the material conditional or on the characterization that Chalmers gives. Following the former, we will say that those sentences are True if and only if we utter the sentences within a zombie world. For our actual world, our vocabulary does not include semantically natural zombies; they are more like a negation of a fact, and it is inconsistent to argue the actual existence of the zombies. If consciousness is an *a posteriori* thing that we experience, then the zombies are the negation of an *a posteriori* concept, and they cannot be a part of our restricted vocabulary. On the other hand, if they are just concepts, they will behave as a kind of a term that established *a priori* and only assumed in a context that supports " $PT \wedge \sim Q$ ", and in that sense, it necessitates both conceivability to possibility thesis, and scrutability thesis together; without assuming the zombie-world, we could not assume the zombies. Nevertheless, without presupposing the dualistic view of

Chalmers or accepting that there is a phenomenal gap between consciousness and matter, it seems complicated to commit the metaphysical existence of a zombie world. Thus, either zombies do enter our scene *a posteriorly*, or their conceptual existence presupposes the dualism ready at hand. There is also a third option; we can choose to denote zombies as primitives, and we will have PTQIZ.

In the latter option, the truth-value of the zombies yielded a certainly written definition. Following that, zombies could be regarded as similar to fictional characters. In that case, their knowability yields on *a posteriori* basis – like reading a novel to learn about İnce Memed – rather than ideal *a priori* reflection.

Therefore, I believe that arguing against the status of zombies has little philosophical importance to put Chalmers' dualism at stake, since the real deal is not the characterization of the zombies, but " $P \wedge \sim Q$ ". Although I am not sure if that view is solid enough, I would like to portray an argument against the *a priori* status of the zombies.

4.3 *A Priori* Derivable Laws

To begin with, I shall introduce the concept of *a priori scrutability* from Chalmers' book *Constructing the World*:

A Priori Scrutability: There is a compact class of truths from which all truths are *a priori* scrutable.¹⁷⁷

The *a priori scrutability* ensures that, from a conjunction of sentences such as D, a sentence S is *a priori* entailed by the material conditional (" $D \rightarrow S$ "), where PTQI serves as a base for D.¹⁷⁸

¹⁷⁷ Chalmers (2012), pp. 58-60

¹⁷⁸ Schroeter (2021)

In a review, Shoemaker argues that nomological necessity is a particular case for the metaphysical necessity –since they are essential. Therefore, there are strong metaphysical necessities that cannot be overruled by conceivability to possibility thesis.¹⁷⁹ On the contrary, Chalmers argues that there are no good reasons to accept this view, but the conceivability possibility thesis is strong enough to reject Shoemaker's claim – as well as Kripkean strong necessities.¹⁸⁰ I believe that this argument has a flaw for we consider that *a priori scrutability* as taken for granted. It is easy to say that, from the "P" of PTQI, we could postulate some *a priori* laws derived from the fundamentals. Remember that Chalmers has taken microphysical truths as a closed system¹⁸¹, and by P, we could postulate fundamental laws of physics¹⁸². Thus, from PTQI, we could entail a scenario like D, and after that, we could postulate an *a priori* instance of physical law. Thus, it will be *a priori* coherent, and 1-possible, and 1-necessary. Following this example, natural law could be denoted as 1-possible rather than 2-possible. If this argument holds, *a posteriori* claims could be 1-possible and the *a priori* claims. Therefore, they could be as strong as the *a priori* ones. If this is not the case, we will need to reject *a priori* scrutability. I believe that this shows a gap in Chalmers' characterization since both *a prioriness* of scrutability and 1-possibility is essential for his conclusions.

I believe that the stability of P is essential; without having an indeed defined physics, one could be able to identify the source of the gap between the physical and phenomenal. In the best case, it will end up with a kind of Russellian Monism, but not a cheerful version of Chalmers' dualistic position. The instability of P might shift the balance towards the inability of the physical sciences to understand the experience. In

¹⁷⁹ Shoemaker (1999), pp. 440-441

¹⁸⁰ Chalmers (2009a), pp. 18-19

¹⁸¹ See Chalmers (1999)

¹⁸² See Chalmers & Jackson (2001)

the worst case, from there, one might assume that it is an open gate for a physical gap that shall be filled by the science within its progress.

Chalmers concludes that views exemplified by Shoemaker and Kripke are treating the set of natural possibilities equal to the set of metaphysical possibilities.¹⁸³ Indeed, he is right. Following Chalmers' characterization, the set of natural possibilities is narrower than the set of metaphysical possibilities; on the other way around, the set of epistemic possibilities is greater than even the metaphysical possibilities. Epistemic possibilities are characterized as *a priori* negative and positive possibilities that are different from the metaphysical ones. Nevertheless, by calling naturalism, I understand something akin to the picture given by Kripke and Shoemaker. Is Kripke a naturalist? Following what Andrea Bianchi said, he is most probably a "sui generis" naturalist who "practiced" naturalism.¹⁸⁴ I am following a similar route; Kripke could be considered a naturalist, as far as he takes the importance of *a posteriori* justification and scientifically searchable essences into account. Kripke is certainly an essentialist, and most probably, we could understand his position as a dualism that promotes a kind of "quasi-Cartesian property dualism"¹⁸⁵, but still he is a naturalist since metaphysical possibilities, in a sense, corresponds to natural possibilities. Following that route, Chalmers could be taken as a non-naturalist. Therefore, Chalmers' project of dualistic naturalism fails again.

¹⁸³ Chalmers (1999), p. 19

¹⁸⁴ Bianchi (2021), pp. 15-16

¹⁸⁵ See Jacquette (1987)

4.4 Where is the Rabbit from?

"The metaphysical rabbit is already out of the semantic hat"¹⁸⁶ is the famous phrase that Nathan Salmon uses to criticize Kripkean essentialism. Paul Winstanley applies this question on Chalmers' 2-dimensionalism brilliantly and coherently.¹⁸⁷ However, the usage of this phrase motivates me to ask where the rabbits are coming from. Alternatively, what is the source of zombies?

Chalmers could answer that question basically by saying that zombies are derived from our *a priori* reflection. There are certainly some rabbits here, but, are backed by Quinean distinction between ideology and ontology.¹⁸⁸ I would like to question whether they are ideological rabbits or ontological rabbits. By denoting an object as ontological, I understand that a ground claim made by a theory; the existence of the object, is committed as theory. I use the ideological as the semantic list of items that could be listed within the theory. The point that I would like to make is simple; if zombies are ontological rabbits, then the 2-dimensional argument presupposes dualism and is not a viable option for the monist to consider. If they are ideological or do not necessitate dualism, but only *a priori* conceivability, then the argument also poses a threat for any position; it will be a real problem for any theory.

To illuminate this position, let us refer to Chalmers' thoughts on the discussion of the existence of an omniscient being; or a necessary god. Yablo argues that a necessary god can be assumed as existent and non-existent, following conceivability.¹⁸⁹ Following that, it is both 1-possible that a necessary god exists and 1-possible that a necessary god does not exist; following the modal rationalism, two distinct

¹⁸⁶ See Salmon (1982)

¹⁸⁷ See Winstanley (2007)

¹⁸⁸ See Quine (1951)

¹⁸⁹ Yablo (1999), pp.457-459; Yablo (2000), pp. 100-101

metaphysical possibilities correspond to those two epistemic possibilities. Therefore, it creates a contradiction. Chalmers answers this by stating that a concept of necessarily existing god is not conceivable at all; it is not *a priori* ruled out, but it is not strong enough that Chalmers wants because he had some doubts about the existence of a necessary god.¹⁹⁰ Chalmers also deals with this problem regarding it is a problem of double modals. Actually, the argument works for not containing the double modality; the concept of god might be inclusively necessary since the concepts it contains necessitate existence. However, conceiving that god is both existent and non-existent surely damages conceivability. The point that I would like to make is that the concept of god is taken out of the picture, but not due to semantical or ideological notions. Instead, it is taken out for the sake of ontological commitments. It is also applicable to the case of zombies; it is committed from a dualistic point of view, and it is fine-tuned to seem as if we are gathering the conclusion from a semantic necessity. Therefore, the zombies are only working in dualistic contexts; without being dualists in Chalmers' way. For this case, the argument from zombie conceivability means only a little. Thus, the conceivability is then a merely circular way to state that we are already dualists.

