

## MIND-BODY DUALISM, KRIPKE'S LEGACY

Adriana Nicoleta SORA\*

*Abstract:* Among many other achievements, Kripke is famous for reviving a Cartesian argument for the duality of the states of consciousness and their neural correlates (or at least for their lack of identity on some interpretations). The intuition which lies at the ground of this argument is a Cartesian one, but the technical apparatus for constructing the argument is entirely borrowed from the results of modal logic and semantics, developed greatly by Kripke himself. At the same time, we notice in the literature on consciousness a similar modal argument constructed by David Chalmers. In spite of the fact that the two arguments have many similarities, nevertheless they are different in some respects, which are crucial in my opinion.

*Keywords:* mind-body dualism, Saul Kripke, David Chalmers, necessity, intrinsic properties.

The aim of this essay is to explore the relationship between the forms of Kripke's and Chalmers' arguments against mind-body identity and to assess the strength of each one as an attack on materialism. The thesis that I want to support is that Chalmers succeeds to improve Kripke's argument due to an ingenious definition of materialism. Kripke's argument rests only on the epistemic intuition of the separability of consciousness and the brain, which can be easily attacked by materialists in light of some speculations on the future of science. Nevertheless, if we supplement this intuition with a Chalmers-style definition of materialism, we can give a knock-down rejection of materialism as far as the mind-body relation is concerned. More than that, we can support a dualist point of view as far as the ontology of consciousness is concerned even if we suppose that the neuronal basis of consciousness is necessarily connected with the occurrence of conscious mental states, rejecting the intuition that conceptual possibility immediately leads to metaphysical possibility.

---

\* Adriana Nicoleta SORA, PhD. researcher at the Faculty of Philosophy, University of Bucharest. For correspondence use the address: [adriana.nicoleta.s@gmail.com](mailto:adriana.nicoleta.s@gmail.com).

In the first section of the essay I analyze Kripke's modal argument against mind-body identity and in the second one Chalmers' argument on the same topic. In the third section I compare the two arguments, underlining their similarity despite the fact that they are based on different semantic intuitions, Chalmers introducing the idea of a two dimensional semantics; splitting meaning in two dimensions does not affect the force of the conceivability argument. The fourth section will be centered on Kripke's idea of necessity and points to the fact that the necessity which is relevant for the mind-body case is different from the identities involving rigid designation. Therefore, it will deserve a special treatment and will raise other materialist concerns, which shake the grounds of a dualist position if they are not supplemented with an adequate characterization of the physical. This characterization is ingeniously constructed by Chalmers (by a distinction between structural and intrinsic properties) and is the element which saves a dualist point of view. In the final section I will try to show that even though the intuitions from the core of the conceivability argument can be defeated, this fact does not lead to the rejection of dualism.

## I. KRIPKE ON MIND-BODY IDENTITY

According to Kripke, all statements which purport to assert an identity are necessary statements. So, if we identify water with H<sub>2</sub>O, the identity statement referring to this situation will be a necessary one, true in every possible world. The case is similar for all theoretical identities from science, like „Heat is mean molecular motion“ or „Hesperus is Phosphorus“. Even though these identities are the result of a posteriori discoveries, they are nevertheless necessary (true in every possible world).

The necessity of the previously mentioned identities results from some semantic facts concerning rigid designation. Let us analyze the identity concerning „Hesperus is Phosphorus“. This is an identity involving two proper names which refer to the same physical entity in every possible world, namely the planet Venus. The mechanism which underlies the statement of this identity is the following one: we look at some heavenly body in the morning and name it Phosphorus, associating at the same time with this name a definite description which refers to the properties with the help of which we identified the body in the morning. At a later stage, we look at the same heavenly body, this time as it appears in the evening and name it Hesperus; we also associate with the name another definite description, which refers to the properties with the help of which we identified the body in the evening. At first sight we are not aware of the fact that both our names refer to the same physical object even though in fact they refer and we discover this fact only by scientific study. The conception of names as rigid designators gives us the ground to consider that the identity statement in which they appear is a necessary one.

Unlike a vacuous identity of the form „Venus is Venus“, the identity previously mentioned conveys information and given this fact we feel that it should be contingent. Nevertheless, that illusion of contingency can be easily dispelled. The fact that the heavenly body last visible in the morning is the same as the first heavenly body visible in the evening is a contingent fact about our world. So, we can conceive possible worlds where the bearers of the two descriptions are different and the identity statement is not true. But this situation could not affect the necessity of our identity in any way because the names refer independently of the definite descriptions with which they are associated: once „Hesperus“ and „Phosphorus“ refer to the same physical object in our world they will refer in every possible world.

The identity theory is extended by some philosophers also to the case of the mind-body relation; therefore, they purport to assert that it is identity between the physical properties of the brain and the experiences associated. Given the Kripkean model this identity should be a necessary one: types or tokens of mental states should be identical with the same types or tokens of brain states in every possible world, let's say pains should be identical with C fiber activity in every possible world. The cases in which the identity is considered to be a contingent one no longer stand on their feet given the conception of natural kinds as rigid designators.

Kripke wants to challenge this relation of identity in the mind-body case, by showing that we have the strong intuition that we can conceive cases (we can construct without contradiction) where the same physical properties of the brain do not give rise to consciousness (or give rise to other conscious properties than in our world) and at the same time we can conceive cases where consciousness is not embodied (following the Cartesian intuition). The problem is that in these cases we can not explain the intuitions as we have done previously with the illusion of contingency in the case of Phosphorus and Hesperus.

