



Blocking Kripke's Argument Against the Type-Identity Theory of Mind

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Abstract

In this paper, I present a two-pronged argument devoted to defending the type-identity theory of mind against the argument presented by Kripke in *Naming and Necessity*. In the first part, the interpersonal case, I show that since it is not possible to establish the metaphysical conditions for phenomenal identity, it is not possible to argue that there can be physical differences between two subjects despite their phenomenal identity. In the second part, the intrapersonal case, I consider the possibility of imagining one and the same individual having the same phenomenal state while counterfactually being in very different physical states. I argue that this case should respect Kripke's implicit theory of personal identity—but this proves to be a very difficult task to accomplish, thus preventing the argument from getting off the ground. Therefore, I maintain, that the type-identity theory is still the better option to solve the mind–body problem.

Keywords Type-identity theory · Mental properties · Physical properties · Qualia · Personal identity

1 Introduction

The aim of this paper is to defend the type-identity theory of mind from Kripke's attack as set out in his *Naming and Necessity* (1980). It will be shown that Kripke's anti-identity argument can be divided into two cases, the inter-personal and intra-personal, both of which are found to be faulty. The inter-personal case fails because of differences in what I shall call people's *sensitivity*, the intra-personal case fails because it crucially intersects with Kripke's views on personal identity, and this intersection proves to be fatal to Kripke's argumentation against type-identity theory. So, the paper proceeds as follows: after introducing

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Kripke's theory of rigid designation and the way it is applied to the philosophy of mind, I raise a difficulty with respect to the interpersonal case, in which I discuss the possibility of two people experiencing the same qualitative state while differing physically. This argument is not watertight, as many assume because people may differ in sensitivity, that is, in how well they can detect small variations in sensorial qualities. A possible rejoinder to my objection moves first on the luminosity assumption, whose rejection by Williamson (2000) I endorse, then to the discussion of the intrapersonal case, where one and the same individual is considered to have the same qualitative state while counterfactually being in very different physical states. I argue against this rejoinder as well, by considering Kripke's somehow implicit theory of personal identity. These two cases allow me to state what criteria an anti-identitist would need to satisfy to make his point.

The reason why we find Kripke center stage is, by now, historically clear, but worth repeating: his argument has played a major role in shaping the debate on the mind–body problem and in determining which background metaphysics we should consider when discussing the nature and role of mental properties of the phenomenal sort.

Kripke's argument has received enormous attention and many rebuttals, but most of such criticisms were developed on the logical and semantical aspects of his view (Feldman, 1973, 1974; Levin, 1975; McDonald, 1989; Soames, 2018). Few have tried to base the criticism on the phenomenological aspects (but see Loar, 1990 and Balog, 2012 for exceptions). This is what I wish to address in this paper: my critical argument is based on a phenomenological possibility, which has been frequently overlooked. By “phenomenological possibility” I mean a phenomenological condition (a “what it is like” condition) that is compatible with the kind of phenomenological experiences we enjoy and is metaphysically acceptable by the different theories on the mind–body problem, such as nonreductive and reductive physicalism, naturalistic dualism, and emergentism, to mention a few.

It should be noticed that Kripke's argument has been somehow superseded in the present literature by David Chalmers' attack on reductive physicalism. As Chalmers himself observes, there are differences and similarities between the two arguments: Kripke's one is centered on identity, with rigid designation and essentialism playing a crucial role, while Chalmers' argument is pivoted on supervenience, with no special role played by essentialism. Both arguments, though, “are modal arguments, involving necessity and possibility in key roles. And both appeal to the logical possibility of dissociating physical states from the associated phenomenal states” (Chalmers, 1996: 147). Now, I think that these common assumptions are the crucial ones so that neither argument stand if these assumptions are defeated. That is why in this paper, I shall set an attack on these assumptions. If I am right, Kripke's argument is blocked and consequently is Chalmers'. This is the result of what I have called the interpersonal case. Vice versa, in discussing the intrapersonal case, I dwell more on Kripke's exclusive focus on essentialism, a doctrine whose importance cannot be underestimated.