4.5 Thought Experiments and Some Thoughts about Naturalist 2-Dimensionalism

After all, what Chalmers offers by his 2-dimensional argument against materialism, is a thought experiment. Since he is appealing to the notion of conceivability, it might be counted as a special case. Under this section, I would like to discuss how one should understand thought experiments and try to grasp some ideas to characterize an understanding of 2-dimensionalism, which can be fruitful for bringing closer to it with naturalism.

¹⁹⁰ Chalmers (2009a), p. 20

First of all, thought experiments could be divided into different types. Following Tamar Szabó Gendler, we could argue that there are three types of thought experiments: *factive*, *conceptual*, and *valuational*.¹⁹¹ Typically, factive thought experiments consider what the case is, and they are scientific in a sense; conceptual experiments consider the possible descriptions of what the case is, and valuational experiments consider how we can evaluate the cases. In this sense, Chalmers' argument is a conceptual thought experiment.

There could be some restrictive movements about the conceptual thought experiments. For example, considering Gendler's reservations about inapplicability, we might conclude that Chalmers' example is inapplicable since it does not illuminate something about the world.¹⁹² On the other hand, there might be more strong restrictive moves, as such exemplified by Nazım Keven, to naturalize thought experiments, to consider the possibility of factual philosophical thought experiments assuming three conditions. Experiments should be empirically verifiable, conceivability arguments must be rejected, and they must be relevant for the philosophical inquiries.¹⁹³ The account given by Keven has some significant merits, but it is too strict that it rules out all of the rationalist claims that depend on the a priori; even, it could be directly associated with reductive materialism or logical positivism. Thus, I am not favoring such a robust application depicted by Keven, at least now. Nevertheless, Gendler has a crucial point: the thought experiments need to be applicable in the actual realm if it is possible.

Chalmers himself also mentions the role of thought experiments, which are cardinal for his understanding. After denoting that philosophical analysis is useful for understanding the mind, he claims these theories are speculative in the sense that there is no way to postulate intersubjective experimental tests; however, still there are some

¹⁹¹ Gendler (2000), p. 25

¹⁹² Gendler (2000), p. 21

¹⁹³ Keven (2021), p. 8

criteria to be met for our theories, which Chalmers summarizes as in the following: "simplicity, internal coherence, coherence with theories in other domains, the ability to reproduce the properties of experience that are familiar from our own case, and even an overall fit with the dictates of common sense".¹⁹⁴ I agree with Chalmers in general terms. Philosophical theories must conform with these standards, but the thought experiments they contain also must obey these. Thought experiments, after all, must be internally coherent and depend on relevant experiences, but they must also conform with commonsense and theories from science. I am not arguing that the philosophical thought experiments must follow the scientific methodology step by step; instead, they must be getting closer to the scientific ones as much as possible.

After all, there is a modal difference between my laptop and philosophical zombies. Nevertheless, there is also a commonsensical difference between them; the latter's existence seems a little bit unintuitive. Rather than denying the existence of the zombies, let us embrace their existence. We can affirm the existence of the zombies, and zombie worlds, on a par with the existence of the Harry Potter world. We can allow that everything exists since they are not *ruled out a priori* or do not have logical contradictions. Nevertheless, there must be a difference.

I believe that the vital point could again be derived from the literature of thought experiments. According to at least Kathleen Wilkes, philosophical thought experiments must keep their touch with reality, if they could not maintain this relation, they will turn a piece of fantasy or fiction.¹⁹⁵ She was arguing that the experiments must be grounded on a factual theory, or a scientific theory of some sort, to derive conclusions about ethical issues. We cannot conclude the righteousness of animal killing by examining the epistemic or metaphysical possibility of suicidal cows. Moreover, we do not consider witchcraft to be the source of all evil, by looking at the Snow-White stories. Following that, why should we consider the metaphysical possibility of zombie worlds to conclude that there is an actual gap in consciousness,

¹⁹⁴ Chalmers (2017), p. 366

¹⁹⁵ Wilkes (1993), pp. 43-49

which could not be fulfilled with the physical just considering the epistemic profile with a possible world?

I am not arguing that everything should be grounded on a scientific theory; in that case, most probably, it will be a direct refutation of all modal metaphysics. I am arguing that there must be a difference between the assertions grounded on the actual world and those in the metaphysical. Zombies, XYZs, Harry Potter, Orcs exist like H₂O, my computer, bachelors, and so on. But, they are only possibilities grounded on some modal claims. I call these the speculations and the thought experiments including these, “ontological-speculations”. We can speculate about zombies' ontological possibilities as well as the possibility of the love of Heathcliff, but not their natural possibilities. On the other hand, actually-backed claims are considered by thought experiments, which might be denoted by “ontological-designs”. There is also a 2-dimensional difference between them.

Ontological-designs have necessary or possible 2-intensions in the actual world (the world that we live in), since they are grounded on a natural possibility. Thus, while making such and such thought experiments about them, we are trying to convince others about necessity of 1-intension. Consider Galileo's experiment, for example; we are not trying to convince anybody about the law of falling bodies but rather we are trying to convince them of the necessity of the event under some fixed conditions. In this sense, in ontological-designs, we will communicate to show a necessary diagonal, or FA-necessity.

On the other hand, in ontological-speculations, we will try to convince somebody to picture a scenario in 1-intensions. Consider fiction writing: the novelist's job is to picture a relevant world and to convince the reader to consider that world to be actual. Just as the conceivability thesis has done so far, they act based on 1-possibility and consider the 2-possibility after. Considering zombies as a version of speculation could remedy the non-naturalistic base of conceivability arguments.

After all, I do not intend to overthrow the idea of property dualism or conclusively establish a monistic base with this argument. I am trying to conclude that

conceivability is plausible to consider modal profiles of the sentences and make some speculation, but it is not a device to illuminate our actual world's natural (or ontological) properties. In this sense, most arguments for property dualism still count. If dualists could burden neurophysiological refusals, even the non-modal versions of the Knowledge Argument counts; arguments about the inverted spectrum, if it could be grounded on the actual world, counts.

The moral of all the story is in the following; the philosophical experiments might not share similar methods with the scientific ones; but, they must be open to being investigated by science. Science deals with our actual world; therefore, our examples shall be constructed around the actual world; but not some fictitious, modally possible but not naturally possible and epistemically *a priori* worlds. This is a must if we would like to call ourselves naturalists. Chalmers is denoting himself as a naturalist, and indeed, he believes in the theoretical compatibility of the conclusions of science and philosophy. Therefore, I do not see any reason to leave conceivability arguments for being more naturalist by being scientifically compatible.

Considering the problems of 2-dimensionalism, Stalnaker wrote:

It might be nice if we had a neutral language with an internally grounded semantics, a language that required no factual assumptions for its interpretation and that could provide a complete description of the world, and of all possible worlds. It might be nice if there were a pure epistemic space to which we had a priori access and in terms of which we could locate our disagreements about what the actual world is like. But I don't think these things are possible. *The only way we can describe the world is to use the materials that the actual world offers us – the things, properties and relations that we find there. Where we disagree about the nature of what is to be found in the actual world, we may as a result disagree about what is possible – about the character of the space of possibilities in terms of which our language and thought are interpreted.*¹⁹⁶

What I am offering is already uttered by Stalnaker, on different grounds. The disagreement is about the ontology of our world at all, and we shall turn our faces to the source of the problem. The 2-dimensional semantics is a powerful tool for grasping the relations between meaning and modality, and sometimes epistemology.