In the last case, neither the property of being the last visible in the morning nor the property of being the first visible in the evening is essential for Venus; even though by some natural accident, this planet will be displaced and will lose its usual properties, once our terms referred to this heavenly body, they will also refer in the future (in the absence of the definite descriptions which helped to fix the reference). At the same time, the application of mental terms is different: the properties which help to fix their reference are necessary to the referent, so that a state of pain is a state with the same particular feeling as our pain and not only a state with the same neuronal realization. Therefore, if the neuronal state correlated with pain appears without pain in some possible world, this state will not count as pain. We can conclude that mental terms do not refer to the neuronal properties associated. This fact, combined with the conceivable cases of brain without mind and mind without brain, leads us to infer that we can not have identity in the mind-body case.

## II. CHALMERS' CONCEIVABILITY ARGUMENT FOR DUALISM

The key notion in Chalmers' characterization of the materialist thesis is the notion of supervenience; the author introduces this notion to give an account of the relation of dependence on physical facts, in the context of accepting that most fundamental facts are physical facts. This relation of dependence is construed as dependence in variation, having as basis the physical facts which determine all other facts: once all the physical facts are fixed, it is impossible for the supervenient ones to vary.

Supervenience is defined by the following clause: „B-properties supervene on A-properties if no two possible situations are indiscernible with respect to their A-facts while differing in their B-facts.” (Chalmers 1995, p.31)<sup>1</sup>

Two of the terms used in this particular definition, namely „situation” and the modal operator „possible” are particularly interesting in this context as they give rise to different interpretations and therefore, we can say, to different understandings of materialism (from which we have to choose the interesting one for our case, the mind-body relation). Let us take under scrutiny the first notion previously mentioned, that of situation. The situations involved are identified as being of two kinds: 1. local situations, involving the occurrence of a small complex of objects or mechanisms<sup>2</sup> and 2. global situations like maximally coherent sets of objects, known under the name of „possible worlds”. These types of situations determine the type of supervenience, which can be local or global.

As an example of global supervenience, Chalmers chooses the example of value and of biological properties. The value of a painting is not reducible to the value of its physical substrate so long as a perfect physical replica of that substrate can result in a totally worthless object if the social climate is different and people do not appreciate such a work of art; therefore, when we assess the value of a work of art we should take into account not only the physical material but also the attitudes of those who evaluate the material. The other example is constituted by the case of biological properties and we

<sup>1</sup> The definition is rich enough and requires some elucidations. First, we can notice that it deals both with the notions of properties and facts; the relation between these two entities is one of reductive understanding as facts are understood as instances of occurrence of some property or complex of properties. Second, we can notice that „facts” can also refer to the instantiation of laws, namely ways of connecting properties; the supervenience of laws is treated cautiously: fixing the physical facts, the physical underpinnings of laws, does not immediately seem to grant the occurrence of the law.

<sup>2</sup> Chalmers identifies such a complex as an individual, so that the superficial properties of the individual supervene on the physical properties of the individual. At first glance the accent seems to be on the individual, but at a more careful reading it emerges that the author is concerned also with relational and non-relational properties. So, local supervenience is limited to the occurrence of the non-relational properties of the individual, to the properties instantiated only by the internal structure of the object, while global supervenience includes also the relational properties of objects.

have two cases taken into account: two physically identical<sup>1</sup> organisms can differ in the property of fitness due to the fact that the environmental conditions are different, more than that, they can even be members of different species due to different evolutionary histories.

The case which is our focus, the relation between mind and body, can be subsumed under the tag of local supervenience: physical identity as far as the structure the brain is concerned will suffice for the supervenience of consciousness, history or environment being irrelevant to this relation. In other words, two identical slices of the brain at a particular moment will give rise to the same experiences; and if we happen to count the external influences of environment and history, they will directly affect the structure and properties of the brain.

The other interesting notions involved in our discussion result from different interpretations of the modal vocabulary, which give way to the distinction between logically possible and merely naturally possible situations (I will analyze only logical modalities since the relevant notion for conceivability will be logical supervenience). The first notion, that of logical possibility, is understood in the same way as conceivability, using the notion of conceptual coherence. Maybe the examples given by the author will give us a clue to understanding these notions: for example, a creature like a male vixen is impossible since the concepts involved in its description are incompatible, a male vixen being a contradiction. On the other hand, a flying telephone is a logical possibility since there is no incompatibility between the notions of telephone and of flying: we can have a possible world (with other laws of nature) where telephones are flying.

Therefore, we can conclude that conceptual possibility, a case where the concepts involved do not present any incompatibility, leads to logical possibility; logical possibility is thus shaped by conceptual constraints. The modal notions are given a more refined characterization further in the second chapter; here Chalmers distinguishes between two ways of giving account of necessity<sup>2</sup>, but we can extend the account also to possibility: in terms of truth across possible worlds or in terms of conceptual truth. So, a necessary sentence is one which is true in every possible world or alternatively, a conceptually true sentence. This class of conceptual truths includes a priori conceptual truths but it can also include a posteriori necessary truths like „Water is H<sub>2</sub>O“.