2 Setting the Problem

Kripke (1980) has devised the concept of a rigid designator to describe a term, for instance, a common or a proper name, which fixes its referent under all possible counterfactual circumstances. Rigid designation describes a relation between a name and its referent, that is constant in all possible worlds. “Benjamin Franklin” refers to Benjamin Franklin and “water,” a natural kind term, refers to water in all possible worlds: their referents are picked rigidly. What is it to pick out a referent? It means picking out the object or individual that was (perhaps, intended to be) the referent when that object or individual was named or baptized in the original act of denomination. So, “Benjamin Franklin” was used to name Benjamin Franklin, the man that then invented the bifocal lens. But inventing the bifocal lens is not a necessary property of Franklin, only a contingent one: had he not invented the bifocal lens, he would nonetheless have been the referent of “Benjamin Franklin”. Kripke fixes specific criteria to identify the referents of proper names, criteria, which I will consider in due time. The rigid designation also applies to natural kind terms, such as “tiger” or “water.” Consider “water:” the term has been used to name the stuff that flows in rivers and that we drink. However, this characterization might not be sufficient, as shown by Putnam’s famous thought experiment regarding Twin Earth (Putnam, 1975). On that planet, what flows in rivers and what quenches people’s thirst is not water but a substance superficially similar to what flows in our rivers and what quenches our thirst. However, no matter how superficially similar that substance may be to water, it is not water, so it is not the referent of the word “water” because it was not the (intended) original referent in the act of baptism. But then, what is water, really? What water is should be found in its essential nature, and Kripke identifies its essential, or real, nature with its chemical structure. Basically, it is science that tells us what a natural kind really is, and to do so, in this case, it looks at its chemical structure. So, “water” picks out H₂O in every possible world, and no other watery stuff, no matter how similar to water it may be, can serve as the referent of “water.” Analogously, when it comes to “tiger,” science tells us that we should look at DNA: herein lies the real nature of tigers. So, when a tiger-like animal is presented to us, we can say if it is a tiger or not by checking its DNA.

Kripke is aware that rigid designation can be further differentiated.¹ One prominent distinction is that between *de jure* rigidity—where the referent is stipulated to be a single object—and *de facto* rigidity—when the reference is satisfied by a single object in each possible world. This determines the problem of the semantics treatment of rigid designators in those worlds where the referent does not exist. Kripke clarifies, “my thesis about names is that they are rigid *de jure*, but in the monograph I am content with the weaker assertion of rigidity” (Kripke, 1980: 21 note 21). Consequently, I adopt the weaker view of rigid designation, one that could be satisfied better by natural kinds and common names.

¹ For a recent review see Laporte (2022).

One of the most notable consequences of this theory lies in its treatment of identity statements. In saying “water is H_2O ” we are fixing an identity between the common noun “water” and the chemical formula “ H_2O .” Given that “water” refers rigidly, it cannot have different referents in different possible worlds. The same holds for the chemical formula. “ H_2O ” picks out all and only those chemical compounds that exhibit a certain proportion of oxygen and hydrogen and picks them out necessarily, that is, in every possible world. Consequently, if two names refer rigidly and refer to the same entity, they do so in all possible worlds. If an identity statement holds between any two rigid designators, then the described identity holds in all possible worlds, hence is necessary. So, identity statements, when true, are necessarily true.²

Kripke has famously applied his theory to the mind–body problem, to argue that the type-identity theory of mind can be dismissed altogether. The identity theory claims that types of mental properties, like feeling pain, are identical to types of physical properties, such as C-fibers firing in the brain (where “C-fibers firing” is a placeholder for whatever the best neurological theory says is associated with feeling pain).³ If C-fibers firing can be reasonably conceived as a natural kind, it is reasonable to assume that “pain” names a natural kind as well. Kripke himself uses it as flanking an identity relation, and the identity theory assumes it to be a type; so, in both cases, pain being a natural kind serves the purpose. So, these types are natural kinds, and their names are rigid designators. Consequently, if true, the identity “pain = C-fibers firing” is necessarily true, even *a posteriori*. However, Kripke argues that we can dissociate the physical type with the mental type because we can clearly conceive of someone who is in a “qualitatively identical epistemic situation” (QIES, from now on) to someone who is in pain (P, for short) while not being in that brain state C.⁴ At the same time, we can imagine someone being in the brain state C while not having pain, that is, while being in a state which is not qualitatively identical to one of pain. The idea of a qualitatively identical epistemic situation is used by Kripke to explain the apparent contingency of claims like “water = H_2O ”. Kripke, as said, remarks that such apparent contingency holds for “water and H_2O ” but does not work with “pain = C-fiber firing” since a state that feels like pain—a qualitatively identical epistemic situation—just is pain.

A crucial assumption now kicks on, according to which conceivability entails possibility. From this, it follows that it is possible to token pain while not tokening C-fibers firing. Consequently, pain and C-fibers firing are possibly different, hence not identical, in contrast to the type-identity theory. Therefore, the type-identity theory is false.