¹⁹⁶ Stalnaker (2004), p. 319; emphasis added

Nevertheless, the job of a naturalist 2-dimensionalist is to prune off the non-natural modal conclusions, for the sake of facing with the real problems of the real world.



CHAPTER 5

CONCLUSION

In this thesis, we have evaluated different types of semantic theories. As it is mentioned before, the thesis has two goals: first, to picture the different types of semantic theories to understand the development of 2-dimensional semantics, and second, to evaluate Chalmers' 2-dimensional framework.

To achieve the first goal, various instances of 0-dimensional, 1-dimensional, and 2-dimensional semantic theories are considered. Frege and Russell evaluated under the 0-dimensional semantic theories. Analyzing Frege's system is essential due to his application of the terms *sense* and *reference*. By using them, Frege is able to approach meaning from different sides. On the other hand, Russell must be noted for his descriptivist approach. Frege and Russell's systems, along with the developments in the modal logic, caused the birth of 1-dimensional or possible world semantics. While considering the 1-dimensional semantics, we have evaluated Kripkean and Lewisian versions, which could be taken as theoretical opposites. Furthermore, 2-dimensional frameworks were introduced. 2-dimensional frameworks are analyzed throughout their functions, and the frames' semantic, metasemantic, logical, and philosophical deployments are considered.

After surveying the relevant literature about the history and development of 2-dimensional semantics, we focused on our second goal, namely the evaluation of Chalmers' 2-dimensional semantics. Chalmers' main philosophical motives are

analyzed. In a nutshell, we have shown that Chalmers argues for a modal rationalist and naturalistic dualist base to bridge the gaps between meaning, reason, and modality. Indeed, Chalmers is a property dualist but there are reasons to consider his naturalism. The concept of naturalist dualism is deeply investigated.

Moreover, Chalmers' criticism of contextual theories is taken into consideration. Chalmers refutes contextualist theories since they are not able to ground *a priori* notions. Thus, Chalmers proposes another kind of 2-dimensionalism based on the epistemic notions to define 1-intensions. Chalmers' 2-dimensionalism manifests itself best in practice; therefore, his 2-dimensional argument against materialism will be evaluated under the established concepts.

After that point, we started to evaluate Chalmers' theory critically. It seems that Chalmers' theory misses something while grounding the meaning in his epistemic 2-dimensionalism, and there is an evident circularity that appears in some of his definitions. On the other hand, the role of the zombies in his argument was evaluated. Chalmers quickly rejects the counter arguments about zombies. As a philosophical point of view, I believe that arguing about the role of zombies is not significant. If we paraphrase zombies as " $P \wedge \sim Q$ ", it will state an argument considering the non-existence of any qualitative experience. Still, we try to develop an argument that tries to capture zombies as fictive names, even though it is not strong enough to overcome the zombie argument.

Furthermore, we evaluate Chalmers' interpretation of natural laws. It seems that denying the necessity of the natural laws damages the naturalistic part of Chalmers' dualism. Following that, we consider whether his argument presupposes dualism or not. On a closer inspection, Chalmers' 2-dimensional argument against materialism presupposes an ontological commitment to dualism at the first step; therefore, not too conclusive for anyone who is not a dualist. At last, we have evaluated the zombie argument as a thought experiment. In conclusion, the evaluation ends with a recommendation; 2-dimensionalists should care about the actual world if they still want to be naturalists or make factual claims about the actual world's ontology.

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APPENDICES

A. TURKISH SUMMARY / TÜRKÇE ÖZET

Bu tezde iki temel hedef bulunmaktadır. İlk temel hedefimiz, yapılarına referansla 0-boyutlu, 1-boyutlu ve 2-boyutlu semantik teorilerin tarihsel gelişiminin, çeşitli uygulamalarının ve felsefi öneminin incelenmesidir. Tezin 2. Bölümünün temel hedefinin, bu arka planın sağlanması olduğu söylenebilir. Bu amaçla, 0-boyutlu semantikler Gottlob Frege'nin çalışmaları göz önünde bulundurularak incelenmiştir. 1-boyutlu semantikler ise, birbirleri ile teorik bir zıtlık içerisinde bulunan Saul Kripke ve David Lewis'in çalışmalarının incelenmesi ve karşılaştırması üzerinden anlatılmaya çalışılmıştır. Tezin ağırlık merkezini oluşturan ana yaklaşım olan 2-boyutlu semantikler ise, birbirinden farklı semantik, metasemantik, mantıksal ve felsefi amaçlarla kurulmuş sistemler üzerinden incelenmiştir. Bu incelemede David Kaplan, Robert Stalnaker, Lloyd Humberstone, Martin Davies ve Frank Jackson'ın 2-boyutlu semantik yaklaşımları ele alınmıştır.

Tezin ikinci temel hedefi ise, David Chalmers'ın 2-boyutlu semantik yaklaşımını incelemek ve felsefi olarak içerdiği eksikli yanlarını ortaya koymaktır. Tezin 3. ve 4. Bölümlerinin bu amaç doğrultusunda yazıldığı söylenebilir. Chalmers'ın 2-boyutlu semantik yaklaşımının felsefi motivasyonları, bağlamsal 2-boyutlu semantik eleştirisi, epistemik 2-boyutlu semantik yaklaşımı ve materyalizme karşı 2-boyutlu semantik argümanı başlıkları altında 3. Bölümde ele alınmıştır. 4. Bölümde ise, Chalmers'ın 2-boyutçuluğunun bir eleştirisi verilmiştir.

1. 0-Boyuttan 2-Boyuta

0-boyutlu semantikleri klasik semantikler olarak adlandırmak mümkündür. Klasik semantik, felsefede semantiğin en temel ve basit formu olarak adlandırılabilir. Fakat bu adlandırmadaki kullanılan basitlik, uygulama kolaylığını ifade etmek için değil, bunun ötesinde, analiz metodunun oldukça temel bir noktada olmasından kaynaklanmaktadır. 0-boyutlu semantikler, ifadeleri yaşadığımız dünyayı temel alan biçimde, onların anlamları ve doğruluk değerleri üzerinden incelemektedir. Burada kastedilen doğruluk değeri, genellikle iki değerlidir: Doğru ve Yanlış. Yaşadığımız dünya ise, daha teknik olarak “gerçek dünya” (İng. “actual world”) terimi ile karşılanabilir. 0-boyutlu semantiklerin çalışma metodu, kaplamaların semantik değerler ile ilişkilendirilmesi olarak özetlenebilir.