---

<sup>1</sup> Later, on page 33, Chalmers further characterize the facts which count when we talk about fixing the physical facts (and which we can consider to be taken into account when referring to the relation of identity): the facts concerning the characterization and distribution of every particle across space and time; on page 66, we can notice that the information about the distribution of every particle is supplemented with information about the environment and about the evolutionary history (if we take into account entities which have evolutionary history).

<sup>2</sup> The kind of necessity (and possibility) with which Chalmers deals is a linguistic one, namely that of a sentence.

The interesting kind of modal notion which is involved in the definition of materialism is that of logical supervenience. The paradigm case of logical supervenient properties is that of biological ones. Therefore, in all conceivable situations (where conceivable situations are understood here as vertical pairings of the same physical facts with some supervenient facts), the same physical properties will always be accompanied by the same biological properties. In other words, in every possible world the same physical properties will be accompanied by the same biological properties.

Logical supervenience focuses on the relation of necessity and the ways of assessing this relation for the two sets of properties involved, which are construed by Chalmers in various ways. One of them is epistemic and is construed in terms of the performances of Laplace's superbeing: once he is given the micro-physical description of the world, he will be able to translate it into biological terms (as far as he possesses the biological terms) or alternatively, he will be able to deduce the macro-physical description.

Another way of characterizing the relation of logical supervenience centers on the relation of entailment: the A-facts entail the B-facts. Given the definition of the material conditional, when a fact entails another fact, it is impossible for the first one to occur without the occurrence of the second one.

Besides logical supervenience, we can have also natural supervenience, which is a weaker relation than the previous one: the two sets of properties are correlated only by the laws of nature of the world in which they occur. The relation is much weaker since the necessity involved in the relation is weaker than that of logical necessity; by denying a law of nature we do not arrive at a logical impossibility/contradiction. Consequently, the definition of natural supervenience has the following form: „B-properties supervene on A-properties if any two naturally possible situations with indiscernible A-properties have indiscernible B-properties<sup>1</sup>.“ (Chalmers 1996, 34)

As we previously defined logical possibility, we can also define natural possibility as compatibility with the laws of nature; therefore, a situation is naturally possible if it is compatible with the laws of the world relative to which we define it.

Natural possibility seems to be specific only for consciousness, so that phenomenal properties supervene on the properties of the brain according to the psycho-physical laws which govern our world. The case is reinforced by the observation that in all other cases of supervenience we seem to have only logical supervenience: „it is hard to find cases of natural supervenience on the physical without logical supervenience.“ (Chalmers 1996, 34)

---

<sup>1</sup> It is interesting to note that in the case of natural supervenience, the class of A-properties is not necessarily limited to the fundamental physical properties, as the laws of nature connect properties of the same level; they express inter-level relations only in the special cases of bridge laws.

## II.1. HOW DOES SUPERVENIENCE ACCOUNT FOR MATERIALISM?

The physical properties are represented by the properties included in the theories of basic physics. It is not important either to give a list of the fundamental physical properties or to characterize them further, the only important thing is to give a frame of their way of individuating: in a structural manner. A physical property is one that is characterized in a functional way, by the interaction of the particle that is its bearer with other particles, by what is capable of bringing about in interaction with another entity. Therefore, we can define mass as the capacity of a body to resist acceleration.

The relation of logical supervenience of all properties on physical properties is sufficient to account for a materialist ontology. As Chalmers considers the matters, the two sets of facts represent different facts, but not further facts or, in other words, new ontological facts. The difference is only at the level of the vocabulary with which we describe the same physical facts since „the B-facts merely redescribe what is described by the A-facts.“(Chalmers 1996, 38)

The materialist thesis has a number of different (but equivalent) expressions in the text:

1. everything in the world is physical; there is nothing over and above the physical;
2. all the facts are globally logically supervenient on the physical facts;
3. all the positive facts are entailed by the physical facts.

## II.2. NECESSITY AND EXPLANATION

The relation of supervenience is an ontological one and as we do not have direct access to ontological facts, our reliable guide to inferring this relation is the epistemic relation of explanation. The model of explanation which Chalmers favors is the reductive explanation via functional analysis. This kind of explanation has the following pattern: 1. we give a functional analysis, in terms of causal relations, of the phenomenon for which we seek an explanation and 2. we try to find a physical mechanism which is capable of instantiating the functional pattern envisaged at the first step. Once we find the mechanism, the explanation is complete and it does not make sense to ask further „why“ questions.

Let us illustrate the procedure for the simple case of water. First, we identify water by its superficial or phenomenal properties and construct a description along the lines: water is the clear, colorless, drinkable liquid, which fills the lakes and the oceans. Then we try to find a chemical compound, like H<sub>2</sub>O or XYZ (on the fancier mental scenario), which is responsible for the instantiation of these superficial properties.

This model does not work when we try to apply it to the case of consciousness so long as we can not give a functional analysis for the states of

consciousness; phenomenal states are not defined by the functional roles they play, more than that, they do not seem to have any functional role. Even if we give a functional analysis of the cognitive mechanisms underlying phenomenal properties, it is logically possible to imagine the case in which the performance of these functions is unaccompanied by consciousness. The case is utterly dissimilar to that of other reductive explanations in science where once we gave the functional analysis of a term designating a physical phenomenon or process it is a nonsense to ask the question: why is this process accompanied by the functional mechanism? The causal-functional pattern embedded in the definition constitutes the description of the phenomenon (which is not something over and above this causal structure) and once the definition is given, it becomes a necessary truth.

