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Essentialism, Modality and The Direct Reference Theory

Essencialismo, Modalidade e a
Teoria da Referência Direta

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Essencialismo, Modalidade e a Teoria da Referência Direta

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Orientador: Marco Antonio Caron Ruffino

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“I am sorry that we can never quite reach rock bottom in the vindication of a framework and that we cannot stand back in metaphysical grandeur and make our philosophical decisions independently of all frameworks, but as Bertrand Russell says, it is not my fault.”

MAXWELL (1962), *Theories, Frameworks, and Ontology*, p.137.

Abstract

It is doubtful whether Kripke's semantical theory alone - or any other version of direct reference theory alone - entails strong essentialist claims. In this work, I analyze such claims through (i) following Kripke's argumentation closely, and (ii) using Salmon's interpretation of how we could build Kripke's perspective without excluding the *a priori* role from the scheme, (iii) being particularly attentive to essentialist claims that involve general terms such as natural kind terms, and finally (iv) opposing Fine's proposal to Salmon's in order to understand the limitations of a modal approach to essence. My goal is to contribute to the debate around the boundaries between semantics and metaphysics in the direct reference theory and how to understand scientific discoveries within this context.

Key words: Semantics; rigid designation; essentialism; modality.

Resumo

É questionável se a teoria semântica de Kripke isoladamente considerada - ou qualquer outra versão da teoria da referência direta - acarreta fortes alegações/reivindicações metafísicas. Neste trabalho, eu analiso tais alegações a partir de (i) acompanhar de perto a argumentação de Kripke, e (ii) usar da interpretação de Salmon de como podemos construir a perspectiva kripkeana sem excluir o papel do *a priori* do esquema, (iii) estar particularmente atenta a alegações metafísicas que envolvem termos gerais como termos de espécies naturais, e finalmente (iv) opor as propostas de Fine e Salmon a fim de entender as limitações de uma aproximação modal à noção de essência. Meu objetivo é contribuir para o debate sobre os limites entre semântica e metafísica dentro da teoria da referência direta e como entender descobertas científicas dentro deste contexto.

Palavras-chaves: Semântica; designadores rígidos; essencialismo; modalidade.

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Introduction

On a regular basis, we deal with facts as if they could have been otherwise - at least some of them. It sounds pretty accurate to say that I could have had something else for lunch today. Nonetheless, some considerations are much more distant from our reality and may be suspected, like thinking I could have been born from different parents or that I could have been the actress Meryl Streep. I could probably have been an actress (even if I were a bad one), but it is at least dubious whether I could have been someone other than myself. Once these considerations are against the actual facts that surround us, they became known as counterfactual situations. And the things that intuitively could have been otherwise became conceptually understood as contingent facts - i.e., things that are possible but not necessarily as they are.

The branch of logic concerned with this kind of propositions that involve necessity and possibility is known as Modal Logic. But it was not until (KRIPKE 1959, 1962) that the topic became the focus of many contemporary logicians and philosophers. Kripke gave new life to the interpretation of the modal operators (i.e. necessity and possibility) when he developed a semantics for modal logic based on Leibniz's notion of a possible world. From then on, possible worlds are understood as alternative worlds to the actual one, where counterfactual situations happen to be the case. A possible world can be understood as the conjunction of all facts that happen to be the case in the situation considered - i.e., the notion presupposes that all propositions are either true or false in these worlds. This notion could be used to interpret many of the already existent syntactic systems,¹ providing an intuitive way of dealing with counterfactual propositions.

Besides Kripke's developments within formal modal logic, he also uses the notion of possible worlds as a tool to highlight features of language. In *Naming and Necessity* (1980), Kripke provided us with an interpretation of possible worlds semantics applied to ordinary language. His primary interest was related to proper names and natural kind terms (including also similar expressions²). In his so-called Modal Argument, Kripke takes our intuitions about possible worlds to work as evidence of the *semantic phenomenon* of the behavior of names. He disclaims that the designation of a proper name is semantically secured by means of a description that gives the sense

¹ In (1959, 1963) Kripke uses the apparatus in order to prove completeness for a variety of systems.

² Species names: nouns, mass terms, terms for natural phenomena.

of the name. *Contra* this descriptivist view (of Frege, Russell and others³), Kripke defends the direct reference theory - already raised by Mill (1843).

But Kripke's enterprise in *Naming and Necessity* goes beyond the spectrum of a language theory. In fact, the cautious analysis of his arguments shows us that his semantic arguments comprise the interpretation of the concepts: *a priori* and necessary, *a posteriori* and contingent. These notions had been traditionally understood as a block that always come together, in pairs. And Kripke challenges this traditional idea by dissociating the concepts. Previously in the history of philosophy, Kant had already shaken the standards by identifying judgments with their propositional contents and by proposing that there are synthetic *a priori* judgments. With this proposal, Kant opposes the previous modal monism through the claim that there are two irreducibly different basic types of necessary truth - the analytic and the synthetic. Even though later on Quine would put in check the analytic-synthetic distinction and focus on a new notion of meaning, it was not until Kripke that Kant's view that necessity entails truth (A75–76/B100–101) was challenged.

In his work, Kripke splits the concepts between metaphysical (necessary and contingent) and epistemological ones (*a priori*, *a posteriori*). What follows is that Kripke opens up the possibility of rejoining these notions in all the four ways available. And, consequently, he opens the possibility of the existence of necessary properties of an object to which we access only through experience. So, we can say that Kripke's enterprise involves putting in doubt the standard way of looking up to the *a priori* knowledge, expecting to recognize the meaning of names on it and to search for the essence of an object using it as a tool (or maybe as the only tool useful for this purpose). He stands by the idea that properties that we use to identify an object - for the reason that we know them *a priori* - and properties that are essential to an object (i.e, necessary) are not one and the same thing (or cannot be assumed so without further argumentation on its behalf).

It is correct to say, then, that in addition to a semantical concern, the agenda of *Naming and Necessity* extends its repercussions to the metaphysical field. That is to say, it also touches the notion of essential properties and essence. It does so when it faces the problem of how we are supposed to search for these concepts. In such a way that, at first, the boundaries between semantics and metaphysics are nebulous in Kripke's theory. And the reason for that is that beyond standing for the possibility of necessary *a posteriori* truths, Kripke does in fact defend that they do exist and count as metaphysical necessities. According to him, the properties of an object or kind that we discover

³ Cluster concept theorists like Wittgenstein

through science are fundamental properties of that object or kind - many times they are considered to be essential properties of those objects or kinds. But by the time he introduces the topic of necessary propositions, he is using possible worlds in his Modal Argument (i.e., an argument in prol of his semantics). To this extent, it is not at all clear how Kripke sustains his position. It is our job to analyze to what extent Kripke's metaphysical thesis comes up as a consequence of his semantical statements.

What is more to the point, Putnam and Kaplan - the other main direct reference theorists - seem to be committed to the same idea that essential (i.e., necessary) properties of objects and natural kinds can be discovered through scientific enquiry. Within direct reference theory, while Kripke has made explicit the parallel between proper names' identities and theoretical identities, Putnam elaborated in more detail what it is like to define the meaning of general terms, such as natural kind terms and mass terms. And Kaplan was responsible for coining more subtle semantical distinctions - distinguishing character from content and developing the semantics of demonstratives - that allow us a higher level of understanding of the phenomenon of direct reference as a whole. So, our main concern and guide of this research is to analyze the extent to which accepting Kripke's semantic position reflects on metaphysical matters. That is to say, we want to identify what are the consequences of direct reference theory semantics to essentialism. Therefore, we focus on the analysis of this semantic theory and its implications in order to answer the question: what (if any) notion of essence can be derived from direct reference theory alone?

Opposing the direct reference theorists inclination, there is a branch of contemporary philosophers that would reinforce the traditional strength of *a priori* knowledge into metaphysical matters. Two of these philosophers are Salmon and Fine. Both vindicate the importance of *a priori* analysis and offer counterarguments to Kripke's approach to metaphysics in favor of necessary *a posteriori* propositions. And, not by coincidence, both attack such approach by denying that any substantial metaphysical thesis could be derived from semantics alone. On Salmon's account, there is a general mechanism used to generate such necessary *a posteriori* truths. The room for the *a priori* knowledge is left for the statement that it is through *philosophical analysis* that we can know which statement is necessarily true, if true at all,⁴ of the object (of kind *K*). Hence, Salmon sustains his position in assessing that there is a premise implicit in Kripke's theory (which the latter would admit), namely: in any particular case, there is a (essential) property whose role is to serve as a sufficient condition to identify the object in counterfactual situations (i.e., the establishment of

⁴ KRIPKE, 1980, p.109.

transworld identities of an object). Nevertheless, while arguing for such thesis, the similarity between common nouns (such as natural kind terms) and proper names is taken for granted. Soames (2002) highlights that fact. And together with him, we will evaluate some difficulties of such a presupposition.

On his turn, Fine advocates the *a priori* philosophical analysis of the object in order to state its essential properties just like Salmon does. However, Fine's approach grounds the modal notions - and, therefore, the necessary properties of the object - on the definitional notion of an object (or kind). So, Fine argues against Kripke's view by holding that the notion of essence is not well understood if considered strictly in modal terms. Both Salmon and Fine disagree that the essence can be unveiled *a posteriori*. The upshot to both of them is an advocacy of an *a priori* philosophical analysis of objects and a conception of metaphysics that denies that its questions can be genuinely answered by another field of knowledge. Both hold that metaphysical assertions only arise from given metaphysical premises, making it impossible for such assertions to be mere consequence of semantic tools. Thus, a second moment of this research is the evaluation of the arguments that Salmon and Fine formulate against the reductionist interpretation of the kripkean theory - that reduces metaphysical questions to a matter of semantics and more often than not to responses given by science.

To sum up, the tie between the modal notions of necessity and contingency, the mechanism of reference and the ontological issues is a controversial one. We seek to understand, within the scope of the aforementioned authors, the role that the intention would come to fulfill in our approach to metaphysical questions and to what extent the intuitive content may work as evidence of metaphysical truths. Our starting point is the reconstruction of Kripke's (semantic and metaphysical) arguments in favor of his theory. Followed by the analysis of the criticisms made by Salmon, Soames and Fine to the kripkean essentialism, in order to clarify the consequences of adhering to direct reference semantic project. The analysis of their criticisms allow us to better evaluate the feasibility and consequences of the kripkean project.

Hence, this research's main concern is methodological above all. My objective can be generalized in terms of considering which could be the more promising approach to the subject of essence and essential properties within the scope of direct reference theory. This big picture involves questions like (i) the possibility of reducing our metaphysical intuitions about the objects to the elements of our language structure, (ii) the role of the analyses of counterfactual situations to clarify

the object's behavior in the actual world, as well as (iii) the role of *a priori* philosophical analysis on the matter of deciding between essential and contingent properties of an object. More specifically, on the first and second chapters, we explain the core concepts of direct reference theory and to what extent they are used to cross the boundaries of a semantic theory and develop metaphysical thesis. In the third chapter, we focus on the general mechanism used to compare identities between names, assertions of essential properties of an object and theoretical identifications that direct reference theorist use in order to justify scientific discoveries as providing us with essential properties of objects and kinds. The fourth chapter is dedicated specially to the nature of natural kind terms. And, the fifth chapter contains an analysis of Fine's proposal and the extent to which his criticisms affect the direct reference theorist's view on metaphysical matters. Working within the scope of the previous authors, we expect as a result to contribute to the debate around the boundaries between semantics and metaphysics in direct reference theory and the role of science in the field of metaphysics.

Chapter 1

Direct Reference Theory Semantics

The boundaries between semantics and metaphysics are, at first, nebulous in Kripke's theory and so it is in Putnam's theory as well. The reason for that is that they both borrow a semantic notion in order to sustain their metaphysical thesis. That is to say, they take into consideration the notion of *rigid designator* - coined by Kripke - when explaining which would be the essential properties of an object or kind. The task that they take up is to develop a theory in which identity statements between names as well as theoretical identifications and assertions of essential properties of an object are necessary – in case they are true, of course. While Putnam discusses theoretical identifications straightforwardly, it seems that Kripke's strategy is to develop a direct reference theory of names in order to explain essential properties and theoretical identities, while paralleling them with the identity between names. On both approaches, those theoretical statements can be interpreted as the result of an identity relation between two terms rigidly designating only one object (or kind).

The question that remains is whether we can attest that the parallels seen by Kripke are plausible and well sustained by the arguments he provides us with. It is up to us to verify whether the behavior of theoretical identities and identities between an object and its individual essence are in accordance with the behavior of identities between proper names. If it is attested, the theory of reference and the uncontroversial claim of self-identity might, by themselves, be enough to equate the aforementioned propositions, and their pattern of behavior. If it is not attested, it is up to us to analyze (at least some) alternatives that could provide us with an explanation of the rigidity of such terms involved in theoretical identities. For the purpose of answering these questions, this first chapter will work on highlighting focal points of the direct reference theory they advocate, relying also on some key concepts by Kaplan - a third big name and developer of the Direct Reference Theory.

Thought Experiments

The proposal of direct reference theory - both Kripke and Putnam's versions - is first and foremost to challenge descriptivism. The descriptivists stand for the idea of names as equivalent to definite descriptions (expressions like "the x such that Fx ", such as, "the author of *Nicomachean*

Ethics”).⁵ So, they defend a theory in which the referent of a name is the only object that satisfies the description (in the aforementioned example, it would be Aristotle). Hence, the descriptivists would agree about the existence of a purely qualitative content responsible for linking names and their respective referents - working as a mediator between them. The established equivalence between names and descriptions leads them to understand these two classes of singular terms as synonymous and interchangeable in the analysis of the sentence.⁶ In order to challenge their approach and disprove the synonymy between names and definite descriptions, Kripke presents his (called by the literature as) Modal Argument and Putnam presents his Twin Earth Experiment. Their strategy is, to some extent, the same: to take into account counterfactual situations when we are analyzing the truth conditions of a sentence.

The Modal Argument

Kripke’s Lectures, presented in *Naming and Necessity*, have become widely known, mostly because of the (as it is now called) Modal Argument. Kripke’s modal argument is one of the three⁷ arguments against the descriptivist theory that Kripke developed on his Lectures. On this argument Kripke points to the fact that when we say “Aristotle might not have been the author of *Organon*” we do not contradict ourselves. This sentence would be a contradiction if the name Aristotle were synonymous with the description “the author of the *Organon*”, but it is not. Aristotle might not have done what is attributed to him in the actual world.⁸ For example, in a possible world the author of the *Organon* could have been Plato instead of Aristotle. In Kripke’s own words, “most of the things commonly attributed to Aristotle are things that Aristotle might not have done at all. In a situation in which he didn’t do them, we would describe that as a situation in which *Aristotle* didn’t do them”.⁹ That is to say, Aristotle could have failed to do not only one of the things that we attribute to him, but many (maybe all) of them. Thus, not only each of the attributes, but the cluster of all of them together would be a contingent fact about Aristotle (i.e., things that could have been otherwise).¹⁰

⁵ Syncategorematic expressions which can not be asserted as true or false alone, they only present an individual.

⁶ For the descriptivists the assertion that an object exists has as its propositional content that a certain description or property is satisfied by one and only one *x*. For example, to assert that Aristotle exists is to say that there is one and only one man who is the author of Nicomachean ethics, or the writer of *Organon* (or whichever description he chooses, as long as it is attributed solely to him).

⁷ They are: the modal argument, the semantical argument and the epistemological one.

⁸ KRIPKE, 1971, p.40.

⁹ KRIPKE, 1980, p.61.

¹⁰ KRIPKE, 1980, p.62.

Kripke relies on the intuitive content¹¹ of cases like this in order to highlight the *semantic phenomenon* that names and definite descriptions present distinct behaviors when we incorporate counterfactual situations into the truth conditions of sentences. According to Kripke, we intuitively agree that another person might have been the author of the *Organon*, but no one besides Aristotle could have been Aristotle himself. The reason for that is that it is possible to imagine at least one counterfactual situation, a possible world, in which the referent of the name remains the same although it is not associated to that same description - as it is in the actual world. While the description may describe people other than Aristotle in different possible worlds, the name refers to Aristotle no matter which possible world we are considering. From this thought experiment, we are able to attest that the name "Aristotle" and the description "the author of the *Organon*" are only materially equivalent and cannot be synonymous due to their distinct behaviors in the counterfactual situations considered.¹²

This argument that Kripke uses against the equivalence between descriptions and names is known as his Modal Argument. It is through the distinction of modes of truth, contingent and necessary - verifiable through possible worlds - that Kripke shows that descriptions in general (with the exception of those containing essential properties) are contingent upon their referents while names are always bound with the same object. Opposed to the definite descriptions, the names behave in such a way that they stick to the object to which the speaker wants to refer to.

Twin Earth Experiment

On the other hand, Putnam proposes another thought experiment. In this experiment, instead of talking about counterfactual situations through talking about how things could have been, he stipulates a Twin Earth. He presupposes, by hypothesis, that there could have been a world that is pretty much like Earth - the Twin Earth - in which everything is exactly like it is on Earth. The only exception is that the content of lakes and oceans, what falls from the sky when it rains and so on is not H₂O but XYZ.¹³ The XYZ is indistinguishable from water at normal temperatures and pressure and is everywhere on Twin Earth that water is on our world. That is such that if a spaceship from Earth visited Twin Earth, the Earthian would report back to Earth that, on first sight, apparently there is water on Twin Earth. Nevertheless, after taking a sample of t-water and figuring out that it is

¹¹"I think it [intuitive content] is very conclusive evidence in favor of anything, myself." KRIPKE, 1980, p.42.

¹² KRIPKE, 1980, p.31.

¹³ For a discussion about the problem raised by distinguishing to be/ to be constituted by see JOHNSTON, 1997.

actually XYZ, the Earthian would report that that which did seem to be water is actually XYZ and not water.

This thought experiment shows us that our intuitions are that something else might look like water and therefore have the same descriptions attributed to it (being a colorless, tasteless, thirst quenching etc) although nothing but water can be H₂O. More to the point, if we suppose the Twin-Earthians to speak English (like on Earth) with the only distinction that what they call ‘water’ the content of lakes and oceans, what falls from the sky when it rains and so on, the Earthian would report “On Twin Earth the word ‘water’ means XYZ”. In this scenario, our intuitions favors the interpretation that what have happened when comparing Earth and Twin Earth was a shift of *meaning of the word* ‘water’ and not a mere change of one of water’s contingent characteristics. On Twin Earth, if what fills the lakes and oceans and falls from the sky when it rains was pink instead of colorless - but it still was H₂O - the intuition raised would be that water would have the same meaning on both worlds even though they had a distinct characteristic.