0-boyutlu semantikler başlığında, Frege’nin “On Sense and Reference” (Tür. “Duyum ve Gösterim Üzerine”) isimli çalışması, daha sonra 1 ve 2-boyutlu semantik tartışmaları ile ilişkilmesi de göz önüne alındığında merkezi bir öneme sahiptir. Frege’nin adı geçen makalesi, eşitlik ifade eden önermelerin birden fazla çeşide sahip olabileceğini iddia ederek başlar. Örneğin “Hesperus Hesperus’tur” ve “Hesperus Phosphorus’tur” şeklindeki iki ifadeyi ele alırsak, ilk türde ifade “ $a=a$ ” şeklinde bir yapıya sahipken, ikinci önerme “ $a=b$ ” şeklindedir. *A priori* yollar ile deney ve gözlemden bağımsız olarak ilk ifadede öne sürülen duruma kani olmak mümkün gözükmemektedir. Bir şeyin kendisi olduğu ve kendisinden başka bir şey olmadığı salt akıl yolu ile bilinebilmektedir. Fakat, bunun aksine, içerdikleri farklı tanımlar göz önüne alındığında “ $a=b$ ” formatına sahip önermeler, gerekçelendirilmeleri hususunda deney ve gözleme muhtaç durumdadırlar. “Hesperus Phosphorus’tur” ifadesi incelendiğinde, “Hesperus” isminin tanımının “akşamları gökyüzündeki en parlak cisim”, “Phosphorus” isminin tanımının ise “gündüzleri gökyüzündeki en parlak cisim” şeklinde olacaktır. Günümüzde astronomik bulgular, bu iki yıldızın aynı gök cisminin yani, Venüs’ün, sabah ve akşamları ortaya çıkan görünüşleri olduğunu göstermektedir. Buradaki problem Frege’nin “Özdeşlik Sorunu” olarak adlandırdığı şeydir. Bizler bu iki terimin de Venüs’ü işaret ettiğini bilmekteyiz; fakat sorunun

kökünde yatan şey, bu iki terimin aynı şeye referansla kullanılabilirken, farklı türde düşünceleri ifade etmekte kullanılması, yani farklı duyumlara sahip olmasıdır.

1-boyutlu semantikler ise, yukarıda açıkladığımız 0-boyutlu semantiklerden farklı bir çalışma mekanizmasına sahiptir. Gelişimlerine bakıldığında, 1-boyutlu semantikler, 0-boyutlu semantiklerin gelişmiş eleştirileri olarak ortaya çıkmışlardır. Bu durum, bir anlamda, kipsel mantıkta yaşanan gelişmeler üzerine temellenmiştir. “Olanaklılık” ve “zorunluluk” operatörlerinin semantik teoriler üzerinde kullanılması, bu gelişmelerden en büyüğüdür. Bu değişimi olanaklı ve zorunlu önermeler üzerinden anlatabiliriz. Zorunlu bir önerme, tüm koşullarda Doğru değerini sağlayan türdedir. Örneğin “ $2+2=4$ ” bu tipte bir önermedir. Öte yandan olanaklı önermelerin doğruluk değerleri koşullara bağlıdır. “Taylan 170cm boyundadır” gibi bir önerme, sadece “Taylan” olarak gösterilen şahsın, boyunun tam olarak 170cm olduğu bağlamlarda Doğru değerini alacaktır; bunun dışındaki durumlarda, bu önerme Yanlış değerini verir. Zorunlu ve olanaklı önermeler arasındaki farkı, sezgisel olarak, “bu durumun başka bir şekilde olması mümkün müdür” diye sorarak anlayabiliriz. Bu soru, 1-boyutlu semantikler için hayati öneme sahiptir. Verilen her farklı cevabın oluşturduğu yeni durumların, bir tür (semantik) mümkün dünya (İng. “possible world”) oluşturduğunu söyleyebiliriz.

1-boyutlu semantikler ya da mümkün dünyalar semantiğinin en temel figürlerinden birinin Kripke olduğu yadsınamaz. *Naming and Necessity* (Tur. *Adlandırma ve Zorunluluk*) isimli kitabında Frege ve Russell tarafından temsil edilen semantik teorilere karşı bir savaş açar. Kripke’ye göre bu teoriler, adlandırmanın doğasını anlamakta güçlük çekmektedir ve yanlışlardır. Frege’nin teorisinde özel adlar, duyumlarıyla, yani bir tür tanımla ilişkilendirilmektedir. Öte yandan, Russell’ın teorisinde ise, özel adlar belirli tanımların kısaltılmış versiyonlarıdır. Kripke’ye göre, betimselcilik (Eng. “descriptivism”) olarak adlandırabileceğimiz bu yaklaşımın, katı gösterici (Eng. “rigid designators”) ele alındığında reddedilmesi zorunludur. Bir katı gösterici, söz konusu objenin var olduğu bütün mümkün dünyalar ele alındığında, sadece o objeyi gösteren türdeki ifadelerle verilen addır. Örneğin “Georgy Zhukov”, bir özel isim olarak katı göstericidir yani Georgy Zhukov’un var olduğu bütün

dünyalarda o kişiyi göstermektedir. Öte yandan, “Zafer Geçidini yöneten kumandan” sadece bir tür betimlemedir; bu sadece Georgy Zhukov’un 1945’te gerçekleşen Zafer Geçidini yönettiği dünyalarda doğru değerini alacaktır. Alternatif dünyaları düşünmek mümkündür. Örneğin, bir dünyada geçidi Zhukov değil, Ivan Konev’in yönettiği düşünülebilir; Zhukov’un hiç var olmadığı bir dünya düşünülebilir ya da, Zhukov’un Tukhachevsky yerine idam edildiği bir dünyanın varlığını da düşünebiliriz. Bu üç dünyanın da ortak özelliği, önermemizi yanlışlar dünyalar olmasıdır. Fakat, bu dünyaların hepsinde Zhukov diye birisi var ise, o kişi “Zhukov”dur. Bu anlamda, özel adlar katı gösterici iken, onların betimlemeleri ya da tanımları katı göstericiler değildir. Bu yüzden betimselci anlayış yanlıştır.

Kripke’nin bir diğer önemli başarısı ise, epistemoloji ve metafizik arasındaki açığı arttırarak, Kant ve öncesinden gelen *a priori* önermelerin zorunlu önermeler olduğu yönündeki iddiayı boşa çıkartmasıdır. Klasik bir felsefi yaklaşım olarak, zorunlu önermeler *a priori* ve olumsal önermeler *a posteriori* olarak ele alınmıştır. Kripke ise, bunların yanında, olumsal *a priori* ve zorunlu *a posteriori* türde doğru önermelerin imkanını kanıtlamıştır. Zorunlu *a priori* örnekleri genel olarak uzunluk ve ağırlık birimleri üzerinden verilmektedir. Örneğin, “ t_0 anında, S çubuğunun uzunluğu 1 metredir” gibi bir örnek ele alındığı zaman, bu önermenin olumsal *a priori* olduğu kanıtlanabilir. Çubuk S’nin 1 metre uzunluğunun belirlenmesinde kullanılan çubuk olduğunu düşünelim; bu durumda bir kişinin çubuğun 1 metre olduğunu bilmesi ve bunun üzerinden işlem yapması *a priori* bir durumdur. 1 metre bir tür katı göstericiyken, çubuk S’nin 1 metre olması bir katı gösterici değildir; fiziksel koşullar çubuğun uzayıp kısılmasına sebep olabilir. Bu durumda bu ikili arasındaki ilişki çeşitli mümkün dünyalarda farklı olabilir. Bu yüzden zorunlu değil, olumsaldır. Böylelikle olumsal *a priori* önermelerin varlığına örnek göstermiş oluyoruz.

Zorunlu *a posteriori* önermeler ise, karşımıza üç farklı şekilde çıkmaktadır. İlkin, iki özel ad arasında kurulan eşitlik önermeleri zorunlu *a posteriori*’dir. “Hesperus Phosphorus’tur” önermesi ele alındığında, bu iki ad arasındaki ilişki gözlem yolu ile kurulur; ve iki adlandırmanın da var olduğu mümkün dünyalarda, zorunlu olarak bu önerme kurulmaktadır. İkisi de özel isim oldukları için katı göstericidirler.