At the ontological level, the reductive explanation has as prerequisite the relation of logical supervenience of the reduced phenomenon on the physical basis to which it is reduced. For our case, water with all its superficial, phenomenal properties must be supervenient on the chemical structure to which it is reduced in the process of explanation:

„Reductive explanation requires some kind of analysis of the phenomenon in question, where the low-level facts imply the realization of the analysis. So reductive explanation requires a logical supervenience relation (...). If the property of exemplifying a phenomenon fails to supervene logically on some lower-level properties, then given any lower-level account of those properties, there will always be a further unanswered question: Why is this lower level process accompanied by the phenomenon?”(Chalmers 1996, 44)

The interesting thing from an epistemic point of view is that even though logical supervenience is a necessary condition for explanation, we can infer the existence of the relation only after having a suitable explanation.

### II.3. NECESSITY, TRUTH AND INTENSIONS

As we learned from Kripke, all identities are necessary truths given his mechanism of reference by rigid designation. Besides granting these intuitions, Chalmers complicates the semantic behavior of terms by introducing the idea of two-dimensions for meaning: primary and secondary intension. Each of these intensions interacts in a particular way with the modal notions, leading to different kinds of truths, which in turn have different bearings on the relation of supervenience.

Let us exemplify the case with the simple example of water. The primary intension of the term „water“ is constituted by a description, as we have previously seen. Therefore, a statement like „Water is the clear, colorless, drinkable liquid...“ is a necessary one and also an a priori one; it is true in all

possible worlds and it is also true in virtue of meaning. Given the fact that in evaluating the primary intension of terms we take into account only ways the actual world could be (without referring to the particular way it happens to be), the referent of „water“ could be a substance with the structure of H<sub>2</sub>O as well as one with the structure of XYZ; therefore, from this perspective the statement „Water is H<sub>2</sub>O“ is not a necessary one.

The secondary intension of water is the actual chemical compound which instantiates the previously mentioned description, namely H<sub>2</sub>O. From the perspective of the secondary intension, the statement „Water is H<sub>2</sub>O“ is a necessary one, even though the result of an a posteriori discovery. If a liquid from other possible worlds instantiates the phenomenal, superficial properties of water, without having the same chemical formula, it simply is not water. The previous statement, „Water is H<sub>2</sub>O“ is an example of statement true in every possible world; besides that, the truth is also a conceptual one, even though an a posteriori one, in virtue of the secondary intension which can be fixed only a posteriori.

At the same time, we have the necessary truths: „XYZ is watery stuff“ and „H<sub>2</sub>O is watery stuff“ as a result of the process of explanation of water. As we previously remarked, we explain the superficial structure of water by following two steps: give a functional definition of water (which is an a priori necessary conceptual truth) and then identify a posteriori the chemical structure which exhibits the structure of the definition. Therefore, once we discover the chemical substrate, it is logically (conceptually) necessary that it will imply the superficial description.

Another interesting relation is that which holds between the conceivability and logical possibility of statements. On a simple reading, a statement is conceivable if it can be true in light of all our knowledge. After introducing the idea of possible worlds, the conceivability will involve two elements: the conceivability of a world and the evaluation of the statement in that world.<sup>1</sup>

The relationship between conceivability and possibility is that of implication but only insofar as the same range of intension is involved: primary conceivability implies only primary possibility and secondary conceivability implies only secondary possibility (which is equivalent to metaphysical possibility). For a better understanding of these relationships let us take an example: the statement „Water is XYZ“ is primary conceivable and primary possible. We can find a possible world where water, which according to primary intension is „the clear, drinkable liquid...“ has the chemical formula of XYZ. But if we consider the same statement according to secondary

---

<sup>1</sup> We can wonder why the evaluation of the statement in a conceivable world is an important element. It is important because it matters for the truth of the statement if we evaluate it according to the primary or the secondary intension. So, a statement like „Water is H<sub>2</sub>O“ will be true in a world in which water is XYZ if evaluated according to the secondary intension; but if in that world water is XYZ and we evaluate the sentence according to primary intension, the initial statement will be false.

intension it is both inconceivable and impossible: the reference of the term „water“ is not only the substance with the superficial properties which appear in the definite description „the clear, drinkable liquid...“ but also the substance with the structure of H<sub>2</sub>O. Therefore, on the second reading our statement will amount to „H<sub>2</sub>O is XYZ“, which is a contradiction, false in every possible world.

Logical possibility is also accessible a priori or at least is in principle accessible a priori and in the author's mind<sup>1</sup>, it is the notion involved in issues about explanation. On the other hand, the relevant notion for ontological matters is the second one, metaphysical possibility (possibility according to secondary intension).

The same story goes for necessary statements; the class of primary necessary truths corresponds to the class of a priori truths. If a statement is a priori true, it is true independently of any information about the actual world and it is true in all possible worlds considered as actual. On the other hand, if a statement is necessary according to primary intension, it will be true in all possible worlds considered as actual independently of how the actual world is, hence a priori true<sup>2</sup>.