Additionally, Putnam suggests we roll the time back to 1750. By then, the Earthian did not know that water was two atoms of hydrogen and one of oxygen. Even though it would take their scientific community about fifty years to discover that they and the Twin-Earthians understood the term ‘water’ differently, “yet the extension of the term ‘water’ was just as much H₂O on Earth in 1750 as in 1950; and the extension of the term ‘water’ was just as much XYZ on Twin Earth in 1750 as in 1950.”¹⁴ In other words, in 1750, we could say there was no belief the Earthian had about water that the Twin-Earthian did not have about t-water. But even though they were in the same psychological state, the object of their beliefs were different even then.¹⁵ Putnam’s point is that “the extension of the term ‘water’ (and, in fact, its “meaning” in the intuitive preanalytical usage of that term) is *not* a function of the psychological state of the speaker by itself”.¹⁶ And, for that reason, the psychological state alone does not determine the extension of the word.¹⁷

This argument that Putnam uses against the equivalence between psychological states and meaning is known as his argument for the semantic externalism. It is a direct criticism of the descriptivist view since for them the meaning of a term is a concept (i.e., mental entities) responsible for determining the extension of the terms - in the sense that sameness of intension entails sameness of extension.

¹⁴ PUTNAM, 1973b, p.702.

¹⁵ “the same phenomena happens on our world alone when a language user does not know how to distinguish an elm from a beech tree, associating the same descriptive content to both of them, and even then being able to refer to them separately and successfully”. PUTNAM, 1973b, p.704.

¹⁶ PUTNAM, 1973b, p.702.

¹⁷ PUTNAM, 1973b, p.703.

Rigid Designator

We should keep in mind that, when considering these counterfactual situations and describing possible worlds, “we use *English* with *our* meanings and *our* references”.¹⁸ That is to say, it does not matter how people in the possible world considered would call a particular or describe it. Of course language might have been used differently but that is not the focus here. The sense in which a name stands for a specific thing is when *we* talk about counterfactual situations, *we* talk about the *same* object no matter the counterfactual situation considered. To this extent, proper names always designate the same object, in all counterfactual situations in which that object exists. The term “Aristotle” is just a name for *this* man.¹⁹ The term “water” is just a name for *this* kind. And in Kripke’s words, this is the question of rigidity: “we can ask whether what is expressed would be true of a counterfactual situation if and only if some fixed individual has the appropriate property”.²⁰ Therefore, names are rigid designators.²¹

Indeed, when analyzing the truth conditions of “Aristotle might not have been the author of the *Organon*” our intuitions seem aligned with the rigidity theory. No proof that some person other than Aristotle might have been the author of the *Organon* is relevant to the truth of the quoted statement. Apparently, the same intuition is raised when dealing with terms like ‘water’. No proof that some substance other than water could be composed by hydrogen and oxygen is relevant to the truth of the statement “Water is H₂O”. Generally speaking, “we have a direct intuition of the rigidity of names, exhibited in our understanding of the truth conditions of particular sentences”.²² And our intuition concerning names opposes to that of non-essentialist definite descriptions. As seen before, definite descriptions tend to maintain a loose link with the object they refer to. The only object that satisfies the descriptive conditions might change in different counterfactual situations. That is the reason why Kripke ascribes them as non-rigid designators.²³ Consequently, “we do not then make the name synonymous with the description, but instead we use the name rigidly to refer to the object

¹⁸ KRIPKE, 1980, p.77.

¹⁹ KRIPKE, 1980, p.41.

²⁰ KRIPKE, 1980, p.9.

²¹ “The thesis that names are rigid in simple sentences is, however, equivalent to the thesis that if a modal operator governs a simple sentence containing a name, the two readings with large and small scopes are equivalent. This is *not* the same as the doctrine that natural language has a convention that only the large scope reading is allowed. In fact, the equivalence makes sense only for a language where both readings are admissible.” (KRIPKE, 1980, p.12). For further discussion on this matter, see DUMMETT, 1973.

²² KRIPKE, 1980, p.41.

²³ Apart from special cases like Jack the Ripper, in which names are synonymous with descriptions.

so named, even in talking about counterfactual situations where the thing named would not satisfy the description in question".²⁴

Direct Reference

So, names and definite descriptions are not considered synonymous by either Kripke or Putnam. And, for that reason, those terms are not interchangeable in the analysis of sentences - the description does not provide the meaning of a name. That is to say, definite descriptions do not contribute to the propositional content of a sentence that contains the name of the object that uniquely satisfies it. Moreover, not only Kripke does put in check the supposed synonymy, he also: (i) separates the notion of giving a meaning from that of fixing the reference of a term (the so-called Semantical Argument); and (ii) points out that, even with this distinction of senses in which we can define a name, there is no guarantee that descriptions necessarily play a role in it either way (the so-called Epistemical Argument). And these statements lead Kripke to sustain that there is some independent criterion for reference of the name. Bolstered by Kaplan's notions of character and content - developed to account for his theory of indexicals - the next step of direct reference theory is to convey that the propositional content of names is exhausted by its referents.

Semantical Argument

According to Kripke, the descriptivists' mistake is twofold: (i) they would advocate that definite descriptions give the definition of names in the sense of giving its meaning; (ii) they understand the notion of defining a name as univocal. Once Kripke shows us with his Modal Argument that names and definite descriptions behave differently in counterfactual situations, he rules out (i). But there are two senses in which a description can define a name. Aside from this stronger version of definition - that requires the synonymy between the singular terms -, there is a sense in which the definition is only responsible for fixing the reference of the name. In this second sense of definition "even if its reference is in some sense determined by the description, statements containing the name can not in general be analyzed by substituting the name for the description, although they are materially equivalent to statements containing the description".²⁵ To that extent, the description is used only to select, in the actual world, which is the referent of the name. Then,

²⁴ KRIPKE, 1980, p.156.

²⁵ KRIPKE, 1980, p.33.

the definition (i.e., the description) would be able to detach itself from that object in counterfactual situations. Such a condition is created by its role, once it is limited to how we are able to identify (in the actual world) the object to which the name refers to.²⁶

So, if we analyze the definition of a name in the sense of fixing its reference, we can recognize some examples of descriptions that play a role in the definition of names in this way. A paradigmatic case is initial baptisms, such as the stipulation of a meter as the length of the stick S in Paris at time t_0 .²⁷ The name “meter” strictly designates a certain abstract measure in all possible worlds. This measure happens to be the length of S in t_0 in the actual world. But the stick could have another length at t_0 , it could be larger or smaller due to different temperature conditions in t_0 . It is okay to have the description as the definition of meter because when we are only concerned with identifying an object, we do not need to take into account the counterfactual situations. In such a case, the only thing that matters is the (material) correspondence of the reference of the terms in the actual world. In Kripke’s words: “There is a certain length that he wants to highlight. It is highlighted through a contingent property, namely that there is a stick with that length”.²⁸

Epistemological Argument

Notwithstanding, even in the sense of fixing the reference of a name, there is no guarantee that definite descriptions play a role in the definition of all names. Kripke points that there are cases in which the speaker is not able to assert an uniquely satisfying description to a name (ex. when someone solely knows about Feynman that he is a physicist). There are also cases in which the speaker does attach a definite description to a name but in a way that his or her knowledge keeps being circular (ex. when someone fixes the reference of Einstein as the author of the Theory of Relativity and she goes backwards fixing the reference of the Theory of Relativity as the theory developed by Einstein). And there are even cases where the speaker uses a description to refer to an object without noticing that the description expresses a false belief about the object (as Donnellan²⁹ points it out in his example of the guy drinking a Martini at a bar - who is actually drinking water).

Kripke’s concern is that “we should distinguish the present intention of using a name for an object from the mere present belief that the object is the only one to have a certain property, and

²⁶ KRIPKE, 1980, p.57.

²⁷ KRIPKE, 1980, pp. 54-56.

²⁸ KRIPKE, 1971, p.55.

²⁹ DONNELLAN, 1966.

clarify this distinction”.³⁰ What Kripke intends to show us is that this diversity of ways of fixing the reference shows that in attributing a description to a name, we might have already had the reference of that name fixed. In other words, a competent user of a name does not need to be in possession of any non-trivial identifying description of the referent of that name. Consequently, it is plausible to consider that we might have a way to refer independently of the descriptions we associate with the name and stand by the idea of the direct reference of names.³¹

Character and Content

Kaplan distinguishes between two levels of meaning of a word, they are the character and the content. Generally speaking, character is the rule of usage of an expression within a language and content is that which is determined by the character in a particular context. The terms in which this distinction becomes more evident are the indexicals. Among indexical terms there are the pure indexicals such as “today”, “now”, “here”, “I” and demonstratives such as “this” and “that”. The communality among these terms is that “the referent is dependent on the context of use and that the meaning of the word provides a rule which determines the referent in terms of certain aspects of the context”³². In other words, the linguistic rules which govern the use of the indexicals are not sufficient to determine their referent in all contexts of use - we must evaluate its referent according to the context considered. For instance, the rules that apply to the usage of “I” are that it designates whoever is the one to utter the word in a sentence. And its referent might change according to the context of the utterance - if who uses the word changes so does the referent of the word.

So, due to this nuanced distinction, Kaplan highlights the importance of also “distinguishing possible occasions of *use* (i.e., context) from possible circumstances of evaluation of what was stated in a context”.³³ That being said, propositions are taken to be what is said in a given context. Accordingly, be it that the indexical constituent depends exclusively on the context (i.e., it is a pure indexical) or that it also relies on an associated demonstration (i.e., it is a demonstrative), it is taken to be directly referential.³⁴ The reason for that is that directly referential terms may designate different objects when used in different contexts. But given a context of evaluation, only a single

³⁰ KRIPKE, 1980, p.163.

³¹ “None of us will get started with any attribution unless there is some independent criterion for the reference of the name other than ‘the man to whom the incompleteness of arithmetic is commonly attributed’.” (KRIPKE, 1980, p.89).

³² KAPLAN, 1989, p.490.

³³ KAPLAN, 1989, p.494.

³⁴ “I intend to use ‘*directly referential*’ for an expression whose referent, once determined, is taken as fixed for all possible circumstances, i.e., is taken as *being* the propositional component”. (KAPLAN, 1989, p.493). See also the principles on KAPLAN, 1989, pp.492-3.

object will be relevant no matter the circumstances considered. On Kaplan's words, "the intuitive idea is not that of an expression which *turns out* to designate the same object in all possible circumstances, but an expression whose semantical *rules* provide *directly* that the referent in all possible circumstances is fixed to be the actual referent".³⁵

Names, from singular proper names to natural kinds terms, seem to share this trait too. It seems like they could have named something distinct in another possible world but once the context is determined and their reference fixed, they will designate that object(s) rigidly. *Contra* Kripke, Kaplan says that they are rigid designator not because we figured out through thought experiments that they turned out to designate the same object. But the opposite is true, they designate rigidly because the semantical rules related to names provide that in all possible circumstances the content will be the same once the referent is fixed. According to Kaplan, that is the general characteristic of rigid designators and what distinguishes names from definite descriptions: "the *designatum* (referent) determines the propositional component rather than the propositional component, along with a circumstance, determining the *designatum* [as it happens to definite descriptions]"^{36,37}

Partial Remarks

Non-Transparency of Identity Sentences

The reason why we may have the false impression that identity statements between names are contingent (possible, but not necessary) is the way in which we fix the reference of the object or class of objects, i.e., with a non-essential description. The point is that "even if our knowledge seems to help to determine the referent of a name, usually the content of our knowledge is only contingently related to the object we refer to".³⁸ We might have used the two terms as names of two different objects. We may not know in advance that those two definite descriptions apply to the same object in the actual world. Of course, if one or both of the terms connected by an identity statement is not a rigid designator, we cannot rush to the conclusion that the truth value of such statement is necessary. Nevertheless, once the reference of the names is fixed, the identity of the object with

³⁵ KAPLAN, 1989, p.492.

³⁶ KAPLAN, 1989, pp.496-7.

³⁷ In other words, "Such an expression is a *device of direct reference*. This does not imply that it has no conventionally fixed semantical rules which determine its referent in each context of use; quite the opposite. There are semantical rules which determine the referent in each context of use - but that is all. The rules do not provide a complex which together with a circumstance of evaluation yields an object. They just provide an object." (KAPLAN, 1989, p.495).

³⁸ KRIPKE, 1980, p.130.

itself is maintained in all the possible worlds. Even though the identity between the descriptions used to fix the reference is contingent, the *objects* designated by these designators will be necessarily identical and the necessity also applies to the identity between its names.

A case in point is “Hesperus is Phosphorus”. Both Hesperus and Phosphorus were discovered to be the planet Venus. But even before that, people would call them by their names identifying each one by a description “Hesperus is the evening star” and “Phosphorus is the morning star”. At first, nobody knew they were one and the same planet. And it is possible to imagine a counterfactual situation in which there would be another celestial body positioned in that same location in space either in the evening or in the morning. So, under such circumstances, we would not have called Hesperus “Hesperus” because Hesperus would have been in a different position. But this has nothing to do with the necessity of identity³⁹. That would still not make Phosphorus different from Hesperus.⁴⁰ That is to say, we could be *qualitatively in the same epistemic situation* that we are, relative to two different objects instead of one. The initial epistemic conditions often do not allow us to conclude which of the alternatives is to be the case, but it does not follow that what is the case is not necessarily the case.⁴¹

Necessary *a posteriori*

The sense in which one could say that things could have happened in different ways - a.k.a. in such a way they would not be identical - is merely epistemic⁴², because of the lack of evidence. In advance of empirical research, one only knows that “Hesperus is Phosphorus if and only if one and the same body occupies position *x* in the evening and position *y* in the morning. The *a priori* material equivalence of the two statements, however, does not imply their strict (necessary) equivalence”⁴³. Leaving epistemological questions aside, an empirical investigation is required to state the antecedent (the identity $x=y$) of the conditional known *a priori*. Settling the antecedent

³⁹ KRIPKE, 1980, p.156.

⁴⁰ “But if what we are imagining is a genuinely possible world, it is not a world in which *Hesperus* is different from *Phosphorus*; it is a world in which something that is called ‘*Hesperus*’ and resembles Hesperus in certain respects is different from something that is called ‘*Phosphorus*’ and resembles Phosphorus in certain respects.” (KRIPKE, 1980, p. 86).

⁴¹ KRIPKE, 1980, p.101.

⁴² “the ‘might’ here is purely ‘epistemic’ - it merely expresses our present state of ignorance, or uncertainty.” (KRIPKE, 1980, p.103).

⁴³ KRIPKE, 1971, p.154, note 14.

according to evidence, we can conclude by *modus ponens* the necessity of the identity as an *a posteriori* truth.⁴⁴

The point is that linguistic competence might not provide us with enough information to foresee whether a sentence is metaphysically necessary. Provided that speakers respect the rules of language usage,⁴⁵ they are able to use a name without yet a transparent access to the semantical content of the name. For instance, before scientific enquiry, the community of speakers were aware neither of the truth or of the necessity of “Hesperus is Phosphorus”. As Kaplan attests, “we get extreme cases in which linguistic competence is simply insufficient to completely determine the content of what is said”.⁴⁶

⁴⁴ KRIPKE, 1971, p.153.

⁴⁵ Rules like: “(C) A proposition p is semantically expressed by s **only if** p is included in the information a competent speaker would assert and intend to convey by an assertive utterance of s in any normal context, in which s is used nonmetaphorically, without irony or sarcasm, and so on, with its literal meaning by conversational participants who understand s.” (SOAMES, 2002, p.57).

⁴⁶ KAPLAN, 1978, p.231.

Chapter 2

Crossing the Boarder: Metaphysical Implications

Boundary Lines

Direct reference theorists' apparatus elaborated to deal with language goes beyond that. Besides providing them with arguments in favor of the direct reference theory, the tools manage to reach epistemical and metaphysical matters. That is so because their interpretation of language intents to be neutral towards epistemical and metaphysical theorizing and in order to do so they end up drawing new lines between these philosophical inquiries. Nonetheless, once their attempt is boosted by the semantical theory, we should take a closer look at it. By doing so, we expect to better understand (i) to what extent what Kripke defends is directly and exclusively derived from his semantical apparatus and (ii) what these new boundaries between the fields may bring as consequence for our understanding of each one of them separately - specially in respect to metaphysical assumptions.

Metaphysical vs. Epistemological Concepts

The distinction between identifying properties and necessary properties of an object underlies both Kripke's and Putnam's semantical outlook. The applicability of this distinction comes with the consequence of a split of the notion of *a priori* from that of necessity. On one hand, *a priori* and *a posteriori* are concerned with the epistemological issue. On the other hand, necessity and contingency are metaphysical concepts. Or, as Kripke would say, "one of them has something to do with *knowledge*, of what can be known in certain ways about the *actual* world. The other one has to do with *metaphysics*, how the world *could* have been; given that it is the way it is, could it have been otherwise, in certain ways?"⁴⁷ If something can be known to be true of the actual world, independently of all experience, it is known *a priori*; and *a posteriori* otherwise. And a fact about the world is necessary if beyond being true, it could not have been otherwise; while contingency

⁴⁷ KRIPKE, 1980, p.150.

deals with possibilities that are not mutually exclusive - i.e., being in a way is not enough to state it could not have been the other way around.⁴⁸

The point is that being from two different domains of philosophy, these concepts do not come together, and all the four combinations among them are possible - that is easily recognizable either in cases of initial baptism or with identity statements between names. According to this framework, the question about the criteria to identify an object and the question about what properties are necessary to an object are not equivalent, and may have different answers⁴⁹. The direct reference theory involves on its enterprise putting in doubt the standard way of dealing with the *a priori* knowledge, expecting to recognize the meaning of names on it and to search for the essence of an object using it as a tool (or maybe as the only tool useful for this purpose). According to it, the search for identity criteria is often related to identifying the object and, thereof, an epistemological concern. That is to say, it leads us to the question of epistemic access to the referent of a name and it can be replied by means of contingent descriptions of the object as long as we access them *a priori*.

Additionally, Kripke argues that the identification is not necessary to the analysis of counterfactual situations. And the reason for that is that we are the ones to stipulate the possible worlds. In Kripke's own words, "a possible world is given by the descriptive conditions *we* associate with it".⁵⁰ Hence, possible worlds are not presented as something that is given to us, something before which we will be mere observers - as it is tempting to think while looking at Putnam's Twin Earth Experiment. On the contrary, we can make its rules and ask whether that world is possible. To this extent, the questions involving, on one hand, identity criteria and, on the other, whether it is possible for a particular to have a specific property are not the same topic of discussion. The first question requires a purely qualitative description of the individual. While in the second scenario the individual has been fixed before we can verify some properties it might have. Within this viewpoint, then, the question of transworld identity is actually an epistemological question of having criteria to keep track of a particular in all the counterfactual situations. And, on the other hand, the question about whether a particular could not have been otherwise is a metaphysical question concerning the object itself - it is a question about the nature of the object independently of our ability to recognize it.

⁴⁸ KRIPKE, 1971, pp.34-39.