An explicit reconstruction of the Anti-Identity Argument (A-I A) is the following:

² The necessity of identity statements has been very well clarified by Jonathan Lowe (2002: 85) by showing that adopting the principle of the necessity of self-identity (any object is necessarily identical to itself) and Leibniz’s Law (for any x and y and for any property P , if x is identical to y , then P is a property of x if and only if P is a property of y), it can be deduced that if a is identical with b then it is necessarily identical. Thanks to an anonymous referee for pointing this out to me.

³ For a recent proposal of the type-identity theory, see Gozzano and Hill (2012).

⁴ See Kripke (1980: 142; 150; in particular 152).

(A-I A)

- i) If feeling pain is identical to C-fiber firing, then it is necessarily identical (i.e., it is not possible to feel pain without having C-fiber firing or having C-fiber firing without feeling pain);
- ii) It is conceivable that the occurring of the feeling of pain and of the firing of C-fiber are dissociated;
- iii) If the holding of (ii) is not illusory, what is conceivable is possible; therefore.
- iv) It is possible that one feels pain without having C-fiber firing or has C-fiber firing without feeling pain; therefore.
- v) to feel pain is not identical to C-fiber firing; therefore.
- vi) the type-identity theory is false.

Here, I will not discuss the inference from conceivability to possibility (Gendler & Hawthorne, 2002; Yablo, 1993), and I should stress that Kripke (1980) accepts the third premise with the qualification that the dissociation of feeling pain and C-fiber firing is not the result of an illusory intuition, while maintaining that to explain away this intuition is not a “child’s play.” However, this premise figures in the most prominent advocate of Kripke’s argument, i.e., Chalmers (1996, 2010). What I shall challenge is the very conceivability of the autonomy of feeling pain and C-fiber firing (premise ii), by arguing that such conceivability entails that a QIES holds, and the holding of a QIES is crucial in both directions, the one that goes from having pain without having C-fiber firing but also the one that goes from having C-fiber firing without having pain because the lack of pain can be understood as a difference in the qualitative situation and such a difference entails having set the identity of a qualitative situation, an identity which the QIES is supposed to provide. However, as I will argue, the QIES cannot be established in cases of pain and in general in cases relating to conscious states, so the argument cannot get off the ground.

3 Facing the Problem: a Blind Alley

In updating Kripke’s argument, Chalmers states that:

“The most straightforward form of the conceivability argument against materialism runs as follows:

- 1) $P \ \& \ \neg \ Q$ is conceivable
- 2) If $P \ \& \ \neg \ Q$ is conceivable, $P \ \& \ \neg \ Q$ is metaphysically possible
- 3) If $P \ \& \ \neg \ Q$ is metaphysically possible, materialism is false

Materialism is false

Here, P is the conjunction of all microphysical truths about the universe, specifying the fundamental features of every fundamental microphysical entity in the language of microphysics, as well as fundamental microphysical laws. Q is an arbitrary phenomenal truth: perhaps the truth that someone is phenomenally conscious, or perhaps the truth that a certain individual (that is, an individual satisfying a certain description) instantiates a certain phenomenal property.” Chalmers 2010: 142).

Now, while it is clear what it is for P to hold, I argue that this is not the case with respect to Q. What does it take to establish a phenomenal truth? I guess that the QIES is a reasonable way: it is true that P if and only if some conditions for such a truth can be established and the idea that there is an epistemic situation of qualitative identity is appropriate. But, how can the QIES condition be met? What establishes that the epistemic situation in which one subject feels x is qualitatively “the same as” or “identical to” the epistemic situation in which the very same individual feels y ?⁵ Or, to consider the case of two individuals, what is the condition in which both you and I feel x ? Here, I am not looking for conditions that would verify it, rather I am searching for the metaphysical condition that would have to be obtained for it to be the case. The first thing to consider is how we should conceive of qualia.

Clarence Irving Lewis, who baptized the phenomenal character of sensory states “qualia,” says.

Our interest is, rather, in the element of givenness in what we may ... mark off as “an experience” or “an object”. This given element in a single experience of an object is what will be meant by “a presentation”. ... In any presentation, this content is either a specific quale (such as the immediacy of redness or loudness) or something analyzable into a complex of such. (Lewis, 1929: 60-1)

On the topic of the recognizability of qualia, Lewis insists.