One of the strong theses of the author is that modality is epistemically accessible, at least as far as primary intension is concerned. The possibility of a statement is considered to be a function of both the intensions and the space of possible worlds and both these two elements are a priori or epistemically accessible (at least as far as primary intension is concerned, they do not depend on a posteriori factors).

The fact that our terms have both a primary and a secondary intension leads to the construction of two kinds of supervenience (for each kind of supervenience, but in the following paragraph I will consider only the notion of logical supervenience): logical supervenience according to primary intension and according to secondary intension. As far as explanation is concerned, it is logical supervenience according to primary intension which is relevant:

„Especially when considering questions about explanation, primary intensions are more important than secondary intensions. As noted before, we have only the primary intension to work with at the start of inquiry, and that is the intension that determines whether or not an explanation is satisfactory. To explain water, for example,

<sup>1</sup> The inference from logical possibility to conceivability is considered by the author more problematic due to the fact that there can be very complex situations which are possible but which we can not conceive due to our cognitive limitations in thinking about very complex situations; if we spell out conceivability as conceivability by a superbeing (a Laplacean demon for example) we will be able also to support this converse statement, namely that possibility implies conceivability.

<sup>2</sup> I tend to disagree with Chalmers at this point: the inference from necessary primary truths to a priori truths seems to be sound but that from a priori truths to necessary truths is not sound, because it will make all a priori truths necessary ones.

we have to explain things like its clarity, liquidity and so on. The secondary intension (H<sub>2</sub>O) does not emerge until after an explanation is complete, and therefore, does not itself determine a criterion for explanatory success. It is logical supervenience according to primary intension that determines whether reductive explanation is possible.”(Chalmers 1996, 63)

As we have seen, supervenience has different alternative expressions: in terms of conceivability, in terms of truth about facts (so that in cases of logical supervenience all B-facts are true about the situations involved), in terms of implication (so that the A-facts entail the B-facts). The implication is an a priori one if we deal with primary intensions and an a posteriori one if we deal with secondary intensions. These alternate formulations guarantee three ways of assessing supervenience: 1. when the instantiation of A-properties without B-properties is inconceivable; 2. when by knowing the A-facts we will know the B-facts in an a priori way (at least in cases of primary supervenience); 3. when by the analysis of intensions, the implication will become obvious.

#### **II.4. CONSCIOUSNESS DOES NOT LOGICALLY SUPERVENE ON THE BRAIN**

Chalmers gives arguments for the fact that consciousness does not logically supervene on the physical structure of the brain along all three lines identified in the previous section. I will focus here only on the conceivability argument, in which he argues against logical supervenience given the possibility of a special kind of creature. Therefore, the argument has the following structure:

1. It is conceivable to have a creature which is identical from a physical and psychological point of view (it is identical from the perspective of composition, is a molecule per molecule duplicate and identical from the perspective of properties, it is identical in all the low-level structural properties) with a conscious being but which lacks consciousness. Such a creature is conceivable insofar as its description is a coherent one from an a priori point of view; more than that, „there is no hidden contradiction lurking in the description.”(Chalmers 1996, 85)

(The analogue of the conceivability argument for the other identities involving natural kinds is to show that there can be possible worlds identical with our world from a physical point of view, but where the superficial properties of physical substances are absent: for example H<sub>2</sub>O is not associated with any phenomenal appearance or with a totally different appearance.)

2. If zombie is conceptually possible it is also logically possible given the reflections on the inference from conceivability to possibility previously revealed. It is sufficient to deal here with primary possibility as we

are concerned with the explanation of consciousness and explanation involves primary intension.

3. Given the fact that zombie is possible and logical supervenience does not hold, materialism is false.

Even though it might not be evident at first sight, the first premise of the argument, assessing the coherence of a zombie is bolstered by other epistemic arguments. Therefore, we have also an argument focusing on the lack of implication: having all the physical information does not entitle us to infer the occurrence of conscious states. A similar argument can be constructed in terms of knowledge and a famous example is Jackson's Mary. Another kind of argument which is capable to support the first premise is the absence of implication due to absence of functional analysis for terms referring to phenomenal properties.

Conscious states are not defined by the causal roles which can be associated with phenomenal properties; the causal role is only a by-product of the state which instantiates some phenomenal property. Therefore, we can conceive cases in which the states of consciousness are not accompanied by causal effects and cases in which the effects are not the result of the instantiation of phenomenal properties; this situation points to the fact that consciousness and the psychological functions associated have two different explanations.

An important role in this story has the famous principle put forward by Chalmers, according to which structural patterns like those instantiated by physical entities, among which we situate also the brain, can explain only further structural patterns and not something intrinsic like consciousness.

### III. ARE THE TWO ARGUMENTS DIFFERENT?

There are many differences as far as the details of the arguments are concerned<sup>1</sup>, but we can notice only two main differences between them:

1. Chalmers relies heavily on his two dimensional semantic framework, whereas Kripke relies only on the idea of rigid designation and a posteriori necessity and
2. Kripke uses the idea of essential properties to characterize the states of consciousness, whereas Chalmers does not allude to such conceptual tools, relying only on semantic facts.