⁴⁹ "The terms 'necessary' and 'a priori', while applicable to sentences, are not obviously synonymous." (KRIPKE, 1971, p. 38).

⁵⁰ KRIPKE, 1971, p.44.

Formal Features

For sure, Kripke's theory has *some* essentialist import. When he decides to frame his account of reference in modal terms, he is aware of "the trivial fact that all quantified modal logics are essentialist".⁵¹ They are essentialist in the sense that modal operators can apply to open sentences. That is to say, if necessity is used as a semantical predicate of names of statements and statements themselves, it is also applicable to sentences in general (open and closed alike). He does elaborate a common mathematical structure (pure semantics)⁵² in order to state that essential predication makes sense, "i.e. whether, $\Box Fx$ ought to be well-formed as an open sentence"⁵³. Arriving to the conclusion that "if analyticity is well defined, so is quantified modal logic"⁵⁴. And the denial of this conclusion is the same as the denial of a mathematical result⁵⁵. Along with this defense, comes the acceptance of the validity of self identity.⁵⁶

Furthermore, Kripke's account makes some not trivial essentialist claims. When Kripke employs the Modal Argument, he relies on the falsity of hyperessentialism (i.e., that all properties of an object are essential to it). That is to say, he relies on the notion of contingent property in order to stand for the meaningfulness of the notion of essential property.⁵⁷ So, that argument presupposes that not all properties of an object are essential to it and excludes one possible essentialist approach beforehand. As a result, we can state that Kripke's direct reference theory works on drawing some boundary lines to the topic of essentialism, even if we concede that it is controversial whether Kripke manages to state moderate essentialism principles having his philosophy of language as the only tool (aside from trivial and uncontroversial claims).

⁵¹ KRIPKE, 1961, p.4.

⁵² "But, if we are dealing with a single system of modal logic, all these alternative interpretations, giving different types of applied semantics, will nevertheless yield semantical notions having a common mathematical structure [pure semantics]" (KRIPKE, 1961, p.2).

⁵³ KRIPKE, 1961, p.4.

⁵⁴ "I only claim that I have given one method of setting up quantified modal logic; and that this method requires only the existence of a semantical predicate satisfying (12)-(13). Does this show that essentialism is after all not involved in quantified modal logic, that essentialism can be defined in terms of analyticity, or that analyticity involves as bad a metaphysics as essentialism? The option is unreal. In this paper, we have shown the following simple fact: If analyticity is well defined, so is quantified modal logic" (KRIPKE, 1961, p. 6).

⁵⁵ KRIPKE, 1961, p.6.

⁵⁶ "Self-identity, for example, is surely a necessary property of every object: if we are permitted at all to apply necessity to an open sentence, surely $(x) \Box(x=x)$ is true. But if p is any contingent statement, $x=x \ \& \ p$ will be true, but contingently true; and hence x has "accidental", as well as essential properties." (KRIPKE, 1961, p.4).

⁵⁷ "The example I gave asserts a certain property - electoral victory - to be accidental to Nixon, independently of how he is described. Of course, if the notion of accidental property is meaningful, the notion of essential property must be meaningful also. This is not to say that there are any essential properties - though, in fact, I think there are." (KRIPKE, 1980, p.41). See also HUGUES, 2006, p.110.

Haecceitism in Possible Worlds Semantics

The direct reference theory shows that an individual may be an immediate element of a sentence due to a name's behavior in natural language. That is to say, the theory is opened to the possibility of the existence of singular propositions. Taking this into consideration, Kripke defends the thesis that there is no need for purely qualitative descriptions of possible worlds. If we are willing to look at the behavior of a specific object, Kripke's account of proper names permits that we ask about *the* object without there being a purely qualitative set of necessary and sufficient conditions for being that object. In other words, it does not demand that we restate the question in terms of such conditions.⁵⁸ That is, we first determine if F and G are the same object, so we decide whether or not F has a property that G has. In this type of approach, no criteria is provided for the identification of an object, since questions of epistemic character (e.g., how do we know that this would indeed be Nixon in the proposed counterfactual situation?) cease to make sense.

Additionally, given Kripke's concern with the principle of the indiscernibility of the identicals and his reassertion of it in the metalanguage, he would retain identity as an intrinsic notion of the object. That reinforces the idea that the identity of an object does not require a definition in terms of other concepts involved in the analysis. Once possible worlds are "given by the descriptive conditions we associate with it"⁵⁹ and names are not disguised or abbreviated (non-rigid) descriptions, there is no obvious motivation for the reference of a name to be questioned according to the choice of a possible world. In Kripke's words, "who is to prevent us from saying "Nixon might have gotten Carswell through had he done certain things"? We are speaking of *Nixon* and asking what, in certain counterfactual situations, would have been true of *him*".⁶⁰

In other words, despite our epistemic concerns, the identity of an object is taken as a primitive concept. Then, according to Kaplan's terminology,⁶¹ Kripke stands for a *haecceitist* position. Haecceitism consists on taking as a basic fact that the identity of an object in the actual world is kept intact when considering other possible worlds. That is such that an intraworld identity is also always a transworld identity⁶². Accordingly, in Kripke's work, we can recognize Kaplan's statement that "the acceptance of singular propositions is linked to the acceptance of transworld

⁵⁸ KRIPKE, 1980, p.47.

⁵⁹ KRIPKE, 1980, p.44.

⁶⁰ KRIPKE, 1971, p.147.

⁶¹ Kaplan gives the definition of Haecceitism in this terms: "that a common "thisness" may underlie extreme dissimilarity or distinct thinness may underlie great resemblance" (KAPLAN, 1975, pp.722-3)

⁶² Thank you to Prof. Boccardi for highlighting that a plausible reason for that is that Kripke would interpret identity as requiring identical modal profiles.

identities”.⁶³ The reason why transworld identities can be taken just as primitive as the identity within a possible world is that possible worlds would not share times or places, would not be causally connected. A possible world would be understood as “the totality of facts in that world” - in the sense that it would assign at least one truth-value to every statement and at most one.⁶⁴ To that extent, the actual world “- better, the actual state, or history of the world - should not be confused with the enormous scattered object that surrounds us”.⁶⁵ In other words, possible worlds are not material objects that should be taken as “a distant country”. Hence, there is no reason why an object could not exist in different worlds in this sense (i.e., it would not be a case of one and the same thing being in two different places spatio-temporally connected).⁶⁶

Nevertheless, it is important to notice that Kripke’s intent is not to advocate that possible worlds should be specified in terms of particulars and not qualities. Kripke’s point is that possible worlds can be stated either way, and there seems to be no less objection on *stipulating* that we are speaking of certain *people* than there can be objection to stipulating that we are speaking of certain *qualities*. According to Kripke, what might be a question is whether the world stipulated is possible. In other words, the question is - after we have stipulated a world the way that most suits us - whether the particulars could have been the way we stipulate them to be (i.e., if there is such a possibility or there are some metaphysical constrains related to the nature of the objects considered). According to Kripke, the first step is to recognize the reference of a name, and only after that we are able to work with possible worlds and then recognize what is necessary and what is contingent to the object. That is the mechanism Kripke uses so that “we can consider these questions about *necessary* conditions without going into any question about *sufficient* conditions”⁶⁷.

We should be careful when we construct logical models to represent possible worlds, “we must distinguish those features of the model which represent features of that which we model, from those features which are intrinsic to the model and play no representational role [the *artifacts of the model*]”.⁶⁸ The haecceitist position takes an individual itself - as opposed to an individual-under-a-concept - to be an immediate constituent of a proposition.⁶⁹ Hence, this position takes the fact that

⁶³ KAPLAN, 1975, p.725.

⁶⁴ KRIPKE, 1961, p.6.

⁶⁵ KRIPKE, 1980, p.19.

⁶⁶ HUGUES, 2006, p.131.

⁶⁷ KRIPKE, 1980, p. 46.

⁶⁸ KAPLAN, 1975, p.722.

⁶⁹ KAPLAN, 1978, p.724.

individuals can be extended in logical space as representing features of the metaphysical reality instead of regarding it as an artifact of the model. Describing a possible world in terms of individuals provides us with the advantage of accessing the propositional content of a sentence independently of the circumstances. That is to say, “the propositional component need not choose its designatum from those offered by a passing circumstance; it has already secured its designatum before the encounter with the circumstance”.⁷⁰

Metaphysical Matters

According to the established distinction between the concepts of epistemic and metaphysical nature, what we grasp *a priori* about an object does not have to correspond to those necessary properties an object has. And this distinction works as the starting point of Kripke’s defense that “one may very well discover the essence empirically”.⁷¹ Both Kripke and Putnam advocate that the properties one may discover through science are the ones that provide us with basic structural traits that correspond to the nature of the object analyzed. In their interpretation it is possible to imagine the most varied counterfactual situations, but it is not possible to imagine that something has a distinct nature from that which it possesses in the actual world (it is possible to imagine. Although the worlds themselves are not possible)⁷² - and science would be able to evidence this nature of things.⁷³ First, we will analyse Kripke’s defense through a parallel with identities between proper names. And later we will add Putnam to the discussion due to his more detailed treatment of natural kinds within the context of the direct reference theory.

Essential Properties

With the challenge of the notion of the necessary *a priori*, Kripke stands by the existence of a different kind of necessity, namely: necessary *a posteriori* propositions. According to Kripke, “the notion of essential properties can be maintained only by distinguishing between the notions of *a*

⁷⁰ KAPLAN, 1989, pp.496-7.

⁷¹ KRIPKE, 1980, p.110.

⁷² The notion of impossible worlds is developed by Salmon (1984) to clarify that there is a distinction between logically possible and metaphysically possible worlds. When a counterfactual situation is such that it is possible to imagine it, that is a logically possible world. Nevertheless, that does not guarantee such a world to be metaphysically possible. And that is the reason why we can say it is possible to imagine it although it is not possible to be the case (in the metaphysical sense).

⁷³ KRIPKE, 1980, p.138.

priori and necessary truth”.⁷⁴ Essential properties are understood by Kripke as properties that are true of the object in any case where it would have existed,⁷⁵ in such a way that these properties are considered necessary to the object. Nevertheless, its necessity does not rely on logical matters but on metaphysics. As Murcho states, “to defend that there are necessary truths that are not logical truths is precisely what characterizes the essentialism”⁷⁶.

Additionally, with Kripke’s defense of identities between names as necessary, he reinforces the idea of necessary *a posteriori* propositions not only as possible but as an effective exemplification of these propositions.⁷⁷ Such propositions, then, upgrade their status from possible to actually existent. As Kripke states it, the necessity of identities between names is distinct from the necessity of mathematical truths. While the truth of mathematical propositions is guaranteed by logical truth - and, for that reason, necessary -, the truth of identities between names has no such guarantee. That is to say, it is logically possible that the objects involved in the proposition were otherwise. What sustains their necessary status is that it is metaphysically impossible that an object was distinct from itself.⁷⁸

Essence of Particulars

On footnote 56 of *Naming and Necessity* (1980), Kripke develops a sort of a proof that supposedly justifies the necessary link a table has with its original constituent matter. In particular, according to him, the content of the proof should be enough to support a principle such as “if a material object has its origin from a certain hunk of matter, it could not have had its origin in any other matter”.⁷⁹ According to Kripke, this should work like a proof of necessary properties of an object. Using a parallel explanation to that of identities between names he intends to avoid any further metaphysical committing premisses on his argument.

According to Kripke, once we know that this table was carved from a piece of wood H, whatever we imagine counterfactually having happened to this table, one thing we cannot imagine happening to it is that it could be made right from the start from a different matter and it would still

⁷⁴ KRIPKE, 1980, p.153.

⁷⁵ KRIPKE, 1980, p.48.

⁷⁶ MURCHO, 2002, p.65.

⁷⁷ “Kripke suggests that the existence of truths that are knowable only a posteriori is a necessary condition for essentialism. [...] On the other hand, the existence of truths that are knowable only a posteriori is a sufficient condition to essentialism.” (MURCHO, 2002, p.65)

⁷⁸ KRIPKE, 1980, p.141.

⁷⁹ KRIPKE, 1980, p.114. fn.56.

exist as the same object. We should keep in mind the fact that *a table* that is made of ice but that causes in us the same sensory evidence that I in fact have of the actual table may exist. And if it does, we would be *qualitatively in the same epistemic situation* as we are, but if that other table was made of ice it should not concern us. Leaving this epistemic issues aside and focusing on the metaphysical question, there is an intuition “that anything coming from a different origin would not be this object”.⁸⁰ The question is whether the way in which we would describe such a situation is enough to justify this intuition. Kripke seems to give it an affirmative answer, and he draws the lines of the argument as follows:

Let ‘B’ be a name (rigid designator) of a table, let ‘A’ name the piece of wood from which it actually came. Let ‘C’ name another piece of wood. Then suppose B were made from A, as in the actual world, but also another table D were simultaneously made from C. (We assume that there is no relation between A and C which makes the possibility of making a table from one dependent on the possibility of making a table from the other.) Now in this situation $B \neq D$; hence, even if D were made by itself, and no table were made from A, D would not be B. Strictly speaking, the ‘proof’ uses the necessity of distinctness, not of identity.⁸¹

So, according to this passage, Kripke’s strategy is to presuppose the creation of another table in order to distinguish A and C. He would explain the material distinction through the distinction of the two tables correspondently associated with their matter - all of which are rigidly designated. Kripke then avoids giving reasons why table A could not be constituted by hunk C.⁸² In Ballarin’s words, “they would attempt to show the necessity of origin by finding reasons to rule out any alternative possible origin, rather than arguing for such a necessity directly”.⁸³ Kripke intends to parallel the cases and extend this reasoning to molecular constitution of chemical elements, to the propague’s DNA of a person, to natural kinds and their biological taxonomy etc. He claims that this is a “proof” of the general *Principle of Origin*.

Scientific Discoveries

Another step on Kripke’s strategy is to advocate that theoretical identities as well as statements concerning essential properties of an individual and identities between names are all necessary *a posteriori* propositions. Always having our intuitions on counterfactual situations as a

⁸⁰ KRIPKE, 1980, p.113.

⁸¹ KRIPKE, 1980, p.114. fn.56.

⁸² “The issue, however, is not whether table B could be identical with table D, but whether table B could be originally constructed from hunk C instead of from hunk A.” (SALMON, 1979, p.710)

⁸³ BALLARIN, 2011, p.366.

background, Kripke aims to extend the applicability of the conditional “if P, then necessarily P”. According to him, we can agree that though we might not know *a priori* what the essential property of an object is, it is necessarily as it is. In other words, despite not knowing the essential property of an object or kind, we know in advance that whatever it is must necessarily be the case (according to his own understanding of what an essential property is).⁸⁴ For example, relative to the essence of a particular individual. A DNA test was taken and it was confirmed that Elizabeth was really the daughter of her royal parents and not adopted by them. Whatever we imagine counterfactually having happened to her, the one thing we cannot imagine is that *she* could have had other parents (and DNA). She could have taken the DNA test and it could bring the result that Mr and Ms. Truman were her parents in the actual world. But that is related to the epistemic conditions previous to the test, it asserts that given the qualitative conditions we initially had, we could not predict the results of the test.

Kripke’s point is that “the type of property identity used in science seems to be associated with necessity, not with *a prioricity*, or analyticity”.⁸⁵ And his reasoning relies on examples to persuade us. Well, when we are considering properties we access through scientific discoveries, we can agree that it is an empirical matter whether something is the case. For example, it is only after some research that scientists realized that tigers are mammals. But, once it is stated, if we find out some individuals with the same external marks by which we originally identify tigers that are not mammals - e.g. they are aliens - we would not say they *are* tigers. We might say that they look like tigers. Something else we could say is that tigers could have been aliens right from the beginning and we are the ones that did not realize that beforehand.⁸⁶ This condition is not originated by the fact that, once we make a scientific discovery, the old concept of tiger is replaced by the new scientific definition.⁸⁷ On the contrary, that is something connected to the concept of tiger before the internal structure of tigers has been investigated. In Kripke’s words, “even though we don’t know the internal structure of tigers, we suppose - and let us suppose that we are right - that tigers form a certain species or natural kind”⁸⁸. Even if this notion of a *kind* we keep in mind is a vague⁸⁹ one, it is

⁸⁴ As explained two sections ago.

⁸⁵ KRIPKE, 1980, p.138.

⁸⁶ “Just as something may have all the properties by which we originally identify tigers and yet not be a tiger, so we might also find out tigers had none of the properties by which we originally identifies them.” (KRIPKE, 1980, p.121)

⁸⁷ “Note that on the present view, scientific discoveries of species essence do not constitute a ‘change of meaning’; the possibility of such discoveries was part of the original enterprise.” (KRIPKE, 1980, p.138)

⁸⁸ KRIPKE, 1980, p.120.

⁸⁹ “To the extent that the notion ‘same kind’ is vague, so is the original notion of gold. Ordinarily, the vagueness doesn’t matter in practice.” (KRIPKE, 1980, p.136)

enough for us to be able to imagine that there could be “a creature which, though having all the external appearance of tigers, differs from them internally enough that we should say that it is not the same kind of thing”.⁹⁰

And the same line of reasoning applies to other sorts of things (e.g. mass terms), as “Gold has the atomic number 79” or “Water is H₂O”.⁹¹ The point is: our intuition is that whether we talk about tigers, gold or water, in any counterfactual situation of which we would say these things existed at all, we would also keep these properties attached to their referents. Kripke’s explanations of the examples contribute to the understanding of theoretical identities and statements concerning essential properties of an individual as, generally, identities involving two rigid designators.⁹² And, therefore, they are also examples of the necessary *a posteriori*. So, according to the view Kripke advocates, such “general names” (i.e., species names: nouns, mass terms, terms for natural phenomena) behave the same way as proper names do.⁹³ That is to say, the possession of most of the identifying properties “need not be a necessary condition for membership in the kind, nor need it be a sufficient condition”.⁹⁴ What underlies this assumption is the same idea of the Semantical Argument: we should bear in mind the contrast between the contingent properties we knew *a priori* and used to fix the reference of a term and the properties that are necessary to it (i.e., that constitutes its meaning).⁹⁵

Additionally, the terms (or phrases) that refer to essential properties work just as names do, as rigid designators too. Kripke’s train of thought - along with his thought experiments - show us that the discovered properties contrast with the initial identifying marks because they single out the object or kind in a much better way than the initial marks could. The reason for it is that the object or kind, once analyzed on its basis - of what the substance is - has that basic structural traits *if and only if* it is the object or kind it is (taking the “if and only if” as strictly as we can, so as necessary). The original concept of a kind brings with it the notion of *that kind of thing*⁹⁶ even if it is a vague notion. Nevertheless, “whether a given kind is a species of animals is a matter for empirical investigation”.⁹⁷ But this shows nothing against the view that scientific investigation is necessary.

⁹⁰ KRIPKE, 1980, p.120.