İkinci tipteki zorunlu *a posteriori* önermeler ise, teorik özdeşliklerdir. Teorik özdeşlikler hakkındaki tartışmaların büyük çoğunluğu doğal tür adları üzerinden yürütülmektedir. Örneğin, “su H₂O’dur”, “sofra tuzu NaCl’dir” gibi özdeşlik ifadeleri, her iki yanıyla katı göstericiler ihtiva etmektedir. Bu özellikleri sebebiyle, tüm mümkün dünyalarda bulunan, belirli bir doğal türe ait örnekler, tümüyle aynı temel yapıları paylaşmaktadırlar. Örneğin, “altının atom numarası 79’dur” önermesi tüm dünyalarda geçerlidir. Altının 78 ya da 80 atom numarasına sahip olduğunu söylemek fiziksel ya da dilsel bir yanlışlıktan daha da fazlası değildir. Bakıldığında, bu doğal türlere dair özelliklerin keşfi bilimce yapılmaktadır yani deney ve gözleme dayanmaktadır. Bu açıdan, doğal türler *a posteriori* olarak keşfedilmektedirler ve zorunludurlar.

Üçüncü ve son tipteki zorunlu *a posteriori* önermeler ise, özsel niteliklere gönderim yapan önermelerdir. Kripke’nin özcülüğü, bir bakıma Aristotelesçi bir yaklaşım sayılabilir; objelerin maddi ve kalıtsal kökenleri, onların değişmez özlerini oluşturmaktadır. Örneğin, bir masanın yapıldığı madde ya da bir kişinin ebeveynleri onun özsel olarak değişmez niteliklerini teşkil etmektedir. Özsel nitelikler olmaksızın, mevzubahis olan obje var olamamaktadır. Bu anlamda özsel nitelik ve obje, katı göstericilik ilişkisi ile bağlıdır. Örneğin, belirli bir masanın yapıldığı spesifik bir tahta, o masanın özünü oluşturur; masa onsuz var olamayacağı için ilişki zorunludur; öte yandan da özün keşfi bir anlamda *a posteriori* bilgi gerektirmektedir. Bu anlamda, öze referansla kurulan önermeler zorunlu *a posteriori* önermelerdir.

Kripke her ne kadar çok merkezi bir figür olsa dahi, 1-boyutlu semantiklerin tek bir yorumu olduğundan söz etmemiz mümkün değildir. Kripke’nin yanı sıra, Lewis’in mümkün dünyalar yorumu da felsefeciler için önemli bir teori olarak ortadadır. Lewis’in teorisi onun genel felsefesi ile uyumlu olarak ortaya çıkmış gibi durmaktadır. Genel itibari ile Lewis’in mümkün dünyalar teorisi ve felsefi yaklaşımını karakterize eden dört nokta olduğunu öne sürebiliriz. İlk olarak, Lewis, en genel anlamı ile bir realisttir; bilimsel ve kipsel realizm (eng. “modal realism”) onun mümkün dünya yorumunun ilk köşe taşıdır. İkinci olarak, Lewis’in kipsel realizminin tarihsel bir arka planı vardır: Kipsel realizmin ilk adımlarını onun daha erken yazılmış olan

karşıolcusallık hakkındaki metinlerinde görmek mümkündür. Üçüncü olarak, kipsel realizm, felsefi olarak çeşitlilik sağlayan bir yaklaşımdan daha çok, Lewis'in felsefesinin sistematikleştirmesi yolunda attığı bir adım olarak algılanabilir. Dördüncü olarak ise, Lewis'in kipsel realizmini şekillendiren dünyaların çoğulluğu hipotezi (eng. "hypothesis of plurality of the worlds") pragmatik biçimde, bir tür kar-zarar analizi üzerinden felsefecilerin kullanımına sunulmuş olarak ele alınabilir. Bu karakterizasyon üzerinden yapılan bir felsefi analizin daha makul sonuçlar doğurabileceği iddia edilmektedir.

Felsefi olarak şekillenmesinin ötesinde kipsel realizm, mümkün dünyaların ontolojik olarak bizim gerçek dünyamızdan farklı olmaksızın var olduklarının iddiasıdır. Gerçek dünya ve herhangi bir mümkün dünya arasında, gerçeklik temelinde herhangi bir fark öngörülmemektedir. Eşeklerin uçtuğu ya da dört başı turuncu Marslıların olduğu mümkün dünyalar vardır ve bunların varlığı bizim gerçek dünyamızla aynı ontolojik statüye sahiptir. Sezgisel olmayan bir yöntem gibi gözükmesine rağmen, temelde Lewis'in yaklaşımı bu şekilde özetlenebilir. Bu dünyalar bizim kurgularımıza, öngörülerimize ya da betimlemelerimize dayalı değildir. Özetle, mümkün dünyalar, Lewis'e göre, türde değil, içerikte farklılıklara sahip, bizlerden bağımsız, gerçek ve gerçek dünyamızdan ayrılamaz niteliktedirler.

Lewis, mümkün dünyaların yapısına dair dört önemli ilke öne sürmektedir. Birinci ilke, yalıtılmışlıktır. Mümkün dünyalar, fiziksel ve nedensel olarak birbirlerinden yalıtılmış durumdadırlar. İkinci ilke, somutluktur. Mümkün dünyalar somuttur: bir tür soyutlama olarak değil, zaman-uzamsal olarak vardırırlar. Üçüncü ilke mümkün dünyaların çokluğudur. Mantıksal uzayın gerektirdiği kadar çok mümkün dünya vardır: Bu sayede filozoflar, Lewis'in sistemi içerisinde mantıksal uzayın gereksindiği kadar alan sahibi olabileceklerdir. Dördüncü ilke ise, gerçekliktir. Gerçeklik ilkesi, aslında ilk başta Lewis'in karakterizasyonunun bir çıktısı olarak görülebilir. Eğer her mümkün dünya bizim gerçek dünyamızla aynı ontolojik statüye sahipse, bu durumda her biri kendi içinde gerçektir. Lewis, dizinsel analizi (İng. "indextual analysis") kullanarak bir dünyanın gerçek olarak ele alınması için bir özne, bir zaman ve bir mekanı analizimize dahil etmemiz gerektiğini öne sürmektedir.

Lewis'in sistemine bakıldığında, sistemin sezgisel olmadığı iddiasında bulunmak çok da zor gözükmemektedir. Fakat şunu göz önünde bulundurmak önemlidir: Lewis bir realist ve materyalisttir. Kipsel mantık ve semantiğin imkanlarını kullanarak mümkün dünya üzerinden çıkartılan sonuçların, en azından Lewis'e göre, manalı olmasının koşulu, gerçek bir şeyin üzerine konuşmak gibi durmaktadır. Bu durum aslında, istenilenlerin yanında, felsefecilere büyük bir ontolojik yük getirmektedir: Bahsedilen her şey, gerçek ve somut olmalıdır. Kanımca, bu kipsel realizmin en büyük sorunu, en sorunlu yönüdür.

Peki ya Kripke'nin mümkün dünyaları nasıldır? Öncelikle Kripke'nin Lewis'in pozisyonunun tam karşısında konumlandığını söylemek yanlış olmayacaktır. Kripke, metinlerinde açıkça Lewis'in pozisyonun yanlış olduğunu söylemektedir. Kripke'nin mümkün dünyalarının, Ludwig Wittgenstein'in "olgu bağlamı" (İng. "State of Affairs") kavramına yakınsadığını söylemek mümkündür. Kripke'nin mümkün dünyaları, bizler tarafından öngörülen, ihtimal kavramına dayanan, dünyanın olabileceği hallerinin ve tarihinin bir toplamı olarak anlaşılabilir. Bu anlamda Kripke'ye net bir pozisyon atamak zor olsa da Lewis'in mümkün dünyalar yorumunu karşılamak için kipsel realizm adlandırmasını kullanmanın Kripke'yi bir tür kipsel anti-realist kıldığı aşıkardır.