Do these two aspects make any difference as far as the force of the two arguments is concerned? The answer which I want to support is that they do not and to this effect I will consider them in turn. Despite the fact that Chalmers does not use the idea of essence, his semantic treatment of phenomenal

---

<sup>1</sup> Chalmers even makes a list of them on page 131 of his 1996 book: 1. Kripke uses the idea of identity, whereas he uses that of supervenience; 2. Kripke uses the semantics of rigid designation and a posteriori necessity in the construction of the argument; 3. Kripke invokes the idea of essential properties when considering phenomenal states, whereas Chalmers does not rely on such essentialism; 4. Kripke alludes also to the possibility of disembodiment.

concepts is very much like that of Kripke: both the primary and the secondary intension of phenomenal terms refer to some phenomenal properties, which in turn are not identical with any physical (neuronal) structures.

The occurrence of the two-dimensional semantics does not bring anything new for Chalmers' argument. He insists on the idea that the relevant form of the conceivability argument is that constructed in accordance with the idea of primary intension. In fact, the argument works for both the primary and the secondary intensions.

When he constructs the arguments, the conceivability included in the first premise can be read also as conceivability according to the secondary intension of the terms. The possibility of constructing the conceivability argument considering the secondary intension is due to a special feature of the terms referring to the states of consciousness: their primary and secondary intension is the same, unlike the case of most other terms from natural sciences.

For a state of a subject to qualify as a conscious state or as a conscious state of a certain type it is necessary to have certain phenomenal feel. A state of the brain that realizes the experience of pain must have the feeling of pain. This aspect indicates a great difference between the case of common natural kind concepts and of the phenomenal ones. For some substance to be water it is necessary and sufficient to have the chemical structure of H<sub>2</sub>O, no matter how it feels, whether it is liquid or not, whether it is colorless or not, whether it is tasteless or not. For a state of mind to be a conscious state of pain it is necessary to have the feeling of pain; it does not matter if it has the same physical structure of pain as in the actual world.

The case of water involves a semantically open situation, as we can choose between some alternatives: either to rigidify our concept of water and to say that water in other worlds is only a liquid with the molecular structure of H<sub>2</sub>O, or to consider that we have many kinds of water that have in common only the phenomenal appearance. The necessity of a statement like „Water is H<sub>2</sub>O“ arises from the decision to take the first semantic way. In the case of consciousness we do not have an open semantic decision so long as we have the intuition that the conscious state of a being will qualify as pain if it feels like our pain, although it will be instantiated in an another chemical configuration. This argument shows that the secondary intension of mental terms could not be given by the states of the brain associated. Therefore, the identity statement concerning the conscious mental state and its physical correlate can be only a contingent one.

But more than that, it is sufficient for Chalmers to run the conceivability argument only for the primary intension and the motivation is simple. In science, so long as we have the microphysical description of a phenomenon, its macro-physical and phenomenal description follows as an a priori matter. It is inconceivable to have a liquid with the structure of H<sub>2</sub>O without being colorless, odorless, tasteless and so on.

Applying the same way of reasoning to the consciousness does not give the same results. From the description of the neural correlates of consciousness it does not follow a priori its phenomenal description so that it is conceivable to have the same physical description without any phenomenal property.

It is important to note that for Chalmers the central relation is the one between a phenomenal property and set of properties and their physical constitution. So, the relation between H<sub>2</sub>O/ XYZ / whatever realizer of water and the superficial / phenomenal properties of this liquid is a necessary one. The conceivability argument is not concerned with the instantiation of the same phenomenal properties in another configuration, like XYZ for water; this kind of reasoning will show only that conscious properties are multiply realized. The conceivability argument concerns the instantiation of the same physical properties without any associated phenomenal property, like the instantiation of the structure of water, be it H<sub>2</sub>O or XYZ or whatever, without the set of phenomenal properties. Now it becomes more understandable why it is sufficient for the argument to focus on primary intension only.

#### IV. A NOTE ON KRIPKE

Kripke's argument has two targets: on the one hand he wants to challenge those materialist theories which support the Cartesian intuitions of brain without consciousness and consciousness disembodied but deny the fact that these intuitions have any metaphysical effect upon rejecting the identity and on the other hand he wants to show that it is very hard to explain away these intuitions as illusions because they do not fit the model of illusion of contingency for the usual identities. In the following lines I want to support the idea that Kripke's argument is prey to other materialist attacks which pretend that the afore mentioned intuitions could be illusory and we do not need to apply the usual strategy for dispelling illusions of contingency, given the fact that the mind-body case is one in which the identity could not arise from rigid designation. Therefore, if we do not supplement the Kripkean argument with some intuitions about the nature of the physical entities of the kind which Chalmers introduced, the argument does not properly stand on its own feet.

First, I want to comment on the notions of necessity involved in the Kripkean argument and to make a distinction between two kinds of necessities. So, on the one hand we have the necessary identities which result from rigid designation and on the other hand we have another kind of deeper necessity, which stems from a metaphysical connection at the level of things. An example of the first kind of identity is „Hesperus is Phosphorus“; the two properties associated with the two names are not necessarily connected at a deep level, it only happens in our world that the heavenly body which is the last visible in the morning has also the property of being the first visible in the evening. A similar case is „Water is H<sub>2</sub>O“. It is a fact about our

world that the colorless, odorless, filling the lakes, etc substance is H<sub>2</sub>O; it could as well turn out to be XYZ or other chemical compound. But once we discover the chemical nature of the water or the fact that Hesperus is identical with Phosphorus, the identity in question becomes a necessary one in virtue of a semantic decision.