⁹¹ See KRIPKE, 1980, p.116.

⁹² KRIPKE, 1980, p.140.

⁹³ KRIPKE, 1980, pp.127-ss.

⁹⁴ KRIPKE, 1980, p.120.

⁹⁵ KRIPKE, 1980, p.135.

⁹⁶ KRIPKE, 1980, p.122.

⁹⁷ KRIPKE, 1980, p.123.

Partial Remarks

An Attempt to be Neutral

According to the descriptivists, definite descriptions would be synonymous with names. Thus, the objects would be identified in possible worlds through its properties. And these properties would be necessary and sufficient conditions to identify the object. Under the interpretation of essential properties as the necessary properties of an object, the descriptivists could be understood as advocating that identifying properties would be the same as the essential properties of an object. Kripke's attempt is to show that this framework leads us to the misleading belief that the metaphysical and the epistemological issues come together and that everything we can know about an object *a priori* would be a necessary property of that object - and that any necessary property of an object would rise from an *a priori* knowledge. The tricky feature of this kind of descriptivist view is its approach to the object. It would invoke a concept of object that seems inseparable from its properties. Consequently, every time we speak about someone having a property, we are actually talking about properties that come together (the bundle of properties idea) instead of speaking of individuals. In other words, since there are no singular propositions, every time we refer to an object we are pointing to a bundle of properties.⁹⁸ The reason for that is that in this view the meaning of words are always understood as concepts - therefore, descriptive content.

Opposite to this view we find Kripke and the direct reference theory. His theory of names provides a way of referring to the object without taking into consideration any specific correspondence between the name of the object and a description. It opens the door to a neutral way of dealing with metaphysical issues and yet asking metaphysical questions. It also opens the possibility of splitting the properties of the object and analyzing them individually. As a defender of intuition, Kripke highlights "it is very far from being true that this idea [that a property can be held to be essential or accidental to an object independently of its description] is a notion which has no intuitive content"⁹⁹. And Kripke integrates this intuition to his theory when interpreting theoretical identities and statements of essential properties as identities between two rigid designators - just like identities between names. As Murcho states it, "the thesis of rigid designation is metaphysically

⁹⁸ This comment is made having in mind theories such as Russell's (1905) in which singular propositions are very rare (if not non-existent) and the consequence is that most of the propositions that talk about individuals rely on definite descriptions, a.k.a. properties, to denote objects.

⁹⁹ KRIPKE, 1980, p.265.

neutral”¹⁰⁰. That is so because a competent speaker is able to articulate the language even if she does not have a previous access to what might be the essential properties of an object.

Throughout *Naming and Necessity*, Kripke seeks to remind us that “the belief hardly ever constitutes *a priori* knowledge”.¹⁰¹ Additionally, he advocates that such fact is not a difficulty for the speaker. Once the objects can be part of the propositional content of a statement, she has direct access to it through language and may talk about these things even though she does not know some unique property satisfied by these objects. For example, in Kripke’s words, “I think you *do* know who Cicero is if you just can answer that he’s a famous Roman orator”¹⁰². That is so because, respecting the direct reference theory, Kripke defends that objects would not be reducible to a cluster of properties. As he states, “if a quality is an abstract object, a bundle of qualities is an object of an even higher degree of abstraction, not a particular”.¹⁰³

Both thought experiments - Kripke’s and Putnam’s alike - are used to state a semantical externalism. That is to say, both arguments work against the view of reducing a word’s reference to a content in the mind of the speaker (represented by the usual definite descriptions attributed to the object referred). Instead, those arguments show us that there must be a external component - external to the language - which we are referring to and which cannot be reduced to a cluster of properties. As a consequence, “to have linguistic competence in connection with a term it is not sufficient, in general, to have the full battery of usual linguistic knowledge and skills; one must, in addition, be in the right sort of relationship to certain distinguished situations (normally, though not necessarily, situations in which the *referent* of the term is present)”.¹⁰⁴ In other words, in the direct reference theory, linguistic competence is distinguished from having access to relevant knowledge of the object. Once inserted in a language community we can apprehend and use a name to communicate without having transparent epistemic access to its propositional content.¹⁰⁵

¹⁰⁰ MURCHO, 2002, p.66. Thank you to Prof. Marco Ruffino for highlighting that this quote should be understood in terms of the thesis of rigid designation not being allied to a specific and strong metaphysical thesis, although in the weaker sense the rigidity thesis does bring a metaphysical import to the extent that it would exclude the possibility of objects being reduced to a cluster of properties.

¹⁰¹ KRIPKE, 1980, p.87.

¹⁰² KRIPKE, 1980, p.83.

¹⁰³ KRIPKE, 1980, p.53.

¹⁰⁴ PUTNAM, 1973a, p.202.

¹⁰⁵ So there is room within the picture of direct reference theory to error and unawareness of the truth value of identity propositions.

Consequence of Stressing the Thought Experiments

Kripke's approach to possible worlds semantics - when it is stressed to a point in which we can grasp its ultimate consequences - presents us with some extreme cases. One example is a plant and its seed.¹⁰⁶ Considering that the plant died before developing its stem and blooming above the earth, plant and seed would share all its material properties in the actual world. The only way we could distinguish them would be through their dispositional or modal properties. Hence, Kripke would argue that material objects can be distinct (in the actual world) in virtue of having distinct properties in counterfactual situations. That is to say, we rely on other possible worlds in order to state how probable or improbable the actual outcome is and also as a source to the distinction of two objects - the plant and its seed - that might have had the same outcome only in the actual world.

This kind of extreme case may prompt us to the intuition that these dispositional differences could be grounded in something like a categorical distinction¹⁰⁷ or something like that - e.g., in terms of grounding for the transworld identities. This idea leads us to considering at least some extrinsic properties as essential to the objects in addition to the intrinsic ones. That is so because it contains the notion of a thing being of a certain sort and different from another. To that extent, identities would not be strictly an internal relation - the view to which Kripke commits himself explicitly.

Restrictions of a Haecceitist Position Allied to Actualism

Kripke does not a criteria for intraworld identity of an object. Despite that fact, Kripke manages to go from conditional metaphysical claims of the form "if it is possible that p, then necessary that p" to state the necessity of p - e.g., from "if it is possible that water is H₂O, then it is necessary that water is H₂O", Kripke advocates that "it is necessary that water is H₂O". The reason for this is his approach to the notion of possible worlds. Namely, Kripke is an actualist. And, therefore, he understands that the actual world has a distinct characteristic comparing to the other possible worlds: the set of individuals existing in each possible world is subordinated to the set of individuals that exist in the actual world - i.e., it is always a subset of this set. In other words, everything that exists (even if contingently) in the other possible worlds exists in the actual world.¹⁰⁸

¹⁰⁶ Unpublished lectures 'Time and Identity' Kripke. Reference in HUGUES, 2006, p.121.

¹⁰⁷ Noonan agrees with this interpretation. See NOONAN, 1983.

¹⁰⁸ "An Actualist can accept the existence of propositions which are only possibly true. He cannot accept the existence of those possible propositions which, independent of truth value, depend on what is not actual, for example, the additional singular propositions which would exist if there were additional individuals." (KAPLAN, 1975, p.727)

Consequently, possibility is reduced to necessity, since we know the conditional, and we add to it that “possible p” *iff* we find p in the actual world. Therefore, “necessary that p”.

His actualist sympathy can also be recognized in other moments of Kripke’s theory. For example, in his argument about non-existent objects (KRIPKE, 2013). According to Kripke, qualitative information about fictional objects or merely possible objects is not sufficient to identify such objects in a described counterfactual situation. Even if we find an object with qualities identical to the descriptions we associate with the fictional name, we can not conclude that there are objects corresponding to these names. It would be necessary, first, to have the reference fixed and the identity established. But this is not possible since, in the actual world, the objects corresponding to the fictional names do not exist. Therefore, we would not know under what circumstances they would have existed.

His approach excludes merely possible objects,¹⁰⁹ i.e. non actual ones, thereby it also restricts the rules of how to conceive a counterfactual situation - as well as the intuitions raised by it. Strictly speaking, as sketched here, Kripke’s theory is capable of deriving only the fact that compossibilities (i.e., objects which exist simultaneously in the actual world) do not interfere with one another in counterfactual situations. So, it only restates the characterization of identity as intrinsic and not susceptible to external interferences.

There are two ways of arguing for the transition from something possible (i.e., something which is the case) to the acknowledgment that this is something necessary: (i) adding a relevant metaphysical premise or (ii) restricting the possible worlds semantics. Kripke adopts the second option. And by doing so, instead of explaining, he excludes a good deal of our intuitions. The question that remains is: Is it worth paying for the high cost of sustaining such an interpretation in order to avoid essentialist premises? We do not see what the advantages of avoiding *a priori* metaphysical premises would be, once they have to be compensated stating a deflated notion of what a possible world is.

¹⁰⁹ MAKIE (2009, p.96) characterizes Kripke’s use of possible worlds as a ‘branching model’ in which the way things might have been different is restricted to *divergences* from the actual world.

Chapter 3

A General Mechanism

Analyzing Kripke's and Putnam's examples of theoretical identities and essential property attributions, Salmon comes up with a general mechanism used to generate such necessary *a posteriori* truths. We would need the assumption of an ostensive definition or a descriptive operational definition of the term plus two premises: (i) the fact that the object has a determined structure (be its atoms, or the DNA etc); (ii) the fact that being the very same individual (of kind *K*) as something consists in having the property "the same structure *x*".¹¹⁰ Therefore, what follows as the conclusion of such an argument would be a proposition of the form "it is necessarily the case that: the object (or kind), if it exists, is *x*". On Kripke's account of the second premise, he leaves room for the *a priori* knowledge when he states that it is through *philosophical analysis* that we can know which statement is necessarily true if true at all¹¹¹ of the object (of kind *K*). In this chapter, with the help of Salmon's interpretation (2005), we will analyze the proposed general mechanism and emphasize the role of *a priori* philosophical analysis within the direct reference theory.

Rigid Designation and the First Assumption

The first assumption is a product of the direct reference theory. Nevertheless, as Salmon notices, what follows from their reliability on the rigidity of the terms - names and terms for essential properties - is that we need two rigid designators to do the trick, but it may not necessarily come from the direct reference theory. All that is required is that the "definition" of the term correctly fixes its semantical intension in accordance with a metaphysical intension. And there are multiple ways of fixing a rigid designator to the relevant object. One way of doing so without relying on the direct reference theory is to use the sentential actuality operator¹¹², that would be enough to fix the reference of the term across possible worlds. When we attach the actuality operator to any definite description, we keep track of the same object no matter what possible world is considered because we are always referring to the object that satisfies that description in the actual world. Hence, from what has been said, we conclude that the key point of the first assumption is for

¹¹⁰ SALMON, 2005, p.161.

¹¹¹ KRIPKE, 1980, p.109.

¹¹² "Any reasonable theory of the sentential actuality operator - even an orthodox theory of meaning which accords the operator a Fregean sense - must accommodate the result that a proper definite description of the form "the actual *\$*" is a rigid designator." (SALMON, 2005, p.188)

the chosen designator to be rigid. In other words, the designator must have some sort of ostensive definition which picks out the intensions of a term and keeps track of the same object or kind whichever possible world has been considered. Salmon's point is that Kripke's direct reference theory would be just one particular case concerning rigidity.

So, Salmon (2005) disclaims that essential assertions could be a mere consequence of semantical matters. He notices that Kripke's and Putnam's essentialist arguments rely on the rigidity of terms - i.e., rigidity of both names and terms for essential properties. And what follows from this reliability is that we need two rigid designators to do the trick, but they may not necessarily come from the direct reference theory. Whenever we find (i) a description that is uniquely satisfied by an object or kind and (ii) that is a description of a property of the object that we could find *a posteriori*, we can have a necessary *a posteriori* proposition - and, consequently, state an essential property. The aforementioned strategy would suit any kind of philosophy of language (even a Fregean orthodox one)¹¹³. As a consequence, this leaves the metaphysical claims lacking an independent motivation. Otherwise, without the development of metaphysical constraints, "the theory of direct reference seems to be perfectly compatible with nontrivial essentialism concerning chemical substances, and also with its negation"¹¹⁴.

The Two Premises

One of the premises is a piece of empirically verified information. It is the recognition, after looking at the actual world, of an object or kind having some property *x*. That piece of information has the form of a definite description that we could find *a posteriori* (for example, a paradigmatic sample having the chemical structure XYZ). It could be basically any *a posteriori* truth if it was not for the additional premise that states that piece of information as a description of the "hidden nature" of the paradigm referred to in the ostensive definition.¹¹⁵ The second premise is the one to carry the weight of the essentialist import, it states that being the very same individual (of kind *K*) as something consists, at least in part, in having a certain property.

What is the status of the other premise? Does it rely on some feature of the direct reference theory or else in some uncontroversial claim like the self-identity? Both when we are dealing with a single object and its essential properties and when it comes to natural kinds and what makes two

¹¹³ SALMON, 2005, p.187.

¹¹⁴ SALMON, 2005, p.186.

¹¹⁵ SALMON, 2005, p.188.

samples to be of the same kind, it is a truth of logic the intra-world principle that in any possible world, identical objects (of a certain kind) are made of the same matter or have the same structure. For example, in any possible world, identical tables are originally constructed from the very same matter; or yet, within an arbitrary possible world two samples of water must share the same chemical structure within that world. These intra-world truths are instances of Leibniz's Law, or the Indiscernibility of Identicals.¹¹⁶ But what is needed in the second premise is a cross-world condition for an object to be itself and no other and for two samples being of one and the same kind. The second premise requires a principle that asserts, at a minimum, a necessary condition on the cross-world same-K relation.

On Putnam's (1962, 1973b) as well as Donnellan's (1973, 1974) interpretations they understand the second premise as "the product of scientific discovery, of scientific theories or, perhaps, change in scientific outlook"¹¹⁷. Such an idea leaves small room for understanding the premise as anything but an *a posteriori* truth. Through scientific discoveries, we would have access to the nature of the objects. On the other hand, Kripke leaves room for the *a priori* knowledge when he states that it is through *philosophical analysis* that we can know which statement is necessarily true if true at all.¹¹⁸ Or yet, we could understand such propositions on Casullo's terminology: "the existence of essential properties would entail that there are necessary propositions whose truth value and specific modal status are knowable only *a posteriori*, but it would not entail that there are necessary propositions whose general modal status is knowable only *a posteriori*".¹¹⁹ That is to say - being the general status the necessity or contingency of a proposition and its specific modal status its truth or falsity - Kripke would claim that the truth of such an essential proposition is knowable only *a posteriori* but even before the acknowledgment of its truth value we know whether it is necessary (and also essential) *a priori*.

The role of the *a priori* analysis is shown when Kripke (or anyone else) constrains his considerations about essence to the theoretical properties and some particular qualities. For example, "being constituted by H₂O" and "being the most abundant liquid in our world are both" are both definite descriptions that designate facts uniquely satisfied by the kind water, but only the first one is taken as an essential property of water. It would not follow only from the empirical inquiry of how

¹¹⁶ SALMON, 2005, p.182.

¹¹⁷ DONNELLAN, 1973. Reference in SALMON, 2005, p.165.

¹¹⁸ KRIPKE, 1980, p.109.

¹¹⁹ CASULLO, 1977, p.154.

things are in the actual world that the propositions of scientific content (such as “water is H₂O”, “Gold has atomic number 79”, “cat is mammal”) would be necessary truths. Salmon argues that empirical investigation can base knowledge only of what is the case, but not of what is necessarily the case. For him, the last premise is a purely metaphysical premise, and it is this premise that determines which properties should be considered essential.¹²⁰

Metaphysical Premise

For Salmon, the assumption that there is a structure that determines what it is like to be an individual (or a member of a natural kind) is not enough. It is a *conditio sine qua non* to clarify what this structure is, not only in the actual world but in all possible worlds. So, the premise $P \rightarrow \Box P$ in accordance with the argument in favor of the scientific discoveries as essential properties would have some hidden essentialist import. They must have, in order to justify their rigidity. The additional purely metaphysical clause would be what underlies a theory in defense of what corresponds to “to be of the same class (or species) consists of”, or what corresponds to “what being a specific object consists of”. According to him, without such clause, there is no way to ascertain that the semantical intension of a term coincides with a metaphysical intension of a certain substance. Even using the mechanism to create *a posteriori* truths, the theory would not be able to avoid some kind of metaphysical commitment independent of the direct reference theory.

The notions of ‘consists in’ and ‘being consubstantial with’ are vague, but they seem to suggest some notion of a necessary and sufficient condition for an object to be what it is and for two samples being of the same kind. So, Salmon can be interpreted as standing for the idea of a commitment to the definition of an inner structure of objects that would play the role of a necessary and sufficient condition for that object to be what it is in intraworld and transworld scenarios. Actually, Salmon’s analysis of Kripke’s essentialist theses is that Kripke wants the conclusion of the argument to be that there are some essential properties of objects and kinds and for that reason the notions of ‘consists in’ and ‘being consubstantial with’ cannot presuppose the necessity he wants to state. Hence, the option Kripke has left is that in order to justify a property as necessary, by philosophical analysis we must have concluded that such property is a sufficient condition to be the object or kind (in intra and transworld situations). In other words, Kripke needs to state that if

¹²⁰ SALMON, 2005, p.164.

something is possibly the case, then that is necessarily the case when it comes to essential properties of an object or kind.

Simply put, it would not follow only from the empirical enquiry of how things are in the actual world that the propositions of scientific content (such as water is H₂O, Gold has atomic number 79, cat is mammal) would be necessary truths. Salmon argues that empirical investigation can base knowledge only of what is the case, but not of what is necessarily the case. For him, there is a metaphysical premise that was omitted in Kripke's argument, and it is this premise that determines which properties should be considered essential. Salmon maintains that without the stipulation of which property an object must keep in all possible worlds, the other premises of the kripkean argument do not support its conclusion. So, Salmon can be interpreted as standing for the idea of a commitment to the definition of an inner structure of objects that would play the role of a necessary and sufficient condition for the recognition of that object in intraworld and transworld scenarios. And the reason for that is that Salmon expects this essential property to justify the identity of the object through the possible worlds. Hence, Salmon's characterization is: in order to justify a property as necessary, *by philosophical analysis* we must have concluded that is a sufficient property to recognize the object or kind (in intra and transworld situations)¹²¹.

Sufficiency

Analyzing Salmon's interpretation on a particular case can clarify his proposal. For instance, his reconstruction of the proof on footnote 56 of *Naming and Necessity* (1980), where Kripke develops a sort of a proof that supposedly justifies the necessary link that a table has with its original constituent matter. According to Salmon, Kripke cannot derive any essentialist conclusion like the one intended from his premises. At least not by just counting on the Indiscernibility of Identicals and logical and philosophical premises that do not somehow have already an essentialist import. As Salmon points out, what we can strictly state from the argument sketched as Kripke does is that an object cannot be made from possible coexisting hunks of matter unless they are overlapped.¹²² So, in order to reach the intended general principle, Salmon suggests the following reconstruction of the proof:

P1: For any table x and any hunks of matter y and y' , if it is possible for a table x to be originally constructed entirely from hunk y while hunk y' does

¹²¹ To deeper discussion on the matter see SALMON (1979) and also next section in this dissertation.