1-boyutlu semantiklerin değerlendirilmesi ve gelişimi, 2-boyutlu semantiklerin ortaya çıkışı için gerekli altyapıyı sağlamıştır. 2-boyutlu semantikleri iki şekilde tanımlamamız mümkündür. İlk tanım, 2-boyutlu semantiklerin bir tür formel araç olduğunu söylemek ve onları yapıları gereğince tanımlamaktır. Bu tanımlı izlediğimizde, Laura Schroeter'in de söylediği üzere, 2-boyutlu semantikler mümkün dünya parametrelerini açıklamak, 2-boyutlu semantik değerleri tanımlamak ve bu değerlerin anlamla nasıl ilişkilendiğini göstermek zorundadır. Bunun yanı sıra, 2-boyutlu semantikler nasıl çalıştıkları üzerinden de tanımlanabilir. Chalmers'ın tanımını izleyerek, 2-boyutlu semantiklerin, dilsel ifadelerin iki boyutunu tanıyan ve inceleyen semantik teoriler olduğunu söylememiz mümkündür. Buradan yola çıkarak, en genel düzlemde, 2-boyutlu semantiklerin, anlam ve doğruluğun semantik analizini

birden çok mümkün dünyayı içeren matrisler ya da ikili bağlamlarda sürdüren teoriler olduğunu söylememiz yanlış olmaz.

2-boyutlu semantik teorilerin incelenmesinde Kaplan'ın dizinsel (İng. "indexical") terimler üzerinden gerçekleştirdiği analizinin iyi bir başlangıç noktası olduğunu söyleyebiliriz. Kaplan'ın teorisi gösterici (İng. "demonstrative") dilsel ögeleri temel almaktadır. Bu açıdan, teorisi kişi zamirlerinin, yer-zaman zarflarının ve işaret sıfatlarının üzerinde yoğunlaşmaktadır. Bu dilsel ögelerin iki temel özelliği olduğu söylenebilir. Bu ögelerin referansları kullanılan bağlama (İng. "context") bağlıdır ve ögenin anlamı, kullanımı için belirli bir kuralı kendiliğinden taşımaktadır.

Kaplan'ın 2-boyutlu semantiğinin, ilk boyutu içeriktir (İng. "content"). İçerik, cümle seviyesinde önermeyken, cümle-altı anlamlı dilsel ifadeler için gösterilen objedir. Bir diğer yandan ise, içeriklerin incelendikleri değerlendirme koşulları vardır (İng. "circumstance of evaluation"). Bir örnekle açıklamak gerekirse, "Bugün hastayım" ve "Dün Taylan hastaydı" cümleleri "t₀ anında Taylan'ın tansiyonu 17'nin üzerindeydi" önermesine gönderim yaptıkları için aynı içeriği taşımaktadırlar.

Kaplan'da anlamın ikinci boyutu ise, karakterdir (İng. "character"). Karakter ifadelerin içeriğinin bağlamlarda belirlenmesidir. Örneğin "Ben 170cm boyundayım" ve "Taylan 1.7 metre boyundadır" cümleleri ele alındığında "Taylan" bir kişiye gönderim yaparken, "Ben" ögesi de aynı kişiye gönderim yapmaktadır. Fakat, "Ben" sözcüğünün anlamı her bağlamda "Taylan" değildir; yanlış olmasına karşın, bu cümle "Eren" kişisi tarafından da kurulabilir. Bu anlamda, karakter dizinsel terimin bağlamda gösterdiği şeydir. Baktığımız zaman Kaplan'ın teorisi, Kripke'nin mümkün dünyalar semantiği ile bir uyum içerisindedir.

2-boyutlu semantiklere yaklaşımlar ele alındığında Kaplan'ın teorisi semantik bir teoridir. Öte yandan Stalnaker'ın ortaya koyduğu teori ise, metasemantik bir teori olarak ele alınabilir.

Stalnaker'ın teorisi, iletişim içerisindeki konuşmacıları temel almaktadır. Bunun üzerinden bağlam ve içerik arasındaki ilişkileri ortaya çıkartmaya çalışmaktadır. Bunların açıklanmasında Stalnaker'ın temelde kullandığı kavramlar önerme,

önermesel kavram ve konuşmacı varsayımlarıdır. Önermeler, bir inanç durumu ya da öne sürmenin içerikleridir. Önermesel kavramlar ise, sıralı ikili halindeki mümkün dünyalardan doğruluk değerlerine bir fonksiyon olarak yazılabilirler. Önermesel kavramların ifadesinde 2-boyutlu matrislerin kullanılması Stalnaker'ın önemli bir felsefi buluşudur. Bir iki boyutlu matris ele alındığında matrisin satırları, önermelerin belirli bir mümkün dünyaya göre yorumunu belirtmektedir. Öte yandan matriste ifade edilen köşegen ya da diyagonal önermeler ise hem konuşanın anlatmak istediği ifadeyi göstermektedir hem de önermenin zorunlu olduğu durumlarda, yani diyagonalin tümüyle Doğru değerini içerdiği hallerde, önermenin *a priori* olduğunu göstermektedir. Diyagonal önermeler ve matrisin satırları, iletişimin içerisinde 2-boyutlu bir anlam oluşturmaktadır.

Bunun haricinde ise konuşmacı varsayımları, iletişim içerisindeki konuşmacıların daha öncesinde sahip olduğu bilgilerin bütünüdür. İletişim, bu açıdan, karşıdakilerin sahip olmadıkları varsayımları onlara katmak ya da varsayım kümesinde bir değişim yaratmak amacı ile yapılmaktadır. Bir konuşma içerisinde daha öncesinden bilinen ya da herkesçe geçerliliği kabul edilen bir şeyin öne sürülmesi anlamsızdır. Bu yüzden, Stalnaker'ın modelinde *a priori* ve zorunlu *a posteriori* önermeleri ileri sürmek anlamsız bir noktada gibi gözükmemektedir. Teorinin bu açıklıkları pek çok felsefeci tarafından eleştirilmiştir. Stalnaker'ın teorisinin dışsalcı bir metasemantik teori olarak bu eleştirilere cevap vermesi pek de mümkün gözükmemektedir. Kanımca, zorunlu *a posteriori* önermelerin kapsamı kapsamaması, modelin Kripkeci epistemoloji ile ne kadar uyumlu olup olmadığı ile alakalı bir sorundur. *A priori* kavramının bütünü ile metasemantik bir teoride kapsamması, Stalnaker'ın da ileri sürdüğü üzere bir tür zorunluluk değildir.

2-boyutlu teoriler, aynı zamanda mantık çerçevesinde de ele alınmıştır. Gareth Evans'ın kullandığı yüzeysel ve derin zorunluluk (İng. "superficial and deep necessity") kavramlarını kullanarak, Davies ve Humberstone, kipsel mantık üzerinde farklı zorunluluk operatörleri tanımlamışlardır. Kutu (İng. "Box) operatörü tarafından ifade edilen zorunluluk, gerçek operatörünü de içerecek şekilde klasik metafiziksel zorunluluğu ifade etmektedir. Sabit gerçeklik (İng. "fixedly actual") operatörü ise,

cümlenin kurulduğu mümkün dünyanın gerçek olarak ele alındığında karşımızda olan zorunluluktur. Bu açıdan bakıldığında, 2-boyutlu bir matriste, diyagonal önermenin zorunluluğu sabit gerçeklik önermelerinin derin zorunluluğunu gösterir. Satırlarda bulunan önermelerin zorunluluğu ise kutu ya da gerçek operatörünün kullanıldığı zorunluluk tipi olmaktadır. Sonuç olarak, Davies ve Humberstone iki tipte zorunluluk tanımlayarak, 2-boyutlu mantıksal bir analiz yapmaktadır.