The example of a deep necessity is that between H<sub>2</sub>O and its macro-physical superficial properties which we use to name „water“. We think that it is impossible to have this chemical compound present without having also present its macro-physical properties, namely H<sub>2</sub>O without water. And this relation of necessity does not result from a semantic decision, but from a relation at the level of things. Nature is constructed in such a way that the same chemical compound does not give rise to different appearances given the fact that all other conditions are the same (namely the nature of the environment in which it appears or the setting of the mind of the epistemic subject).

Given this distinction, I think that the relation between states of the mind and states of the brain can be analyzed following the second model, that of the deep necessity. We can show that the connection between the mind and the neuronal states associated is a necessary one, in the sense that they are co-present in every possible world and that the intuition of occurrence of one without the other is just an illusion. A materialist answer could attack both Kripkean intuitions as illusory (brains without consciousness and disembodied souls): it is only a misleading impression that we can have cases of disembodied cognition and also a misleading impression due to the poor development of the science of consciousness that we can have identical neuronal states which do not give rise to consciousness; let's name the second cases, zombie-cases, creatures identical with us from a physical point of view but which lack consciousness.

It may be a necessary relation between the phenomenal property and its actual physical correlate, where the necessity does not arise from rigid designation, but from a hidden connection at the metaphysical level. Therefore, perhaps we can not see very well this connection at this particular level of development of the science, but this does not mean that it does not exist. Whenever we refer to a phenomenal property we implicitly refer to its neuronal substrate, but this relation of reference is hidden to us and we can easily say that it is conceivable and possible to have a zombie.

The same kind of objection is discussed by Chalmers under the tag of an objection to strong metaphysical necessity. The supporters of this notion (strong metaphysical necessity) aim at supporting the idea that logical possibility and conceptual coherence are not a reliable guide to metaphysical possibility: there can be logically possible worlds, non-contradictory (coherent or compatible) entities or states of affairs which are nevertheless metaphysically impossible; in this context, metaphysical possibility is a much stronger and much more constrained notion than logical possibility. On this view, a statement like „Water is XYZ“ or „There can be a creature with brain

identical with ours but lacking consciousness“ can be conceived (they even describe correctly the worlds to which they refer<sup>1</sup>) but nevertheless they do not describe genuine possibilities.

Chalmers simply rejects the existence of a modality of this kind on the ground that such a kind of necessity will put brute and inexplicable constraints on the space of possible worlds: „It may be reasonable to countenance brute, inexplicable facts about our world, but the existence of such facts about the space of possible worlds would be quite bizarre. The realm of the possible (as opposed to the realm of the natural) has no room for this sort of arbitrary constraint.“ (Chalmers 1996, 122)

The argument refers mainly to epistemic constraints: how can we know when a world which is logically possible is also metaphysically possible? Since the information is not a priori, we can know this fact only in an a posteriori manner, but this manner can be applied only to the actual world; therefore, it is impossible to have knowledge of this fact.

More than that, even if we bypass this lack of arguments in favor of brute metaphysical necessities, their introduction will be to no purpose. Chalmers already considered the existence of some laws of nature which connect physical properties with phenomenal properties, which are less problematic than metaphysical necessities, the last ones being considered mysterious and with a non-naturalistic flavor. Therefore, Chalmers strongly adheres to the principle that logical possibility or possibility according to primary intension leads to metaphysical possibility.

## V. HOW CAN WE SAVE A DUALIST POINT OF VIEW?

As we previously seen, the conceivability arguments have at their core the necessity of a statement like „H<sub>2</sub>O is watery stuff“. Such a statement referring to the case of consciousness does not have the same effect, since a statement like „State X of the brain (the neuronal correlate of pain) is pain“ is only a contingent one. Therefore, once we discover that H<sub>2</sub>O is the chemical substrate of the clear, drinkable liquid which fills our lakes and oceans, it becomes inconceivable to have the same chemical formula without its phenomenal, superficial properties. The same story is not true about consciousness; even though we can notice that pain and the correlate neuronal state are co-occurrent in our world, we can conceive cases in which the same neuronal substrate does not give raise to any phenomenal property.

---

<sup>1</sup> Remember that some of the problems connected to conceivability stem from a wrong description of the worlds which we have in view: the obvious example given by Chalmers is of a world where the Goldbach's conjecture is considered false because mathematicians made a mistake in their proofs, the conjecture being in fact true given the fact that the relations between numbers which it points to holds in that world; such a world will therefore be correctly described as a world in which the conjecture is true and the mathematicians made a mistake rather than a world in which it is false.

The most obvious way in which this argument can be attacked is to deny that epistemic possibility implies metaphysical possibility, epistemic possibility is not a reliable guide to metaphysical possibility: even though at the metaphysical level, pain and its neural correlate are necessarily connected, we can not still see this connection at the epistemic level. Mainly due to their great dissimilarity we are tempted to consider that there can be cases in which the neuronal substrate is not accompanied by consciousness.

Nevertheless, it is interesting to notice that once we want to give up the idea that conscious properties are contingently connected with their neuronal substrate, we are faced with two kinds of situations in which the relation can be a necessary one: either phenomenal properties are identical to the properties of the brain or they are only necessarily implied by the properties of the brain, granting the possibility of being two distinct kinds of properties. Each of these two options has different ontological consequences and different implications for the conceivability argument, the second one being capable of supporting a dualist point of view (without the weird zombie case).