¹²² SALMON, 1979, p.710.

not overlap with hunk y , then it is also possible for table x to be originally constructed entirely from hunk y while some other table x' distinct from x is simultaneously originally constructed entirely from hunk y' .¹²³

P2: If it is possible for a table x to originate from a hunk of matter y , then necessarily, any table originating from hunk y is the very table x and no other.¹²⁴

As we can see from this passage, to reach the intended conclusion we need an extra premise, besides the addition of a non-overlapping requirement.¹²⁵ Salmon highlights the fact that x' being made of y' in a possible world does not answer whether x can be made out of y' in spite of being actually originated from y . Hence, to exclude this kind of possibility that would break the necessary link between an object and its origin, he proposes (P2). This presupposition is, of course, an essentialist claim that Salmon believes to be needed as an additional premise in Kripke's proof. In his interpretation, "Kripke's argument uses origin as a (necessarily) sufficient condition for being this very table in order to prove that origin is also a (necessarily) necessary condition".¹²⁶ That is to say, Salmon maintains that without the stipulation of which property an object must keep in all possible worlds, the other premises of the kripkean argument do not support its conclusion.¹²⁷

According to him, the same happens when it comes to identities composed by general terms: there is a metaphysical premise that was omitted in Kripke's argument, and it is this premise that determines which properties should be considered essential. As Donnellan points out¹²⁸, before essential statements can be made about natural kinds there is a previous question we have to address concerning natural kind terms and that is: to be stated as a *kind* they must overcome the paradigmatic sample by means of an intraworld relation of *being an instance of the same K* which is a theoretical relation. If a nondescriptonal general term applies to some things but not others, then there must be *something* that the individuals in its extension have in common. So there must be something in virtue of which the term applies to them but not anything else - a way of justifying its application - even though the term is nondescriptonal.¹²⁹

¹²³ SALMON, 1979, p.708

¹²⁴ SALMON, 1979, p.711.

¹²⁵ "non overlapping hunks of matter, in the sense they can have no parts in common throughout their existence." SALMON, 1979, p.708.

¹²⁶ SALMON, 1979, p.712.

¹²⁷ One should not overlook the fact that Kripke's proof would be a proof not of a general essentialist principle but of a principle applying exclusively to tables, taken one at a time. And, aside from this proof itself, that takes the length of a note (56) in his book (1980), Kripke only introduces the topic of general principles by saying that they are *suggested* by reflection on particular examples. I think that this might be the source of Salmon's concern when he says: "the new theory of reference, insofar as it is a theory of *closed* expressions (proper names, natural-kind terms, indexicals, perhaps referentially used definite descriptions, etc.) and not a theory of free individual variables, is entirely inessential to Kripke's argument [in favor of general principles]" (SALMON, 1979, p.721, fn8.)

¹²⁸ DONNELLAN, 1973, 1974.

¹²⁹ SALMON, 2005, p.164.

Following Donnellan's lead, Salmon maintains that without the stipulation of which property an object must keep - in order to belong to a kind - in all possible worlds, the other premises of the Kripkean argument do not support its conclusion. As he points out:

[T]he ostensive definition of water taken together with the fact that the paradigm sample has the chemical structure H_2O do not by themselves yield the conclusion that it is necessary that water is H_2O , without relying on the additional information that being consubstantial with something consists in having the same chemical composition.¹³⁰

And the answer to the consubstantiality would come from a sufficient condition for two objects to be of the same kind. Therefore, even though these terms are understood as nondescriptive, such condition would play the role of identifying those objects and maintaining the same behavior of those kinds' names. In other words, natural kind terms and mass nouns would work as labels of kinds and the definite descriptions found out by science would work as sufficient condition of identity of these same kinds - since they translate what being of the same kind *K* means.

An apparent mismatch

Salmon would advise us to approach the subject of essentialism by asking about intraworld relations. His central concern is to be able to define what "consubstantiality" would consist of - e.g., when it comes to species, what it means to belong to a particular species. However, at first glance it is difficult to understand how this search for identity within the actual world would fit into Kripke's project. For Kripke, identity is a primitive notion and the relations between an object and its essential properties are not relations of identity.

Salmon's thesis is that the theoretical relation that determines what to be an instance of a kind is would suggest a necessary and sufficient condition for two samples being consubstantial¹³¹. And, even further, this determinacy is an intraworld relation that must become a transworld relation - it determines how things are and not how they must be - but this transition must be justified. The metaphysical premise would contribute to define whether there is anything underneath the theoretical relation that explains why it would be a sufficient condition to consubstantiality and why there is such a thing as a sufficiency condition to being the object (of a kind *K*) that it is.

Because in Kripke's theory the object does not equate to a set of properties, it also would not equate to the more restricted set of its essential properties.¹³² In the light of that, Salmon's

¹³⁰ SALMON, 2005, p.164.

¹³¹ SALMON, 2005, p.178.

¹³² KRIPKE, 1980, p.50.

suggestion might seem inadequate since it interprets Kripke as proposing a sufficient condition for the identity of an object - in descriptive terms. Notwithstanding that acknowledgment, the haecceitism is not incompatible with Salmon's proposal. The key for understanding that is the notion of *supervenience*. Generally speaking, supervenience is understood as a binary relation between properties (or sets of them) and such a relation can be defined as "there can be no 'variation in' the supervenient properties without some 'variation in' the subvenient properties"¹³³. In other words, taking two non-empty sets of properties *A* and *B*, the set of properties *A* supervenes upon set *B* just in case no two things can differ with respect to *A*-properties without also differing with respect to their *B*-properties.

In the specific case of direct reference theory, we could say that the identity of an object - even though it is a primitive concept - supervenes on that object's essential properties. And the reason for that is that a change on the set of essential properties of an object (or as Salmon wants it, a change on the sufficient properties for an object to be what it is) would lead to a change on its identity as all. For instance, in the table-case, identity supervenes on what matter the table is made from. Therefore, on direct reference theory, the fact that theorists do not take identity to be reducible to a set of (essential) properties does not mean that the identity of the object and its properties are not modally connected.

Partial Remarks

A Disanalogy

The sense in which one could say that things could have happened in different ways is merely epistemic¹³⁴, because of the lack of evidence. In advance of empirical research, one only knows that "Hesperus is Phosphorus if and only if one and the same body occupies position *x* in the evening and position *y* in the morning. The *a priori* material equivalence of the two statements, however, does not imply their strict (necessary) equivalence"¹³⁵. Leaving epistemological questions aside, an empirical investigation is required to state the antecedent (the identity Hesperus=Phosphorus) of the conditional known *a priori*. Settling the antecedent according to evidence, we can conclude by *modus ponens* the necessity of the identity as an *a posteriori* truth.¹³⁶

¹³³ CORREIA, 2008, p.1028.

¹³⁴ "the 'might' here is purely 'epistemic' - it merely expresses our present state of ignorance, or uncertainty." (KRIPKE, 1980, p.103)

¹³⁵ KRIPKE, 1971, p.154, note 14.

¹³⁶ KRIPKE, 1971, p.153.

Since in this case the essentialist premise is self-identity - a truth of logic - it may be omitted entirely as a premise of the argument. And we would generate a necessary yet apparently *a posteriori* truth from the direct reference theory without relying on any special essentialist premise. Having fixed the reference of the names and discovered by scientific inquiry that both heavenly bodies are the same planet will do to state the necessary *a posteriori* truth.¹³⁷

That is not exactly paralleled by the propositions that relate an object to its individual essence. As we saw above, the relations between an object and its essential properties are not relations of identity in Kripke's theory. For that reason, the second premise of the mechanism cannot be simply an instance of the self-identity principle. Instead, we have to rely on a metaphysical principle independently motivated in such a way that *a priori philosophical analysis* does not depend strictly on truths of logic. The *a priori philosophical analysis* that we have to go through in such cases is deeply metaphysical and controversial. That being said, these cases still lead to a conclusion that is *a posteriori* to the extent that we still need the scientific discovery to attest the antecedent of the metaphysical premise and to be able to derive its consequent.

The propositions that relate a kind to its essential properties work in a similar fashion. These cases also lead to a conclusion that is *a posteriori* due to relying on scientific discoveries to be stated. Nonetheless, it is the *a priori philosophical analysis* that justifies those as the essential properties of the kinds being deeply metaphysical - and controversial.¹³⁸ So, even using the mechanism to create *a posteriori* truths, the theory would not be able to avoid some kind of metaphysical commitment independent of the direct reference theory since without the *a priori* clause there is no way to ascertain that the semantical intension of a term coincides with a metaphysical intension of a certain substance. That is such that despite the similarities the natural kind term (as well as mass terms) involve additional difficulties. Essential statements concerning sets of objects have yet an evident additional step to be considered. As Donnellan points out¹³⁹, to be stated as a *kind* they must overcome the paradigmatic sample by means of an intraworld relation of *being an instance of the same K* which is a theoretical relation.

¹³⁷ SALMON, 2005, p.192, note 8.

¹³⁸ "the sentence 'Water is H₂O'. This sentence is different in character from the identity statements involving individuals given above in that, while the term 'H₂O' designates the substance water - or perhaps more accurately *pure* water - it seems to be descriptive relative not to (pure) water but to the component substances hydrogen and oxygen ("the compound whose chemical composition is two parts hydrogen and one part oxygen"). The statement involving water is thus less like 'Hesperus is Phosphorus' and more like 'Hesperus is the second planet from the sun'." (SALMON, 2005, p. 81)

¹³⁹ SALMON, 2005, p.164.

Remaining Constraint

It is worth mentioning that understanding the necessary properties of an object or kind as a sufficient condition of the object or kind to be what it is is not without its difficulties. For example, knowing that two animals are mammals is not enough to assert that they are both cats, or that two identical twins are the same person for sharing the same genetic code. Forbes (1986) raises a counterargument himself when considering that “scientists could surely synthesize cells - perhaps half a dozen or so - that [all] fuse to produce the atom-for-atom replica of z as it actually is, which is again a situation in which s and e do not exist”¹⁴⁰. Being z a human zygote that is formed by the fusion of a sperm s and an egg e in the actual world, Forbes considers a possible world in which the metaphysical principle of Origin Essentialism¹⁴¹ is challenged - at least our intuitions are that we could consider Forbes’ possible world as a metaphysical possibility.

Salmon does acknowledge the strength of the table version of the principle of Origin Essentialism that relies on the sufficiency premise that states that “if it is possible that a table x' is originally constructed from z , then necessarily, any table originally constructed from z is the very table x' and no other”. It’s easy to agree with the compossibility premise that says that no table has distinct non overlapping origins in a single possible world but we are inclined to think that different tables could have been made from the same piece of wood. And that inclination challenges the sufficiency of original material matter for an object - in this case, a table - to be what it is. Salmon is aware of that and in order to make it more appealing to our intuitions, he offers a weaker version of the premise that would include the builder, his planning and the table aesthetics: “if it is possible that a table x' is originally constructed from z according to a certain plan P , then necessarily, any table that is originally constructed from z according to P is the very table x' and no other”¹⁴².

Nevertheless, as Robertson (1998) points out, Salmon’s provision is not enough to avoid all the trouble involving such a sufficiency premise. Even if we take into account a still weaker version of the premise, as “if it is possible that a table x' is *the only table* originally constructed from z according to a certain plan P , then necessarily, any table that is *the only table* originally constructed from z according to P is the very table x' and no other”, there would be remaining counterexamples.

¹⁴⁰ FORBES, 1986, p.8.

¹⁴¹ The principle can be understood as: It is not the case “that an organism could develop at one [possible] world u from one collection of propagules and at another v from an entirely distinct collection of propagules, where the two collections both exist simultaneously at u , or more weakly, are simultaneously compossible, i.e., all exist together at the same time at some world.” (FORBES 1986, p.8). See also ROBERTSON, 1998.

¹⁴² SALMON, 1981, p.211.

This version is suggested by Salmon to avoid a ship-of-Theseus type case in which a table A is first built according to a certain plan P, but over the time its parts would be substituted by new material and the original matter reassembled into a table B according to the same plan P. Under those circumstances, tables A and B would be taken as the same table even though they coexist. So, to avoid that, Salmon adds “*the only table*” to the premise. Despite his efforts, Robertson claims, there are remaining problems to be dealt with.

Still, an “almost-table-of-Theseus” case provides a counterexample to the weakest version of the premise.¹⁴³ Since the direct reference theorists engage on defending the Origin Essentialism due to its intuitional appeal - if that is what justifies them to advocate it -, such a principle should be defended in such a way as to be compatible with other metaphysical intuitions we have - not prioritizing one among others unless there is a theoretic justification for such approach. Among the intuitions we have there is one that highlights the fact that it seems plausible to state that a slight variation in the original material constitution of an object - like a table - is possible. Taking that into account, a world that integrates both of these intuitions could look like:

Suppose there is a table, Gary, that is originally constructed from matter m', which has all but a few molecules in common with m. Moreover, Gary is originally constructed in accordance with plan P. At some point in its long life, Gary comes to be constituted of matter that has nothing at all in common with m. (That's not a typo or a "thinko": I do mean m and not m'.) Matter m is gathered together and fashioned into a table, Harry. Moreover Harry is originally constructed in accordance with plan P. This is an "almost-table-of-Theseus" world. Surely it is possible for Harry to be the only table originally made from m according to P: indeed, that's just what Harry is in the world I just described. But, it seems equally possible for Gary to be the only table originally made from m according to P. After all, m differs from m' by only a few molecules.¹⁴⁴

In such a possible world, according to Salmon’s sufficiency premise Harry and Garry would be identified. Apart from directly pointing to the fact that the sufficient condition of Salmon has to be further analyzed and specified, Robertson’s point is that our metaphysical intuitions generally speaking are vague. So, that is a good enough reason to be suspicious about a sufficiency premise such as Salmon’s. And a further question raised by Robertson’s argument is that if the direct reference theorists claim to follow widespread intuition, they should make room for equally plausible intuitions - like the slight different original matter not interfering in one’s identity. Or they should provide us with a metaphysical committed theory to provide reasons for privilege of some intuitions instead of others. The remaining question seems to be whether there is such a thing as a defined way of splitting the properties between necessary and contingent that does not include a sufficiency condition.

¹⁴³ See ROBERTSON, 1998, p.737-8.

¹⁴⁴ ROBERTSON, 1998, p.737.

Chapter 4

Natural Kinds and Natural Kind Terms

As seen above, the direct reference theory has as two of its major icons Putnam (1962, 1973) and Kripke (1972). Both of these authors develop a theory in which identity statements between names as well as theoretical identifications are necessary – in case they are true, of course. According to them, such statements are the result of an identity relation between two terms rigidly designating only one object. Hence, the notion of *rigid designator* plays a core role in their argumentation. Nevertheless, while arguing for their thesis, they take as given the nature of the similarity between common nouns (such as natural kind terms) and proper names. On a closer look, though, there is no obvious way of transposing the definition of rigid designator from singular terms to the common nouns¹⁴⁵. Unless we have a reply to what it means for a common noun to be a rigid designator or at least which is the nature of the similarity between common nouns and proper names, there is no way to state the general mechanism and use it as a tool to understand the necessary *a posteriori* identities involving general terms. Our exercise in this chapter is to consider the specifics of natural kind terms and what they have to say about natural kinds. Soames, Putnam and Salmon will be our main interlocutors in such task.

Definition of Rigidity

The rigidity of proper names is recognized when we add counterfactual situations to the analysis of the truth value of a sentence so we can recognize a *linguistic phenomenon*, that names refer to the same object in every counterfactual situation considered - in which the object exists. In other words, in the case of a singular term, the object designated by it with respect to a world is the extension of the term at that world and saying that the name is rigid entails that it has the same extension at every possible world.¹⁴⁶ However, when it comes to evaluating the rigidity of common nouns it is not that simple. Common nouns are general terms that can have more than one instance in the world and those instances - therefore, the extension of the term - may vary according to the

¹⁴⁵ "However, there is a difficulty here that has not been widely appreciated. Kripke gives no separate definition of what it means to say that a natural kind term is rigid; nor does he provide distinct arguments to show that they are rigid." (SOAMES, 2002, p.245)

¹⁴⁶ P is rigid only if P has the same extension at any world in which it has a non-null extension.

possible world considered. For instance, if the term ‘tiger’ designates the class of actual tigers, it does not rigidly designate that class of individuals because we can think of possible worlds in which the population of tigers is bigger or smaller than the actual one - though we still say there are tigers in these counterfactual worlds. Therefore a definition in terms of extensionality is not successful in pointing to a rigidity on general terms like it does in the case of singular terms.

Another attempt of reconciliation is to try a definition in terms of intensionality. A semantical intension is understood as a function that assigns to any possible world the extension of the term with respect to that world¹⁴⁷. It is important to highlight that the attempt of a definition in terms of intension drastically restricts the sorts of entities that can be designated by a general term.¹⁴⁸ The reason for that is that the semantical function must relate to a metaphysical intension a.k.a. an abstract universal k that works as a function that assigns to any possible world the class of instances of k in that world. So, we are restricted to look for it among properties, kinds, categories, states and the like. Nevertheless, despite the restriction, the definition is still not successful. In this case, the distinction between designation and rigid designation disappears completely¹⁴⁹. For instance, the natural kind term ‘tiger’ would keep track of the same intension in all counterfactual situations considered - it will always pick out the tigers from each world. But the same phenomenon will be the case when we consider a nonnatural kind as ‘*Member of a Species that Serves as Mascot for Princeton University*’, all counterfactual situations considered, the phrase will keep track of the intension and, consequently, be linked to all individuals that are members of a Species that Serves as Mascot for Princeton University in each possible world.

The definition of rigidity for common nouns are far from obvious. Before going any further on the tentatives, we will try to state a common ground, similarities and dissimilarities between common nouns and proper names. As Soames points out, the proposed parallel behavior of names and general terms suggests that our definition follows certain demands: “(i) it must be a natural extension of the notion of rigidity that has been defined for singular term (ii) it must have the consequence that nearly all natural kind predicates are rigid, whereas many other predicates are

¹⁴⁷ P is rigid iff there is a unique property which it stands for that determines its extension at each possible world.

¹⁴⁸ SALMON, 2005, p.46.

¹⁴⁹ “for any predicate F, and any world w, the extension of F with respect to w is the set of things that have, in w, property expressed by *being an F*. But there is no point in defining a notion of rigidity for predicates according to which all predicates turn out, trivially, to be rigid.” (SOAMES, 2002, p.251)

nonrigid; and (iii) it must play a role in explaining the necessity of true “theoretical identification sentences”¹⁵⁰. We are going to use those demands as guidelines on the next sections.