Öte yandan, 2-boyutlu yapıların, felsefi ya da metafelsefi olarak kullanımından da bahsetmek mümkündür. Bu konudaki en ünlü çalışmalar Jackson ve Chalmers tarafından gerçekleştirilmiştir. Frank Jackson, 2-boyutlu bir argüman kullanarak, kavramsal analizin hangi ölçüde *a priori* olarak kullanılabileceğini ve *a posteriori* önermelerden dahi nasıl *a priori* çıkarımlar yapılabileceğini göstermiştir. Basitçe, Jackson, A-kaplam/içlemlerini ve C-kaplam/içlemlerini tanımlayarak analizine başlamaktadır. A-kaplamları bir terimin gerçek dünyada karşılık geldiği kaplamıyken, A-içlemleri ise, gerçek dünyaları kaplamalara atayan fonksiyonlar olarak ifade edilmiştir. C-kaplamları ise, bir terimin karşıtolgusal dünyadaki kaplamıdır; C-içlemi ise, karşıtolgusal dünyaları ilgili kaplamalara atayan fonksiyonlardır. Jackson'a göre, C-kaplamları üzerine yapılan analizler dış dünyanın bilgisine ihtiyaç duyan *a posteriori* analizler olsa dahi, A-kaplamları, A-içlem ve C-içlemleri üzerinden yürütülen analizler *a priori* analizlerdir.

Chalmers ve Jackson'ın birlikte yaptıkları çalışmalarda "PTQI" adı verilen bir tür özel betimleme kullanılarak, mikrofiziksel gerçeklerden makrofiziksel olanların *a priori* olarak çıkarsanabileceğini iddia edilmektedir. Burada P mikrofiziksel gerçekliklerin toplamı, T tanımın tüm gerekli gerçekliği içerdiğini ifade eden önermeyi, Q, qualia ya da fiziksel olmayan deneyimin nitel yönünü, I ise, kişi zamirlerini de kapsayan dizinsel bilgileri içermektedir. Chalmers ve Jackson'ın iddiası bu tipte bir betimleme vasıtası ile düşünülebilirlik, şartlı önermeler ve kavramların kaplamalarına dair analizlerin *a priori* yapılabilirdir.

2. Chalmers'ın 2-Boyutçuluğu

Chalmers'ın 2-boyutçuluğu, her şeyden önce oldukça iddialı felsefi tezlere dayanmaktadır. 2-boyutçuluğunun temelini oluşturan üç temel felsefi motivasyondan söz edilebilir: altın üçgen, natüralist düalizm ve kipsel rasyonalizm.

Altın üçgeni oluşturan üç köşe anlam, kipsellik ve akıldır. Chalmers, Frege'nin çalışmalarında, duyum kavramının bilişsel farklılıklar temelinde şekillenmesine dayanarak, Fregeci bir tez ile anlam ve akılın bağlanabileceğini öne sürmektedir. Kipsellik ise, Carnap'ın çalışmaları temel alınarak anlam ile bağlanabilecektir. Öte yandan Kant'ın felsefesi, *a priori* ile zorunluluğu birbirine kaynaştırarak, kipsellik ve akılı bir araya getirmektedir. Kripkeci felsefe, akıl ve zorunluluk arasındaki bağlantıyı yok ettiği için altın üçgende bir kırılmaya yol açmıştır. Chalmers'a göre, 2-boyutçu bir teorisyenin asıl amacı, en nihayetinde Kripke'nin bu zararlı etkisini ortadan kaldırarak, altın üçgenin üç köşesini ayrılmaksızın bir araya getirmek olmalıdır.

Bir açıdan altın üçgen, felsefi olarak oldukça hırslı bir tez olarak görülebilir. Bir anlamda, bu tip bir kurgu, felsefi bir “her şeyin teorisi” olmaya adaydır. Fakat, buradaki asıl sorun, bunun neden bir 2-boyut teorisyeni için bir zorunluluk ya da asli bir hedef olarak tanımlandığı gibi duruyor. Sonuçta, 2-boyutlu sistemler, semantik olsun ya da olmasın, böyle bir iddianın öne sürülebileceği yapılar olsa dahi, yapının kendisinin böyle bir gereksinimi olduğu iddiası, altının doldurulması pek de mümkün olmayan bir iddia gibi gözükmemektedir. Bu nokta tam olarak Chalmers'ın altın üçgeni ve natüralist düalizminin etkileşime girdiği yerdir.

Chalmers, klasik Kartezyen düalizmden farklı olarak, zihnin maddesel olandan natürel anlamda türediğini, ancak mantıksal olarak türemediğini iddia etmektedir. Chalmers'ın natüralist düalizmi, deneyimin fiziksel kuvvetlerin bir kısmı gibi temel olarak ele alınabileceğini iddia etmektedir. Primitif deneyimin nasıl ortaya çıktığı ise, belli bir türde yasalılığı takip ederek psikofiziksel yasalar ile açıklanacaktır. Burada kavramı ikiye bölüp, iki açıdan tartışmak uygundur: Chalmers'ın natüralizmi ve Chalmers'ın düalizmi.

Chalmers'ın natüralizmi, kendi yazını içerisinde uyumluluk, yasalılık ve doğallık olarak üç kriteri sağlamaya dayandırılmıştır. Kanımca, bilimin sonuçları ile olan uyumluluk tartışmanın dışındadır. Günümüzde bilimle uyumlu olmayan bir felsefi teorinin reddedilmesi, eğer elde yeterli veri var ise, kaçınılmazdır. Yasasallık ise sadece formel bir kriterdir. Bilimsel olmayan yasal önermeler ve çıkarımlar var olabilirler. Öte yandan doğallık, yasalılık ve uyumluluğun bir arada ele alınması ise, hala bilimle bağlaşım kurulabilecek düzeyde bir tür natüralist felsefenin ortaya çıkması için yeterli bir koşul değildir. Kısaca, bu üçlemenin üzerine, bilimle bağlaşan bir metodolojinin eklenmesi gerekmektedir. Bu açıdan, Chalmers'ın natüralizmi, eksikli bir natüralizm sayılabilir.

Chalmers'ın düalizmi ise, en iyi olarak onun düşünülebilirlik argümanına duyduğu ilgi üzerinden anlatılabilir. Chalmers, Kartezyen düşünülebilirlik argümanına yakınsayacak bir türde argüman kullanmaktadır. En büyük farkı ise, kullandığı argümanın 2-boyutlu bir yapı tarafından desteklenecek şekilde kurgulanmış olmasıdır. Chalmers kullandığı stratejiyi, epistemolojik bir varsayım ile başlayarak, kipsel kavramlara dayalı bir ara sonuç çıkartmak ve buradan bir tür ontolojik sonuca varmak olarak açıklamaktadır. Buradaki en büyük sorun, epistemik ve kipsel arasındaki geçiş olarak görülmektedir. Boşluğun doldurulmasında ise, en büyük rol, kipsel rasyonalizm kavramında yatmaktadır. Chalmers'ın ortaya koyduğu şekliyle, kipsel rasyonalizm, kipsel ve epistemolojik uzay arasında bir bağlantı olduğunu savunmakta, kipsel olgulara *a priori* ulaşılabilirliği ön plana almaktadır. Bunun özgü bir sonucu olarak, kipsel rasyonalizm, bir epistemik senaryodan bir tür metafizik senaryo çıkartabilmeyi sağlamaktadır. Buradaki sorun, kipsel rasyonalizmin, kipsel realizm gibi ontolojik bir yük ortaya çıkartmasıdır.