I will try to give in the following paragraphs two arguments which can support the idea that logical possibility does not necessarily lead to metaphysical possibility. The first one is connected to the way in which we establish such epistemic necessities which seems to give us a clue as to why such epistemic relations do not have the power to ground ontological facts. This has to do with the fact that scientific explanations are fallible, they simply can be wrong, so that they misrepresent the relations between the things with which they are concerned. Therefore, even though we have reasons to consider a statement like „Water is H<sub>2</sub>O“ as necessary true, there is a slight possibility that it will be some day overturned by new discoveries.

Let us imagine the following scenario: suppose that the discovery of the chemical formula for water could have taken two stages. At a first stage, scientists explained the superficial properties associated with water by another chemical formula. But after new discoveries they arrive at the conclusion that this was a mistaken explanation, after which they come up with the idea that water is in fact H<sub>2</sub>O. Following the same pattern, we can speculate that someday neuroscientists will come up with an explanation for the mind-body problem.

Another reason for which epistemic possibility does not seem to be a reliable guide to metaphysics results from the way in which we conceive possible worlds. The epistemic conceivable worlds are mere stipulations a priori constructed, taking a series of non-contradictory elements as material. This is the way of conceiving a possible world that Kripke invites to take when considering the reference of an indexical term: possible worlds are not like distant planets which we should explore using a telescope and about which we gain some a posteriori information. Possible worlds are mere stipulations so that we can know a priori all that there is to know about them.

Although this view on possible worlds can help us in testing some semantic intuitions, I think that it can not be useful when it comes to science or to metaphysics. We do not have any ground to suppose that every combination of some elements is in fact metaphysically realizable. And if we give up the a posteriori restrictions which result from scientific discoveries, which can reduce the space of possible combinations, everything can be combined with everything; as an example of such restriction we can invoke such a posteriori necessary facts like water is the chemical substance with the structure H<sub>2</sub>O (I do not want to point to the necessity of this fact which results from the semantic decision to consider water only the substance with the chemical structure of H<sub>2</sub>O, but to the necessary connection between the superficial properties of water, like the fact of being colorless, odorless, liquid ... and the chemical formula H<sub>2</sub>O).

Nevertheless, how can we account for the fact that the previously mentioned statement, „Watery stuff is H<sub>2</sub>O” is necessary? We have seen that being a conceptual truth is not sufficient because such truths can be shaken in light of future experiences.

Being a truth in every possible world is also unsatisfactory. If we view possible worlds only as mere stipulations, they will be helpful only for testing our a priori intuitions and I do not think that such a fact about water can be settled a priori since it is concerned with the deep structure of the world. What can stop us to consider that H<sub>2</sub>O can have a different phenomenal appearance from that in our world, which will transform our statement into a contingent one? We have previously envisaged the possibility of having the same structure of appearances instantiated by a substance with a different chemical formula, in the case of water-XYZ. Why not having also the same chemical formula accompanied by a different appearance? The only fact which is capable of showing that such a presupposition is simply false is a fact about essences: simply, it is the essence of H<sub>2</sub>O to instantiate the superficial properties currently associated with water and is the essence of these properties to be instantiated only by such a chemical structure. But these facts about essences are neither a priori nor discoverable in a simple empirical way.

After shaking the inference from the logical possibility of a situation to its metaphysical possibility, we can argue that the conceivability of a zombie does not prove anything about its metaphysical possibility. We can not yet accept the full independence of consciousness and the properties of the brain; maybe, the conscious states are connected with the states of the brain in a necessary manner.

Nevertheless, if we envisage this possibility, what kind of necessity does this relationship involve: identity or necessary implication? I think that identity is the wrong candidate so long as it can be argued that the intrinsic properties of consciousness can not result from the structural properties of matter. If the materialists want to further support the idea that we have a relation

of identity, they have to support one of the following options: 1. deny that matter has some intrinsic properties besides the structural ones which constitute the subject matter of physics and at the same time pretend that phenomenal properties will someday be reduced by scientific explanation to structural ones or 2. consider that the intrinsic properties of matter are also part of a materialist view of the world and that their existence show only that it is something wrong with our way of conceiving science as dealing only with structural properties or 3. consider that from physical-structural properties could arise some intrinsic properties at some level of complexity; intrinsic phenomenal properties emerge from structural properties. Each of these options seems less intuitive than the dualist thesis, according to which matter has two kinds of properties, structural and intrinsic ones, consciousness arising from the intrinsic ones.

The second option, on which the neuronal structural property and the property of consciousness are necessarily connected (without being one and the same property) at the metaphysical level seems a more suitable candidate. At the same time, it can be argued that this is still a dualist point of view if we keep our previous characterization of materialism, despite the fact that it makes impossible the existence of a creature like zombie. The laws of nature which are introduced to ground the relationship between consciousness and brain in our world can be extended to every situation/world and considered necessities of essence. The structure of the brain and the intrinsic properties of consciousness can be considered to arise from the same ontological basis and their relationship is a tighter one than simple correlation or contingent co-occurrence.

#### **BIBLIOGRAPHY:**

- CHALMERS, David – *The Conscious Mind*; Oxford University Press, 1996.  
KRIPKE, Saul – *Naming and Necessity*; Harvard University Press, 1980.