Common Nouns and Proper Names

The only positive account that Kripke gives us on how the extension of natural kind terms is semantically determined is the way we fix its reference and the fact that they are nondescriptional, just like proper names. The term is first associated by speakers with a kind—either ostensively or *via* description. In the ostensive case, speakers associate the term with a certain sample of individuals, which they presume to be instances of a single natural kind. In the descriptive case, speakers employ a description that picks out a unique kind, often by appeal to contingent properties of a sample. Once the kind *K* has been determined, either ostensively or descriptively, it is understood that for any world *w* the extension of the predicate at *w* is to be the set of instances of *K* at *w*. And a causal chain¹⁵¹ takes care of keeping track of the same kind after the reference has been fixed. On the other hand, the nondescriptuality comes from the use of the terms on thought experiments - like in Putnam’s Twin Earth - and realizing that the descriptive content initially linked to the sample underdetermines the referent and can come across as a description satisfied by another kind according to the counterfactual situation considered.¹⁵²

Opposing to proper names, the first noticeable characteristic that is particular to general terms is that they are essentially predicative. On Salmon’s words, “grammatically, a general term (in the singular) cannot ordinarily serve as the subject of a sentence, and one is prohibited from existentially generalizing on occurrences of the term in sentences”.¹⁵³ Also, because of their characteristic of normally referring to more than one individual in a possible world, they can be combined with quantifiers just like properties would. Apart from the extra difficulty of falling into a variety of syntactic and semantic categories.

¹⁵⁰ SOAMES, 2002, p.263.

¹⁵¹ “Usually, when a proper name is passed from link to link, the way the reference of the name is fixed is of little importance to us. It matters not at all that different speakers may fix the reference of the name in different ways, provided that they give it the same referent. The situation is probably not very different for species names, though the temptation to think that the metallurgist has a different concept of gold from the man who has never seen any may be somewhat greater.” (KRIPKE, 1980, p.139)

¹⁵² “All of this goes to show (i) that natural kind predicates are not synonymous with descriptive predicates that speakers associate with them, and (ii) that the extension of a natural kind predicate at a world is not semantically determined to be the set of objects that satisfy, at that world, the descriptive characteristics we (actual-world) speakers associate with the predicate.” (SOAMES, 2002, p.266)

¹⁵³ SALMON, 2005, p.42.

Natural Kind Terms as Names of Abstrata

In *Beyond Rigidity*, Soames presents two problems that a theory about natural kind terms should respond to: the meaning problem and the depth problem¹⁵⁴- both related to accepting the primary meaning of common nouns as names of abstrata. The meaning problem is raised when we assume that properties are the meanings of such terms. According to Soames, if that is the case then different terms should have different meanings since ‘water’ would mean ‘being a sample of water’ and ‘H₂O’ would mean ‘*is a drop of a substance molecules of which contain two hydrogen atoms and one oxygen atom*’. On the other hand, the depth problem amounts to the fact that there is no obvious reason why samples of an object must be described by some microscopical properties instead of macroscopic ones. For instance, as a matter of fact, ‘water’ can be associated with the property of molecular structure as well as the subatomic composition.¹⁵⁵

Soames takes both of these problems as indications that natural kinds should not be identified with properties after all. Instead, his proposal is that we understand natural kinds as intensions. So, the intensions - functions from worlds to extensions - are claimed to be the meaning of natural kinds, even though the intensions are themselves determined by properties.¹⁵⁶ That is such that “semantically compound natural kind predicate, such as *is a drop of a substance molecules of which contain two hydrogen atoms and one oxygen atom*, has a meaning that is not identical with the natural kind (i.e., intension) it designates, but rather is a property that determines that intension”¹⁵⁷. Nevertheless, Soames’ attempt of solving the problems - of meaning and depth - ends up committing him to drawing a picture in terms of speaker’s disposition¹⁵⁸. So, both the speaker’s intention and her dispositions to use a term in certain ways and not in others play a role in determining the type of kind associated with the term. According to Soames, “since elements in the sample are often members of natural kinds of several different types, something about the introduction of the predicate, and the way speakers come to use it, must determine the specific type of kind under which the samples are to be subsumed”.¹⁵⁹

¹⁵⁴ SOAMES, 2002, p. 280-ss.

¹⁵⁵ “However, if, as I have been assuming, properties are the meanings of predicates, then the properties expressed by these different predicates must themselves be different. Thus, one cannot identify the kind water with all of them. Nor does there seem to be any reason to identify it with any one of them. Rather, the kind should be something that is equally determined by them all.” (SOAMES, 2002, p. 285)

¹⁵⁶ SOAMES, 2002, p.281.

¹⁵⁷ SOAMES, 2002, p.279.

¹⁵⁸ SOAMES, 2002, p.286.

¹⁵⁹ SOAMES, 2002, p.285.

The reason for that is that instances of the sample typically are instances of several natural kinds of different types. And only the speakers' use of the term would distinguish among these types. According to Soames, "it may be intentions with various contents, or dispositions of various sorts".¹⁶⁰ Therefore, on his account, the semantic presuppositions associated with natural kind terms must include the claim that the individuals in the sample are members of a single natural kind of a given type, and the claim that both sides of a theoretical identity designate kinds of the same type.¹⁶¹ For instance, the term 'water' would be introduced with the intention that it is to be a substance term that applies to everything that shares the same physical constitution as the sample¹⁶² - having as a result that theoretical identities would actually be necessary a priori truth since in order to state the identity the speaker must be aware that both terms refer to the same kind.

Stereotypes

Among the direct reference theorists Putnam is the one to develop in more details the idea that natural kind terms would have another aspect of meaning besides the propositional content - i.e, the referent. He instigates the discussion coining the notion of a stereotype. The stereotype is defined in terms of a cluster of properties - a.k.a. a descriptive content - usually associated with the term by the speakers. Such that, for a competent speaker, the use of a natural kind term would convey the associated stereotype as a consequence of the speaker being part of that language community. As Putnam states it, the stereotype is "the associated idea of the characteristic of a normal member of the kind".¹⁶³ But this set of characteristics is not, in general, enough to pick out the kind intended. As previously seen, Putnam claims that the psychological state of the speaker (the rules of use of a term) underdetermines the extension of the word.¹⁶⁴ So, he advises us "to drop the word "meaning", which is here extremely misleading: there is no one set of facts which has to be conveyed to convey the normal use of a word".¹⁶⁵

The characteristics do not have to uniquely identify the referent, neither do they have to actually be satisfied by the referent. According to Putnam, "I can refer to a natural kind by a term

¹⁶⁰ SOAMES, 2002, p.286.

¹⁶¹ SOAMES, 2002, p.269.

¹⁶² "Note that if this is right, then the predicates *is a drop of water* and *is a drop of a substance molecules of which contain two hydrogen atoms and one oxygen atom* are both understood as designating physically constitutive kinds, which means that they are understood as designating kinds of the same type." (SOAMES, 2002, p.275)

¹⁶³ PUTNAM, 1970, p.198.

¹⁶⁴ it is logically possible (although empirically unlikely, perhaps) that a species unrelated to the one in question might be indistinguishable in appearance.

¹⁶⁵ PUTNAM, 1970, p.199.

which is “loaded” with a theory which is known not to be any longer true of that natural kind, just because it will be clear to everyone that what I intend is to refer to that kind, and not to assert the theory”.¹⁶⁶ In other words, realizing the initial characterization fails to match the referent, it is not a matter of changing the meaning of the word. What guarantees that the term keeps track of the same kind is the speaker’s intension, “one must also convey the extension, one must indicate which kind the stereotype is supposed to “fit”.¹⁶⁷ Or yet, in other words, “at least there is a natural kind about which we have a false theory, and that is why we can still apply the term”.¹⁶⁸

Nonetheless, the intension for Putnam cannot be defined in descriptive terms either. Instead, it is defined in terms of an *indexical component* on the use of natural kind terms. When first using a term like that, in the baptism, either in case of using a definite description or a sample, the speaker contributes to the content of the term through a demonstrative. It is this demonstration of what we are talking about, what kind, that is the responsible for keeping track of the referent no matter the counterfactual circumstances considered. No descriptive content will do the trick, in Putnam’s view “the problem in semantic theory is to get away from the picture of the meaning of a word as something like a list of concepts; not to formalize that misguided picture”.¹⁶⁹ So, “the mistake is in trying to represent the complex behavior of a natural kind word in something as simple as an analytic definition”.¹⁷⁰ Hence, within Putnam’s theory, the clarification of what type of kind we are talking about is not determined descriptively but by pointing to the respective kind through a demonstration. And it would not be out of reason to say that Putnam’s stereotype notion shows that our usage of such terms presupposes the abstract kind.

Comparison to the Attributive Use of Definite Descriptions

A way to test whether natural kind terms function just like names or whether they contain a descriptive semantic content is through a comparison with Donnellan’s analysis of definite descriptions. According to Donnellan, there are two ways a definite description can be used, the attributive and the referential use. The attributive use can also be understood as the “proper use” of a definite description which means that when the speaker uses such an expression she expects to denote that which - whatever or whoever - fits the description. On the other hand, the referential use

¹⁶⁶ PUTNAM, 1970, pp.196-7.

¹⁶⁷ PUTNAM, 1970, p.198.

¹⁶⁸ PUTNAM, 1970, p.191.

¹⁶⁹ PUTNAM, 1970, p.195.

¹⁷⁰ PUTNAM, 1970, p.192.

of a definite description is when the speaker's use intend to point to a specific object and she does so whether the definite description used is satisfied by that object or not. The distinction of uses can be grasped by the classic example of "the guy drinking a Martini". In one case, the speaker sees a guy holding a glass of Martini - and presupposes that what he is drinking is a Martini - and in an attempt to refer to that one guy says to her friend "who is the guy drinking a Martini?". And even if the guy was drinking water out of a Martini glass, her interlocutor would still be able to know who she is referring to and provide her with an answer to the question. In another case, the party has happened already and someone hear a gossip about a guy who was drinking a Martini at the party, the speaker did not come to party and only hears the gossip. So, in order to catch up, she asks a friend - who did go to the party - "who is the guy who drank Martini?". If there was no one drinking Martinis at the party, her friend would not know who she intends to refer to and could not provide her with an answer.¹⁷¹

The two uses distinguish how the intended demonstrated comes into the picture. In one case the *demonstratum* is the intended *demonstratum*, in the other one, the *demonstratum* is the factual and actual thing demontraded by the expression - the one that fits the description. Shall we use this distinctions for our purposes now. If natural kind terms are descriptive, then they must have an attributive use. That is to say, the referent of the term would depend on its descriptive content in such a way that changing - or even specifying further - the description would imply to change the meaning of the word. That does not seem to be the case when it comes to natural kind terms. Kripke explicitly defends that further scientific investigation and eventual corrections on a kind's common characteristics do not imply a change in the meaning of the word. Apparently, the direct reference theories conform to Putnam's notion of stereotype better than to Soames proposal of descriptonal content playing a role in the meaning of natural kind terms. More to the point, the natural kind terms as understood by the direct reference theorists seem to work in a similar manner to the referential use of definite descriptions - that work just like names and demonstrations, according to Donnellan.

¹⁷¹ See the original example on DONNELLAN, 1966, p.287.

Partial Remarks

Soames' Deviations from the Canon

According to Soames, the nondescriptuality and the way we fix the reference of common nouns would be enough to equate their behavior to that of proper names. In his interpretation, “the doctrine that names are rigid designators may be viewed as a corollary of the more central thesis that they are nondescriptual, together with an account of how their reference is fixed in the actual world”.¹⁷² That is to say, since names are nondescriptual there is no guarantee that the reference of a name might change from world to world - like it does with definite descriptions. Once the referent is fixed, there is no provision for it to vary from world to world.¹⁷³ So, we know in advance that those terms (names) are rigid designators and the intention would define what it is a designator of.

Within Soames proposal, the predicative use of these terms has priority. And the nominal form does not seem conceptually fundamental but rather complex. In his words,

“To the extent that we understand these abstract kinds, it is because we already understand what it is for individuals to be dogs or mammals, and we take the kinds to be what any possible individual must be an instance of in order to be a dog or a mammal. If this is right, then the nominal use of these natural kind terms is understood in terms of the predicative use, and not vice versa.” (SOAMES, *Beyond Rigidity*, p.247)

The passage comments on instances of common nouns as predicates to raise the intuition that we seem to understand the predicate prior to understanding any associated **singular term**. Hence, “it should be possible to state the semantic properties of these predicates independently, without having to derive them from the semantic properties of related **singular terms**, which are often psychologically and linguistically more complex”.¹⁷⁴

On Soames' view, then, theoretical identities are not identities strictly speaking. They are conditionals and biconditionals that link the intensions of the terms. This characterization seems, on a first glance, to be aligned with Salmon's interpretation of the general mechanism that understands these identities in terms of necessary and sufficient conditions to be the object or kind it is. Nevertheless, Soames' approach gives the speaker's intension and disposition a prominent role in explaining the phenomenon of natural kind terms. As a consequence, within his view, certain theoretical identity sentences are linguistically guaranteed (to be necessary if true) - a.k.a. *a priori*. That is to say, “the claim that they are necessary follows from the claim that they are true together

¹⁷² SOAMES, 2002, p.264.

¹⁷³ SOAMES, 2002, p.264.

¹⁷⁴ SOAMES, 2002, pp.249-50.

with straightforward claims about the semantics of the expressions that make them up".¹⁷⁵ In this sense, it is a characteristic of the terms themselves and the rules of use of language that determine the behavior of natural kind terms. So, it is noticeable that Soames seems to be sympathetic to the traditional theory of cognition and understanding while assuming that our epistemic access to an object or kind should be somehow justified within semantics.¹⁷⁶

Response to the Two Problems Raised by Soames

If we accept the primary meaning of common nouns as names of abstracta, we should address the two problems raised by Soames, the meaning problem and the depth problem. Within Soames reasoning - because he wants the meaning of a word to be transparent to the speaker -, there is no room for two terms with different meanings to be identified. According to him, if the meanings of natural kinds are abstracta, we would have to assume that their meanings are properties and 'being a sample of water' and '*is a drop of a substance molecules of which contain two hydrogen atoms and one oxygen atom*' would be the meaning of water and H₂O. Hence, such terms would not provide us with a true identity sentence. However, on Putnam's approach, the transparency of the propositional content is not taken for granted. On the contrary, just like in Kripke's, there is a difference between epistemic access to the object and the semantic content as well as the distinction between being a competent user of a language and having complete access to the object she is referring to. The indexical component is responsible for the speaker to point an object without necessarily acknowledging the object she is referring to.

On the other hand, the depth problem amounts to the fact that there is no obvious reason why samples of an object must be described by some microscopical properties instead of macroscopical ones - or the other way around. In other words, how we would pick one specific class or type of property to describe a phenomena/thing/nature. The demonstrative component once again comes handy to answer the problem. Since the reference is fixed through an indexical, no such descriptive content plays a role on the meaning of a natural kind term. Hence, as such, no definite description need to be chosen among other. The only descriptive content is the one Putnam defined as the stereotype.

¹⁷⁵ SOAMES, 2002, p.271.

¹⁷⁶ "In addition to speakers' explicit intentions, their dispositions to use a term in certain ways may have helped to determine the type of kind associated with it. Since elements in the sample are often members of natural kinds of several different types, something about the introduction of the predicate, and **the way speakers come to use it, must determine the specific type of kind** under which the samples are to be subsumed." [my emphasis] (SOAMES, 2002, p. 285)

A Hidden Metaphysical Premise

The proposal of Kripke and Putnam - according to my interpretation - are more prone than Soames' to distinguish and separate the metaphysical claims from semantics. Putnam with his notion of stereotype (brings us another perspective and) emphasizes that "the extension of our terms depends upon the actual nature of the particular things that serve as paradigms, and this actual nature is not, in general, fully known to the speaker".¹⁷⁷ The link between the speaker's apprehension of language and successful use of words and the propositional content of the sentence she uttered is not direct or straightforward.¹⁷⁸ And it is possible to successfully use a word in a sentence without the acknowledgment of what you are referring to, e.g., someone could talk about Phosphorus without acknowledging she is referring to Venus. But how could the speaker's intension and disposition have a prominent role if in the direct reference theory there is room for the speaker to be unaware of facts or simply mistaken? The account which includes an indexical component to natural kind terms seems promising because it maintains some of the central characteristics of direct reference theory: the semantic externalism, the metaphysical neutrality and a way to explain mistakes and errors that might happen in the use of a language - while also keeping the interpretation of natural kind terms as rigid designators and the characteristic analysis of theoretical identities as necessary *a posteriori* truths.

Putnam's approach also involves the intention of the speaker. However, on his account, this aspect of the meaning of a word is translated in terms of an indexical component - a demonstrative. That is to say, just like in the case of singular terms "we shall take the component of the proposition which corresponds to the demonstrative to be the individual demonstrated. Thus the varying *forms* which such a demonstration can take are not reflected in the content of the utterance (i.e., the proposition)".¹⁷⁹ The demonstrative component is responsible for providing the semantical rule that, once the circumstances are fixed, the referent of such term is fixed to be the actual referent. So, just like names, instead of being understood as constant functions over possible worlds, they should be seen as independent from the circumstances.¹⁸⁰ The reason for that is that "the propositional

¹⁷⁷ PUTNAM, 1973b, p.711.

¹⁷⁸ Here we defend the reason for non-transparency is the same as the one proposed for demonstratives by Kaplan: "Erroneous beliefs may lead a speaker to put on a demonstration which does not demonstrate what he thinks it does, with the result that he will be under a misapprehension as to *what* he has said. Utterances of identity sentences containing one or more demonstratives may express necessary propositions, though neither the speaker nor his auditors are aware of it. In fact, we get extreme cases in which linguistic competence is simply insufficient to completely determine the content of what is said." (KAPLAN, 1978, p.231)

¹⁷⁹ KAPLAN, 1978, p.230.

¹⁸⁰ "The possible world semantics is misleading because it leads you to believe the distinction between names and definite descriptions is that the first ones are a *constant* function when it is actually *independent* of the circumstance" (KAPLAN, 1989, p.497)

component need not choose its *designatum* from those offered by a passing circumstance; it has already secured its *designatum* before the encounter with the circumstance”¹⁸¹. Hence, the parallel proposed by Kripke can be maintained since natural kind terms could be interpreted like proper names are: “I might simply resolve to use them [names] demonstratively (i.e., as demonstrating the individual whom they are a name *of*, in the nomenclature of an earlier paper (Kaplan, 1968))”¹⁸²

Salmon (2005) notices that whether we take natural kind terms as descriptive or non-descriptive - or as primarily predicatives or names of abstract kinds, we cannot avoid a metaphysical premise such as ‘being an instance of the same K-kind as something consists, at least in part, in having the same ‘ ϕ -property that the given thing has’.¹⁸³ Even through Putnam’s perspective, calling something by a natural kind term indicates that it probably fits a certain cluster of characteristics known by the folk and - even if it does not - it is supposed to have some sort of “essential nature” which it shares with other members of that natural kind. The difference would be that the essential nature of a kind would not be accounted for within semantics as Soames proposes. It would suggest there is an essential nature and the existence of abstracta - aside from properties themselves - nonetheless. So, one way or another there is an unavoidable metaphysical commitment in order to explain the rigidity of natural kind terms.