Chalmers'ın felsefi motivasyonlarının ötesinde, onun 2-boyutçuluğu, bağlamsal 2-boyutlu teorilerin bir eleştirisine de dayanmaktadır. Daha önce incelediğimiz bütün 2-boyutlu teorileri bağlamsal teoriler olarak görebiliriz. Chalmers'ın iddiası, bu teorilerin çekirdek tez (İng. "Core Thesis") olarak adlandırdığı ifadeyi sağlamadığı yönündedir. Çekirdek tez, altın üçgenin bir çıktısı konumundadır ve basitçe şu şekilde ifade edilebilir: Bir cümle S ancak ve ancak *a priori* (epistemik olarak zorunlu) ise 1-

içlemi her senaryo içerisinde doğrudur. Bunun yanı sıra, Chalmers bu teorilerin söylendiği zaman doğru olan, fakat *a priori* doğru olmayan cümleleri yeterince açıklayamamak üzerinden eleştirmektedir. Bu açıdan yönelmemiz gereken model, Chalmers'ın ortaya koyduğu epistemik 2-boyutlu modeldir.

Epistemik 2-boyutlu model, temelde bir ifadenin 1-içleminin epistemolojik zorunluluğa, 2-içleminin ise metafizik profiline bağlı olarak şekillendiğini ifade eder. Zorunlu 1-içleme sahip önermeler *a priori*dir. Bu açıdan bakıldığında, “dil vardır” tarzında bir cümle öne sürüldüğünde epistemik model bu cümlenin 1-içleminin hem kendisinin hem de tersinin doğru olabileceği üzerinden *a priori* olmadığını göstermeye kadirdir. Chalmers'ın temel noktası, bu modelin aynı zamanda ontolojik çıkarımlar yapmayı sağlayabilecek şekilde kullanılabilmesidir.

Chalmers'ın materyalizme karşı 2-boyutlu argümanı tam olarak bu noktadan filizlenmektedir. Basitçe, “P” bütün mikrofiziksel durumlar ve “Q” ise bilinçli deneyim olarak ele alındığı zaman “ $P \wedge \sim Q$ ” senaryosunun var olduğu bir metafiziksel evren epistemik 2-boyutlu teori ve kipsel rasyonalizm kullanılarak türetilir. Bu senaryoya kısaca zombi evreni diyebiliriz. Bu evrende fiziksel olarak bizimle aynı özelliklere sahip, fakat bilinçli deneyim sahibi olmayan zombi ikizlerimizin varlığı öne sürülmektedir. Bu yolla, materyalizm, kipsel bir tez olarak yanlışlanmış olacaktır.

3. Chalmers'ın 2-Boyutçuluğunun Kritik Bir Analizi

Chalmers'ın 2-boyutçuluğu, pek çok açıdan bizleri felsefi olarak tatmin edici bir sonuca götürmemektedir. İlk olarak, Chalmers'ın epistemik 2-boyutçu teorisi, bağlamsal 2-boyutçu teorilerden çok daha az sayıda dilsel öğeyi açıklamaktadır. Epistemik 2-boyutçuluk *a priori* önermeleri, *a priori* bir zeminde, *a priori* çıkarımlar üzerinden açıklamak konusunda yetkindir; bunun haricindeki önermeler sistemin dışına itilmiş durumdadır. Bu açıdan baktığımızda, epistemik 2-boyutçuluk bir tür döngüsellik içindeymiş gibi durmaktadır.

Bir diğler açıdan yaklaştığımızda, felsefi zombilerin varlığı sorunlu bir tez olabilir. Chalmers literatürde yöneltilen zombi eleştirilerini boşa çıkartmak konusunda oldukça başarılıdır. Fakat zombi kavramının kendisi iki farklı şekilde ele alınabilir. İlk olarak, eğer zombiler boş adları örnekliyorsa, buradan iki temel sonuç çıkabilir. Zombiler bizim *a posteriori* bilincimizin olumsuzlanmış halleri olabilir ya da sadece daha önceden varlıkları kabul edilerek iddia edilebilirler. İki çözüm de Chalmers'ın tezini boşa çıkartabilecek niteliktedir. Öte yandan, eğer zombiler Chalmers'ın verdiği yazılı tanıma dayalı ise, o zaman da zombilerin varlığı, metin bazlı olacağı için *a posteriori* olma durumuna düşebilir haldedir.

Chalmers'ın bir diğler iddiası ise, zorunlu *a posteriori* önermelerin olamayacağı ve bu yüzden doğa yasalarının kuvvetli zorunluluklar olmadığı yönündedir. Bu tarzda bir yaklaşımın PTQI önermelerine zarar verdiğini düşünmekteyim. Eğer doğa yasaları “P” tarafından *a priori* metotlarla olsa dahi çıkarsanamıyorsa, bu durumda zombi dünyası ve benzeri örneklerde sorun kolayca “~Q” önermesine ait olmaktansa, “P” önermesinin yetersizliğine yorulabilecek niteliktedir. Buradan hareketle, “P” önermesinin doğa yasalarının zorunluluğuna işaret edecek kadar stabil olması, zombi dünyası ve benzeri örneklerin geçerli olması için bir zorunluluktur.

Bir diğler eleştiri ise, zombi dünyalarının kökeni ile ilgili olarak öne sürülebilir. Zombi dünyalarının en önemli özelliği onların *a priori* tutarlılığı ile ilgilidir. *A priori* tutarlı kavramların 1-içlemleri zorunlu olacak ve buradan 2-içlemlerinin zorunluluğuna geçiş yapılabilecektir. Fakat Chalmers'ın tanrı kavramı üzerinde yaptığı yorumlar, *a priori* tutarlı kavramlar konusunda seçici davrandığını göstermektedir. Chalmers'a göre, *a priori* tutarlı gözükmese bile tanrı kavramı, sisteminde iddia edilemezken, zombi dünyaları kavramı *a priori* tutarlılık üzerinden sistemde öne sürülmektedir. Buradan baktığımız zaman, Chalmers'ın metafiziğinin seçici biçimde konumlandığını ve düalist iddiaların semantik iddialardansa, ontolojik bağılıklar gerektiren iddialar olduğunu söyleyebiliriz. Bu açıdan Chalmers'ın iddiaları, önceden düalizmin kabulünü gerektirdiği için, materyalistler ya da diğler türden monistler için büyük bir sorun oluşturmuyor gibi gözükmektedir.

Chalmers'a yöneltilen son eleştiri ise, düşünce deneyleri literatürüne dayanmaktadır. Felsefi düşünce deneylerinin yapısı ele alındığında, bu düşünce deneylerinin bilimsel olanlardan ayrışabileceği muhakkaktır. Eğer hedefimiz natüralist bir felsefe yapmak ise, düşünce deneylerimizin bir şekilde bilimsel olanlarla yakınlaşması gerekmektedir. Bu noktada, katı bir biçimde Chalmers'ın deneyini reddetmek ve mantıksal ampirizmin önerilerini yinelenmek yerine, iki farklı kavramın öne sürülmesinin daha makul olduğunu iddia etmekteyim. Öncelikle, öne sürülen her şeyin var olduğu noktasından yola çıkmak gerekmektedir. Her şey vardır, ancak sadece var olanlardan bazılarının ontolojik karşılıkları olabilir. Yaşadığımız dünya temel alınarak ya da bilimsel bir teorinin çıktılarını olarak yapılan düşünce deneylerine ontolojik dizaynlar demeyi uygun görmekteyim. Bunun ötesinde, edebiyatta gördüğümüze benzer olarak, bir epistemolojik senaryonun öne sürülmesi ve bunun üzerine bir ontolojik senaryonun kurulmasını temel alan deneylere ise, ontolojik spekülasyon adını vermekteyim. Tezin pozitif önerisi, daha natüralist bir 2-boyutçuluk ortaya koymak için, bu ayırımın derinleştirilmesi ve uygulanması yönündedir.

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