Beyond the challenges and developments here exposed, Soames presents yet an extra layer in the discussion of the rigidity of natural kind terms, demanding distinct treatment and justification for their rigidity when they are subject and predicate of a sentence.¹⁸⁴ Even if we take natural kind terms as names of abstracta when they are the subject of a proposition, things are different when the term is used as a predicate of an individual object. In such case, it is undeniable that it raises the intuition that the natural kind term works as a set of individuals. Hence, the reason why they should be taken as rigid terms when used in the predicative position cannot be other than metaphysical. In other words, Soames makes explicit the distinction between the term designating the same kind with respect to all worlds and the claim that if the predicate applies to something in one world it does so in all worlds in which that thing exists.

¹⁸¹ KAPLAN, 1989, p.496-7.

¹⁸² KAPLAN, 1978, p.232-3

¹⁸³ “If a nondescriptive general term applies to some things but not others, then there must be *something* that the individuals in its extension have in common, by virtue of which the term applies to them but not anything else, even though the term is nondescriptive. The objects in its extension must be *of the same kind*, and the term must be a nondescriptive label for things *of that kind*.” (SALMON, 2005, pp.44-5)

¹⁸⁴ “When one looks at the passage as a whole, it is hard to avoid feeling tempted to run two things together: (i) the rigidity of ‘pain’ when used as an abstract singular term for a certain abstract kind of thing and (ii) the essentiality of ‘pain’ when used as a predicate of individual pains. One may get the impression from the passage that these are the same thing, or at any rate that they inevitably go together. This, of course, is not so in the general case.” (SOAMES, 2002, p. 253)

Chapter 5

The Nature of Objects as *Source* of Modal Assertions

Fine advocates the a priori philosophical analysis of the object in order to state its essential properties just like Salmon does. However, Fine's approach grounds the modal notions - and, therefore, the necessary properties of the object - on the definitional notion of an object (or kind). The reason for that is his thesis that saying that two terms are synonymous does give us a grasp neither of the meaning of the terms involved nor of the truth value of such synonymy. So, the irreducibility of objects and kinds - a.k.a. their haecceities - is not enough on Fine's view. According to him, the answer to what essential properties of an object or kind are should come from the nature of these objects themselves. The nature of objects should be analyzable in terms of their properties and that should work as a source of statements related to objects' essence. Our goal is to compare Fine's proposal to the strictly modal characterization and delve into his criticisms and how much of it we can apply on the direct reference theorists characterization of essence.

Necessity and Essence

The concept of essence is understood among the direct reference theorists - like in a majority of their contemporary philosophers - in modal terms. In such interpretation, the question about essential properties is directly connected to the question of whether there is modality *de re*. That is to say, the question about essential properties depends on the possibility of assigning necessary and contingent properties directly to objects. Fine's concern is that this view has influenced our understanding of metaphysics as a whole. It could give us the impression that metaphysics is part of a broader study of modality *de re*. And, consequently, the subject would be understood as a part of applied modal logic.¹⁸⁵

Fine agrees that all essential properties of an object are necessary properties of that object. However, he disagrees that the modal considerations we can make are sufficient criteria to determine which properties are essential to an object. So, Fine challenges the definition "an object

¹⁸⁵ FINE, 1994, p.3.

has a property essentially just in case it is necessary that the object has the property [if it is identical to that very object/ if it exists]” by arguing against the notion of essence being extensionally equivalent to a modal notion.¹⁸⁶ Through counter examples, he states the fact that not all metaphysical necessities are contained in the essence of a particular object - i.e., essence is not reducible to metaphysical necessity. Consider Socrates and the singleton-set whose sole element is Socrates, namely {Socrates}. Standard views on modal set-theory agree that: (a) Necessarily, if Socrates exists, Socrates belongs to {Socrates}. Granted that (b) Necessarily, the singleton exists if Socrates exists. Then, (c) Necessarily, Socrates belongs to singleton Socrates if both Socrates and the singleton exist. If, in addition, we accept the modal account of essence, it follows: (d) Socrates essentially belongs to singleton Socrates (if he exists). It is not critical to the example that it appeals to an abstract entity¹⁸⁷ or that we accept the definition on modal terms that is conditional to existence¹⁸⁸ - even though there is a problem particular to the existential interpretation. Consider Socrates again. Generally accepted principle is: (a) It is necessarily the case that he exists if he exists. However, if we accept the modal account of essence, it entails: (b) Socrates essentially exists.¹⁸⁹

Fine’s goal is to show that we can agree on the necessary properties and still deny the essentialist ones.¹⁹⁰ All that is necessary is that we recognize the intelligibility of a position which makes such claims as the ones given in his examples. For, as he says, “any reasonable account of essence should not be biased towards one metaphysical view rather than the other. It should not settle, as a matter of definition, any issue which we are inclined to regard as a matter of substance”.¹⁹¹ The core of his examples is that there is an asymmetry on the concept of essence that cannot be translated into the modal notion. If all necessary properties of an object are essential to that object, nothing would prevent other necessary properties from also being included in its essence. For instance, consider Socrates and the truth of mathematics that there are infinitely many

¹⁸⁶ “My objection to the modal accounts will be to the sufficiency of the proposed criterion, not to its necessity. I accept that if an object essentially has a certain property then it is necessary that it has the property (or has the property if it exist); but I reject the converse” (FINE, 1994, p.4.).

¹⁸⁷ There is also the argument against essential distinctness. Consider Socrates and the Eiffel Tower. A generally accepted principle is: (a) Necessarily, if Socrates exists, Socrates is distinct from the Eiffel Tower. However, if we accept the modal account of essence, it entails: (b) Socrates is essentially distinct from the Eiffel Tower, if he exists. See FINE, 1994, p.5.

¹⁸⁸ The same example of Socrates and singleton Socrates could be proposed for the number 2 and {2}, necessary existents. See FINE, 1994, p.5.

¹⁸⁹ See FINE, 1994, p.6.

¹⁹⁰ “It seems to be possible to agree on all of the modal facts and yet disagree on the essentialist facts. But if any modal criterion of essence were correct, such a situation would be impossible.” (FINE, 1994 p.8)

¹⁹¹ FINE, 1994, p.5.

prime numbers, then (a) Necessarily, there are infinitely many prime numbers. Also, by the nature of (material) conditionals: (b) Necessarily, there are infinitely many prime numbers, if Socrates exists. So, if we accept the modal account of essence, it entails: (c) Socrates is essentially such that (if Socrates exists) there are infinitely many prime numbers. The required notion of relevance to restrict which necessary properties are included in the essence of an object would already presuppose the concept of essence in question. In Fine's words, "there is nothing in the "logic" of the situation to justify an asymmetric judgement of relevance; the difference lies entirely in the nature of the objects in question".¹⁹²

Hence, when it comes to essential properties, we should take into consideration not only the logical status (the necessity or contingency) of a property assigned to an object, but also the source that provides such assertions and ensures their truth values. As Fine says, "if certain objects are essentially related then it is necessarily true that the objects are so related. However, the resulting necessary truth is not necessary *simpliciter*. For it is true in virtue of the identity of the objects in question".¹⁹³ Fine's attempt is to take the burden from logic and address that the answers about essence should come from the nature of the object itself - from metaphysics and no other field (like logic or language). The necessity of essential properties should be stated for no other reason than a metaphysical principle.¹⁹⁴

Objects as Source of True Propositions

Fine understands the question about how names refer to objects and the problem of the identity and the essence of these objects as distinct issues. On one hand, there is "the question of whether the mechanism of reference requires a descriptive intermediary, of whether one can refer to anything independently of how it is described".¹⁹⁵ And, on the other hand, "there is the question of whether the mechanism of necessary attribution requires a descriptive intermediary, of whether one can attribute a necessary property to an object independently of how it is described"¹⁹⁶. And when it

¹⁹² FINE, 1994, p.7.

¹⁹³ FINE, 1994, p.7.

¹⁹⁴ "It is important to appreciate that the problem cases here do not simply arise from the requirement that the essential properties of an object be closed under logical consequence. For even with this requirement in force, we would not want to say that it is essential to Socrates that the various necessary truths (as opposed to logical truths) be the case. Thus the problem is not an instance of the familiar problem of "logical omniscience"." (FINE, 1994, p.7)

¹⁹⁵ FINE, 2005, p.29.

¹⁹⁶ FINE, 2005, p.30.

comes to the second issue, Fine disclaims the account of modal considerations as sufficient criteria in order to determine which are the essential properties of an object and, by doing so, focuses on the nature of objects. According to him, the notion of essence depends on the notion of an object having properties *by its own nature*, without this being previously linked with any specific description.¹⁹⁷

Hence, Fine's approach analyzes the nature of objects as *source* of modal assertions. As he says, "each object, or selection of objects, makes its own contribution to the totality of necessary truths; and one can hardly expect to determine from the totality itself what the different contributions were".¹⁹⁸ So, instead of viewing essence as a special case of metaphysical necessity, his view advocates that metaphysical necessities are special cases of essence.¹⁹⁹ That is such that "the metaphysically necessary truths can then be identified with the propositions which are true in virtue of the nature of all objects whatever".²⁰⁰ In other words, the truth of metaphysically necessary propositions would have their source in the objects which are the subject of the essentialist claims considered.

The direct reference theorists' answer to what an object is is given in terms of its haecceities - which is unanalyzable - and their understanding of the qualifying phrase "if the object is to be the object that it is" is either vacuous on the categorical account or too strong on the conditional account over existence.²⁰¹ Contra such proposal, Fine addresses such issue reclaiming the interpretation of essence as real definitions of objects - in parallel to the definition of words²⁰². So, in his interpretation, the qualifying phrase would consist in "if it is to be the (object) that it is [concept]". According to Fine, the notion of essence cannot be understood in fundamentally different terms. But, still, his approach to the matter allows him to deal with different standards of ontological dependence and captures subtleties that are not recognizable through modal logic alone. This approach has the potential of deviating from an analysis in terms of sufficient conditions for identification. The reason for it is that his approach could be enough to the denial of any interpretation in absolute terms - without which the notion of sufficient condition misses its initial

¹⁹⁷ FINE, 2005, p.22-23.

¹⁹⁸ FINE, 1994, p.9.

¹⁹⁹ "Thus each class of objects is taken to give rise to its own modal operator, its own "sphere" of necessity; and it is the task of the logic of essence to lay down the laws which govern each of these spheres and the way they interact" (FINE, 1995a, p.242).

²⁰⁰ FINE, 1994, p.9.

²⁰¹ "for whatever property we take the phrase to attribute to the object must be an essential property of that object" (FINE, 1994, p.6).

²⁰² "On the one hand [in opposition to the modal notion], essence as been conceived on the model of definition. It has been supposed that the notion of definition has application to both words and objects - that just as we may define a word, or say what it means, so we may define an object, or say what it is" (FINE, 1994, p.2).

sense. By doing so, and focussing on the nature of the objects, he can support the idea of giving reasons as to why we take some properties as necessary instead of others.

Definitional Account

So, Fine stands for the idea of *real definition* of objects. That is the way through which he can justify and explain the truth of essential propositions. In other words, giving a real definition we are provided with the essence of an object, i.e., with the set of propositions that are true in virtue of the object's nature. Therefore, the nature of objects would precede the necessary propositions and properties that we identify through thought experiments. According to Fine, then, there is no such thing as to discover the essence of an object empirically - through scientific enquiry. On the contrary, metaphysics is a purely *a priori* subject.

On his approach, Fine explains essence and its relation to necessity in comparison to the quest of meaning through the notion of analyticity. As he says, “the study of semantics is no more exhausted by the claims of analyticity than is the metaphysics of identity exhausted by the claims of necessity”.²⁰³ Often, an analytic truth is understood as a sentence that is true in virtue of the meaning of terms. In such a way that, sentences that are true in virtue of the meaning of terms are taken as logical consequences of the definitions of the terms involved. This reductionist view exhibits similar problems to those acknowledged by Fine in the reductionist view of essential properties as the necessary properties of the object. For instance, any arbitrary analytic truth A is a logical consequence of an analytic sentence P and hence presumably also true in virtue of the meaning of P.²⁰⁴ And that shows that it is possible to agree on the facts of analyticity and yet disagree on the facts of meaning, since we have the intuition that not every analytic truth can be derived from a sentence P which involves specific terms and strict vocabulary.

In a similar manner to his metaphysical approach, he suggests that “these difficulties are avoided if we require the definitional truths which figure in the account of analyticity to be true in virtue of the meanings of their defined content”.²⁰⁵ Granted the intelligibility of the relativized form of analyticity, Fine counts on that notion to provide us with an explanation of the truth of analytic

²⁰³ FINE, 1994, p.12.

²⁰⁴ FINE, 1994, p.11.

²⁰⁵ FINE, 1994, pp.12-3.

sentences - just like the essence of objects would be the source of necessary propositions. His proposal is that “the account of analyticity to be true in virtue of the meaning of their defined terms. For the account is then as about as direct as it could be; and real content is given to the idea of analysis”.²⁰⁶ Hence, those are the terms in which Fine draws his comparison, while the attempt to define a term must have a specification which makes it clear *what the meaning is*, the attempt to define an object must have a specification which makes it clear *what the object is*. Thus, “the activities of specifying the meaning of a word and of stating what an object is are essentially the same [a.k.a., giving an essence if not of a word’s meaning, of an object itself]; and hence each of them has an equal right to be regarded as a form of definition”.²⁰⁷

Ontological Dependence

The direct reference theorists would reduce the essential properties of an object (or kind) to those that it must (i.e., necessarily) have in order to exist. By challenging such a position, Fine is challenging the idea that “essential dependence *just is* modal requirement for existence”²⁰⁸. Even though Fine accepts that essential dependence leads to modal requirement for existence, he denies the converse with his counter examples. Furthermore, Fine’s proposal main intent is to show that if we are willing to give up on the modal/existential account of essence, we are provided with a wider range of dependence relationships between objects - including asymmetrical ones that can justify our intuitive inclinations.

Instead of understanding the necessity operator in terms of the identity of an object - which is an unanalysable haecceity according to direct reference theory - Fine takes the relationship between the identity of object and a proposition as unanalysable and understands “the identity or being of the object in terms of the propositions rendered true by its identity rather than the other way round”²⁰⁹. Such a conception of essence understands it in terms of definitions of objects. Hence, each object would be the source²¹⁰ of a set of true propositions and its identity would be understood through its

²⁰⁶ FINE, 1994, p.12.

²⁰⁷ FINE, 1994, p.14.

²⁰⁸ CORREIA, 2008, p.1018.

²⁰⁹ FINE, 1995b, p.273.

²¹⁰ A distinction that is worth mentioning is that the notion of a proposition being rendered true by the object’s identity as ambiguous between an object as being sufficient to determine the truth value of a sentence or the strong claim that the object being a *source* should be understood as *the* factor that makes propositions true. It is not clear in Fine’s works here quoted which your be his preferred interpretation. Although it does not seem to be necessary for Fine to stand for the stronger claim in order to advocate the idea of a plurality of ontological dependences.

associated set. Consequently, on Fine's interpretation, the ontological dependence between objects is given in terms of the objects that might appear as a constituent of a definition of a specific object - i.e., as a constituent of a component proposition or property that is true in virtue of the identity of that object. In his words,

“we can distinguish, in a nominal definition, between the term defined and the terms by which it is defined, so we can distinguish, in a real definition, between the object defined and the objects by which it is defined. The notion of one object depending upon another is therefore the real counterpart to the nominal notion of one term being definable in terms of another”²¹¹.

On Fine's account, as exposed above, objects that are part of an essential proposition are taken as part of the defined object's essence. Hence, the notion of essence is taken as constitutive rather than consequential in character. That is to say, “an essential property of an object is a constitutive part of the essence of that object if it is not had in virtue of being a consequence of some more basic essential properties of the object”²¹² Otherwise, it is a consequential part of the essence, one that is definitive of the object only through its connection with other properties. This variation makes room for anyone to be able to factor out and recognize what the contributions made by logic are to the object's essence²¹³ and restrain the immediate essence of an object to strictly metaphysical claims. Roughly speaking, the immediate nature “will include only what has a direct bearing on the object”²¹⁴ while the mediate account will include what derives from the nature of the other objects involved in the constitutive essence - as in a chain - and whatever comes from logical inferences. These two distinct notions of essence give rise to two corresponding notions of dependence, “one object will *immediately depend* upon another if it pertains to the immediate nature of the other, while one object will *mediately depend* upon another if it pertain to its mediate nature”^{215, 216}

Other dependence notions rise from slight variations in the notion of essence. For instance, regarding cycles, when we consider cases of reflexive or reciprocal definitions of essence. The first case is the simplest, corresponding to a self-related property of an object is a reflexive property and

²¹¹ FINE, 1995b, p.275.

²¹² FINE, 1995a, p.57.

²¹³ The consequentialist notion of essence is yet twofold, there are those properties that are taken into account because they are derived from the constitutive essence, and there are the ones that come as a result of logical closure (i.e., the operation of admitting all logical consequences). The last ones are distinguished by the fact that they can be “generalized away” while the first one's cannot. See FINE, 1995b, p.277.

²¹⁴ FINE, 1995b, p.281.

²¹⁵ FINE, 1995a, p.61.

²¹⁶ “It is this idea, that the essence of an object might be mediate, that explains why we are inclined to say, in case x depends upon y, that what x is will depend, not just upon y, but upon what y is. For in this case, the essence of x will literally incorporate the essence of y. All those propositions that are true in virtue of the nature of y will be true in virtue of the nature of x” (FINE, 1995b, p.281).

that alone avoids circularity. But in the case of simultaneous definition of the essence of two objects (or kinds), each one mentioning the other in its essence, our way out is not as simple. We have two options - which lead to two distinct dependence relations. First, the dependence is only one way, so we can define Watson as the admirer of Holmes and we can define Holmes as the person admired by Watson, but we cannot use both definitions in a single system. Second, the dependence is a two way dependence and it is built through a relation such that Holmes and Watson are defined in terms of each other by the fact that, as a pair, they are in a relationship of admiration.²¹⁷ The first option shows us that both the single definitions isolated considered and the system of definitions as a whole must be taken into consideration in the analysis. The second option opens the possibility of constitutive essence possessing not only essential properties but also essential relationships.²¹⁸

The Plurality of Essence

Last but not least, Fine's account embraces the possibility of an object having multiple and alternative definitions of its essence. In the traditional account, essence is understood as a singular set of properties that necessarily belong to the object taken into consideration. On the other hand, Fine's understanding replaces the traditional idea with a plurality of such definitions. And the notion of ontological dependence follows that diversification and it can vary from *weak* to *strong* dependence according to whether an object is defined as *definitively* or *essentially* being a certain way. Alternative definitions come from defining something in terms of different particulars one at a time, like the definition of red as the color of each particular red thing. Even though a red thing did not necessarily had to be red and, therefore, the color could not be defined in terms of that object, the existence of the color itself would not vanish because of that. So, there would be an essence corresponding to each of these definitions but red would only weakly depend on them. In order to have a strong dependence, the definition should be constituted only by what is common to all the definitions. In other words, "in the first case, the given object *can* be defined in terms of the other; and in the second case, it *must* be defined in terms of the other".²¹⁹ And there is still a third notion of

²¹⁷ "it is plausible to suppose that, when there is a simultaneous definition of two objects, this definition is not a logical consequence of their separate definitions; objects are not needlessly defined simultaneously. Let us therefore say that an essential relationship between two or more objects is *irreducible* if it is not a logical consequence of the essential properties of the objects considered separately or of the essential relationships among disjoint proper subsets of the objects." (FINE, 1995b, 284)

Also, see example in FINE, 1995b, p.66.

²¹⁸ FINE, 1995b, p.282.

²¹⁹ FINE, 1995b, p.285.

essence, as a manifold, that includes all the alternative definitions as multifarious rather than propositional in character - while the other two are propositional in form.

It is pressing to acknowledge that this plurality of essences and ontological dependences could not come from a modal account of essence. That is because the only possible attempt to constrain the notion of essence in modal terms is to define it in terms of “ x depends upon y just in case y cannot be generalized out of the necessary properties of x (or those that are conditionally necessary upon the existence of x)”.²²⁰ Those constraints - as we have seen previously²²¹ - fail, since we can derive any necessary properties from the essence of an object. Therefore, Fine’s account substitutes a single dependency notion with a cluster of ontological dependences in which each relation of dependence corresponds to a system of definitions. It is for that same reason that Fine dismisses the traditional attempt of defining meaning through synonymy classes.²²² On the traditional one-dependence-notion view one might as well extract any predicate from the given analytic statement by using an artificial “definition”. Since on this account the meaning is not anchored on any concept whatsoever - just like essence is not anchored on the nature of the objects - we can derive any sort of trivial pseudo-analysis. As Fine says, “there is nothing in the underlying conception of definitional truth which will force the resulting derivations to be analyses in any meaningful sense of the term”²²³.

Partial Remarks

Natural Necessity

Besides distinguishing multiple notions on ontological dependence, Fine also claims that not all sorts of dependence can be understood in terms of metaphysical necessity. In other words, according to Fine, there are forms of necessity that are distinct and not reducible to one another. Fine

²²⁰ FINE, 1995b, 279.

²²¹ See previous sections Necessity and Essence, and Objects as source of True Propositions. An example of failure is given in FINE, 1995b, p.279: “But then every object would depend upon every other. For given that x and y are distinct, it is a necessary property of x to be distinct from y (or to be distinct from y if x exists). But the y here cannot be generalized out, since it is not a necessary property of x to be distinct from every object whatever. This difficulty does not arise under our own non-modal construal of essence, since we cannot in general assert, where x is distinct from y , that x is essentially distinct from y ”.

²²² “So just as the essence of an object can be identified with the class of its essential properties, the meaning of a term can be identified with the class sentences that are analytic in the term, thereby providing a much more satisfactory account of the meaning than the one in terms of synonymy classes.” (FINE, 1995a, p.56)

²²³ FINE, 1994, p.12.

argues that the irreducible notions are at least three: the metaphysical, the natural and the normative - apart from disputing the idea that metaphysical necessity can be defined in terms of logical necessity²²⁴. Here we will focus on the distinction that directly affects our subject matter the most, the separation between metaphysical and natural necessities.

Understanding natural necessity as “the form of necessity that pertains to natural phenomena”,²²⁵ Fine starts with the claim that it is conceivable²²⁶ that natural laws could fail to hold. And Fine argues for it twisting Kripke’s argument on schimidentity.²²⁷ Roughly, the schimidentity argument for the metaphysical necessity of the inverse square law would be given in terms of granting that whatever possible world we consider in which it might seem like that is not a metaphysical truth is a world in which we are dealing with schmass instead of mass. That is to say, mass necessarily has the properties it does and if something looks like mass but does not entail the inverse square law, it ought to be schmass (a.k.a. something that looks like mass but is distinct from it). Fine’s twist is given by stipulating that there is no such a thing as schmass and admitting that that should be understood as a natural necessity.²²⁸ Now, it is a metaphysical possibility that there is schmass otherwise it would not be possible to stipulate it in the first place. So, the absence of schmass is a natural necessity that is not a metaphysical necessity.

What Fine wants to convey is that:

Indeed, there is no reason in general why the sophisticated post-Kripkean should not agree with the naive pre-Kripkean as to which of the metaphysically possible worlds are naturally impossible. For whereas the pre-Kripkean will take such a world to be a natural impossibility because of the straightforward failure of a law, the post-Kripkean will take it to be a natural impossibility because of the instantiation of an alien property or kind. Thus even though sensitivity to the cross-world identity of natural properties or kinds may lead one to redescribe the hypothetical situations in which a natural law is taken to fail, it should not lead one to reject the natural impossibility of those situations.²²⁹

The same point is conveyed by counter-examples that do not appeal to uninstantiated properties or kinds. For instance, we can agree on the fact that it is a natural necessity that every object belongs to one of the actual kinds that there are. But, according to Fine, it will not be a metaphysical necessity -

²²⁴ “It is, in the first place, not at all clear that metaphysical necessity can be defined in terms of logical necessity, for it is not clear that one can provide a nonmodal characterization of some basic metaphysically necessary truths from which all other metaphysically necessary truths will be a logical consequence”. (FINE, 2002, p.3)

²²⁵ FINE, 2002, p.4.

²²⁶ It should not be left unnoticed that conceivability is equivalent to being metaphysically possible to Fine.

²²⁷ See KRIPKE, 1980, p.108 and also FINE, 2002, p.5-6.

²²⁸ Since the inverse square law is taken to be a natural necessity itself.

²²⁹ FINE, 2002, p.6.

there could have been other kinds²³⁰. And even if instead of supposing a reductionism between metaphysical and natural necessities we try to assume - for the direct reference theorists sake - that a definition of natural necessity in terms of a relative metaphysical necessity, counter-examples still remain. The problem of understanding natural necessity as relative is the common problem of relative definitions: why would the necessity it issues not be of trivial sort since “any true proposition whatever can be seen as necessary under the adoption of a suitable definition of relative necessity”²³¹? Another way of highlighting the dissent between the two notions of necessity is by leading consequences of each kind of necessity. If a proposition - something like *e* causes *f* - is naturally necessary but not metaphysically necessary, “we are inclined to think in such a case that there exists a genuine possibility of the propositions being false”.²³² Conversely, “if a proposition were a metaphysical necessity though not a natural necessity (in the narrow sense), then there would be no genuine possibility of its being false, since the ‘hardness’ of the metaphysical necessity would stand in the way”.²³³

Non Transparency

The irreducible character of natural and metaphysical necessities is also the key to understanding Fine’s approach to modal transparency. According to Fine, because of the apriority of its method and the generality of its subject-matter, metaphysical truths are modally transparent. The definition of transparency is that “roughly speaking, a concept is transparent if there is no significant gap between the concept and what it is a concept of”²³⁴. That is something achieved by metaphysical concepts due to they being concepts of the structure of reality. They play a role of *a priori* foundation for truth that link empirical knowledge to eidetic truths - understanding a field of enquiry to be eidetic “if its truths are all and only those propositions true in virtue of its subject-matter”²³⁵.

For example, the proposition “Water is H₂O”. A metaphysical true principle is that (1) any substance with a given composition is by its nature of that composition. And by empirical enquiry

²³⁰ FINE, 2002, p.7.

²³¹ FINE, 2002, pp.13-4.

²³² FINE, 2002, p.26.

²³³ FINE, 2002, p.26.

²³⁴ FINE, 2012, p.9.

²³⁵ FINE, 1012, p.19.

we discover that (2) water is a substance whose composition is H₂O. The two propositions lead us to the conclusion that (3) water is by its nature H₂O. On Fine's account, (3) is understood as a necessary truth but not a metaphysical one - it is a natural necessity that water is H₂O. And that is the reason why he states that:

[T]he concept of water will not be modally transparent *since it will not necessarily be a concept of water* (i.e. of H₂O). The thought then is that the modal transparency of individual concepts will be sufficient to guarantee their epistemic transparency and that it is only because of the presence of a modally opaque concept (such as *water* in *water is H₂O*) that a necessary truth might fail to be a priori.²³⁶

On the previous quote, when Fine states that H₂O is not necessarily a concept of water, he intends the necessity to be metaphysical. Hence, metaphysical necessary truths are always transparent for him. Although, natural necessities are not. And that is a consequence of those necessity notions being non reducible or translatable in terms of one another.

Essence as Definition vs. Modal Systems

Fine's commitment to the notion of definition leads him to state that "if a given property is essential, then so is the property of essentially having that property"²³⁷. In other words, definitions cannot change from world to world. But modal facts do change from world to world. If definitions cannot change according to the world considered and metaphysical necessity is supposed to be grounded on the definitions, then metaphysical necessities cannot change from world to world - they behave as an iterated necessity. And if metaphysical necessities cannot change, we are compelled to affirm that the correct logic to do metaphysics is either system S4 or S5²³⁸. Aside from the internal incongruence with Fine's initial proposal of developing a metaphysics which is neutral on its relations to logic, S4 and S5 are arguably not the best systems to evaluate metaphysical necessity and Fine would be exposed to those arguments too²³⁹.

There is no room here for a detailed discussion, but let me outline some considerations relevant to the topic and its fitting into the picture of a direct reference theory of language. First, we should keep in mind that the core of Fine's criticism is that the necessity of identity is a symmetrical

²³⁶ FINE, 2012, p.24-5.

²³⁷ FINE, 1994, p.1.

²³⁸ Due to the principle (4) $\Box\Box\phi \rightarrow \Box\phi$ being a truth of logic in those systems.

²³⁹ See SALMON, 1989.

relation while essence stands for an asymmetrical relation, so there is no way to explain one in terms of the other. Well, the asymmetry and non transitivity of some dependence relations could be explained in modal terms if we consider a weaker system than S4 and S5 that is asymmetrical and not transitive. Second, throughout these works when philosophers talk about objects they are not talking about ordinary objects as they stand in the actual world. In contrast with the ordinary intuition, when philosophers talk about objects they consider the object's entire modal profile - as a scattered object with pieces in each and every world in which the ordinary object is said to exist. Fine deals with that by presupposing that the necessary properties of an object are already included in its definitions. The direct reference theorists, like Kripke, do that through setting the modal profile according to the possible worlds considered - through the thought experiments. While the modal profile on Fine's account is rigid, the modal profile on Kripke's account is also rigidified by his actualism. Nevertheless, the modal accounts have an advantage that the modal profile can vary according to the possible world considered if we leave the actualist position aside. That possibility of flexibility can be helpful when dealing with classical problems such as the Chandler's Paradox ²⁴⁰ and any other problems raised by premises that consider the possibility of objects going through small changes but still conserving their identities.

²⁴⁰ CHANDLER, 1976. Also, CHISHOLM, 1967 and FORBES, 1984.

Final Remarks

As we have seen, the direct reference theory does originate necessary *a posteriori* truths when two names of the same object assume the subject and predicate positions in an identity sentence. The reason for that is that proper names in the direct reference theory are understood as rigid designators, referring to one and the same object no matter the counterfactual situation considered. As such, identities between two names are interpreted as self-identity propositions. For that same reason, the necessity of these claims does not derive from the names themselves - as if semantics infringed on metaphysical fields - but from rigid designation devices in general. Kripke's strategy is to assume that theoretical discoveries involving natural kind terms when put in terms like "water is H₂O" are supposed to behave the same way as the identities between proper names do and, therefore, be necessary *a posteriori* propositions as well. So, these should be understood in parallel to the more simple examples like "Hesperus is Phosphorus". Kripke's move highlights what Putnam already did on his writings and the direct reference theorists seem all do to some extent: they presuppose that natural kind terms are rigid designator devices too.

Even though the definition of rigid designator is not easily transposed to general terms, as Soames discloses, the option of considering a pure indexical (*dthat*) component within the meaning of natural kind terms seems promising. Besides avoiding problems raised by Soames in taking natural kind terms as properties, that option adjusts well to Putnam's notion of stereotype. That is such that the meaning of a natural kind term would be constituted by a descriptive content grasped by the competent user of a language plus the pure demonstrative component that is translated as the kind itself being part of the content of the term. Hence, natural kind terms would behave like names because they are directly understood as direct reference devices instead of being recognized as such by evaluating counterfactual situations,²⁴¹ just like Kaplan wants the direct reference terms to be. Therefore, this option seems to attend all the requirements made by the tradition of direct reference theorists.

Nevertheless, this account does not imply that the identity sentences involving natural kind terms and properties discovered by science are necessary *a posteriori* propositions. On the contrary,

²⁴¹ "The semantical feature that I wish to highlight in calling an expression *directly referential* is not the *fact* that it designates the same object in every circumstance, but the *way* in which it designates an object in any circumstance. Such an expression is a *device of direct reference*. This does not imply that it has no conventionally fixed semantical rules which determine its referent in each context of use; quite the opposite. There are semantical rules which determine the referent in each context of use - but that is all. *The rules do not provide a complex which together with a circumstance of evaluation yields an object. They just provide an object.* (Kaplan, 1989, p.495).

as we have seen, the only kind of proposition that is guaranteed to be necessary *a posteriori* are those ones whose content is self-identity. So, unless we interpret scientific terms like “the individual grown from x sperm and z egg”, “the element with the atomic number 79”, “H₂O”, “stream of photons” as names for Meg, gold, water, light respectively the modal status of the respective identity sentences cannot be guaranteed only by semantics. However, that is in fact an option of interpretation within the direct reference theory. If we accept the previous proposal of understanding natural kind terms as containing an indexical character, we can extend that understanding to other terms as well, like the ones coined by science. Whether scientifically discovered properties of an object (or kind) are essential to it or not, that discovery is widespread in the linguistic community. And, from then on, the discovery can be used as a label for the object or kind.

As we have seen, the meaning of kinds are constantly evolving according the boosting of technology and science and that does not keep them from referring to the same kinds as before - one more reason to sustain that there is an indexical component on kinds' meaning. As a competent speaker of such a community it is the speaker's role to update the meaning of the term (even if only roughly) as the knowledge of the community grows. That is such that some of the scientific vocabulary becomes part of the stereotype of natural kinds.²⁴² Like in the case of water that is widely known as H₂O these days. Like in Kripke's example of π , it was at first stipulated to mean “the ratio of the circumference of a circle to its diameter” but it now works as a name for a real number²⁴³. The same applies to H₂O, it initially stood for the descriptive content “molecule constituted by two hydrogen and one oxygen atoms” but now it can be used as a name and synonym to water. And even in cases in which there is no abbreviation to the description, the fact that it superficially looks like a description should not deviate our attention from the fact that it is being used as a name, in referential use.

In that interpretation we are able to concede to Kripke's statement that “theoretical identities, according to the conception I advocate, are generally identities involving two rigid designators and therefore are examples of the necessary *a posteriori*”²⁴⁴. But the reason for that is that speakers use the scientific information as a direct reference device even if its definite description *per se* is not uniquely satisfied by the kind. Hence, strictly speaking, in the direct reference theory the only

²⁴² And they remain so even after a new scientific theory has taken its place, the previous theories will remain as ways to refer to the natural kind even if they have a false theory as their background. That is due to the indexical component on natural kind terms content, keeping track of those kinds no matter what.

²⁴³ KRIPKE, 1980, p.60.

²⁴⁴ KRIPKE, 1980, p.140.

necessary *a posteriori* propositions that do not hold implicit metaphysical claims are maintained as the self-identity sentences exclusively. Therefore, such theoretical identities derive their necessary status from a matter of convention and not a metaphysical truth²⁴⁵. If we follow Fine (1978b) in identifying essentialism with individuals having distinctive necessary properties, necessity of identity is not really an essentialist thesis.

So, the ordinary person's motivation to choose certain vocabulary can simply be because one way of speaking is related to a scientific theory while the other is not part of a coherent conceptual system²⁴⁶. Since we can put it in terms of "the best conceptual scheme available" or "the best theory", the direct reference theory can be understood as neutral towards metaphysical issues and even analogous with proposals like Carnap's that understand science and scientific language as conceptual schemes with no specific metaphysical background presupposed.²⁴⁷ In this context, the distinction between operational criteria and meaning is made. And science is directly related to the first of them due to scientific knowledge being influenced by the functionality of objects and kinds within human interests. And, as Putnam says, "without the illicit identification of meaning with operational criteria, it does not follow at all that *meaning* depends on the theory you accept"²⁴⁸.

Accordingly, Kripke's and Putnam's thought experiments only evidence the use of those terms as rigid designators. That is to say, they do not elucidate any metaphysical truth about objects and their essential properties. This result agrees with Putnam's claim that "human intuition has no privileged access to metaphysical necessity"²⁴⁹. Therefore, the metaphysical claims themselves must be advocated separately. Our intuitions tell us about the use of language alone and that cannot be used as evidence of scientifically discovered properties like "molecule constituted by two hydrogen and one oxygen atoms" being a sufficient condition for being water. In order to single out a sufficient condition for being a certain object or kind we must have previously analyzed the concept of what the object or kind is - as Fine highlights. Also, remaining neutral relative to theoretical identities as it does, the direct reference is compatible with any metaphysical view, including Fine's,

²⁴⁵ As a counterpart of the *merely superficially contingent a priori knowledge* as stated by EVANS, 1979.

²⁴⁶ PUTNAM, 1962.

²⁴⁷ Specially when we take into consideration statements like Putnam's: "The distinction between statements necessary relative to a body of knowledge and statements contingent relative to that body of knowledge is an important methodological distinction and should not be jettisoned. But the traditional philosophical distinction between statements necessary in some eternal sense and statements contingent in some eternal sense is not workable." (PUTNAM, 1962, p. 670)

²⁴⁸ PUTNAM, 1973a, p.206.

²⁴⁹ PUTNAM, 1973b, p.98.

that separates metaphysical from natural necessity. Whether the scientific discoveries constitute the essential properties of objects or kinds is a question only metaphysics alone can face.

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