There are recognizable qualitative characters of the given, which may be repeated in different experiences, and are thus a sort of universals; I call these “qualia.” But although such qualia are universals ... they must be distinguished from the properties of objects. ... The quale is directly intuited, given, and is not the subject of any possible error because it is purely subjective. The property of an object is objective; the ascription of it is a judgment which may be mistaken; and what the predication of it asserts is something which transcends what could be given in any single experience. (Ibid., p. 121)

So, qualia are the phenomenal character of sensory states (sensations). Since these are universal, they can be felt more than once and by more than one subject of experience. So, I feel x and after a while, I feel x again. In such a case, I am in a qualitatively identical epistemic situation: my two experiences have the same qualitative character. Here the epistemic component of the experience reduces to

⁵ I am using different variables, x and y , to indicate different token states or properties. But, as we will see, the use of different variables opens a problem relating to the type/token distinction as applied to qualitative states or properties.

what I am feeling because I know⁶ that I am feeling *x*. This is made quite evident in the following passage, in which Kripke shows that the identity of pain and C-fiber firing cannot be compared or equated to that of heat and molecular motion, as the identity theorists imagined. Here is the relevant quote:

Someone can be in the same epistemic situation as he would if there were heat, even in the absence of heat, simply by feeling the sensation of heat; and even in the presence of heat, he can have the same evidence as he would have in the absence of heat simply by lacking the sensation *S*. No such possibility exists in the case of pain and other mental phenomena. ... The trouble is that the notion of an epistemic situation qualitatively identical to one in which the observer has a sensation *S* simply *is* one in which the observer had that sensation. (Kripke, 1980: 152)

So, "pain is picked out ... by its immediate phenomenological quality." (Ibid.), and there is nothing else in pain than the qualia *S*, as Kripke calls it. Such a qualia, it seems, is the epistemic object, the way the subject knows to be in pain. At the same time, qualia *S* can establish the condition for a QIES, so is not idiosyncratic, or peculiar to the feeling subject.

This means that it is possible to feel the same *S* twice, which amounts to being in a QIES condition. What about another person? Here, we must recur to the metaphor of God's eye: for two people, say Thelma and Louise, to be in a QIES is for them to feel the same. However, it is perfectly legitimate to ask whether there are conditions that could fix the qualitative identity (or sameness) of an epistemic situation for two or more people or how to interpret this same-feelingness.

On the issue of comparing qualia, we do not find specific details in Kripke, and so we may turn our attention to Nagel (1974), who makes the similarity between subjects of experience the pivotal point of his famous paper. Here is the crucial quote:

There is a sense in which phenomenological facts are perfectly objective: one person can know or say of another what the quality of the other's experience is. They are subjective, however, in the sense that even this objective ascription of experience is possible only for someone sufficiently similar to the object of ascription to be able to adopt his point of view – to understand the ascription in the first person as well as in the third, so to say. The more different from oneself the other experiencer is, the less success one can expect with this enterprise (1974: 442)

Leaving aside the epistemological wariness expressed by Nagel, the metaphysical lesson we may gain is that by "objectivity" Nagel intends to indicate some form of qualitative sameness that guarantees that the same phenomenal character, the same quale, is attained by different subjects. Such objectivity can be grasped by, and depends on, the overall similarity between the subjects. The more similar two subjects are, the more similar their qualia will be and, therefore, their

⁶ This is a form of knowledge by acquaintance, neither propositional nor necessarily conceptual.

capacity to grasp what the other subject feels. So, on what grounds can we claim that two individuals are in a qualitatively identical situation? On what metaphysical basis can we establish that the same quale is had by two persons at the same (or a different) time? I see only three possible readings.

3.1 Behavioral Similarity

Qualia Q_x and Q_y are the same iff subjects feeling Q_x and subjects feeling Q_y behave in the same way during or after the same experience. For instance, having a sharp pain in the arm makes people behave in the same way: they whine, cry, attend to the painful arm, and so on. We can obviously discard such an analysis right away: reducing qualia to behavior is not only historically implausible—behaviorism rescuing qualia—but, more importantly, conceptually unsound: we can clearly conceive of two people reacting alike while feeling differently and reacting differently while feeling alike.

3.2 Neural Similarity

Qualia Q_x and Q_y are the same iff subjects feeling Q_x and subjects feeling Q_y undergo the same neurological events during the same experience. In this case, two people with sharp pain in their right arm would exhibit, at the same time, the same neural activity as revealed by some kind of technical apparatus, such as fMRI, PET, or whatever. Here, we face a quasi-paradoxical view: the type-identity theory of mind must come to the rescue of qualia! Again, what is crucial here is the argument, proposed by Kripke, that we can imagine a complete de-correlation, or a contingent relation, between qualitative properties and neural properties. That is to say, there is no contradiction in thinking that two subjects are feeling the same while exhibiting quite different neural correlates of their conscious state.⁷

3.3 Morphological Similarity

Qualia Q_x and Q_y are the same iff subjects feeling Q_x and subjects feeling Q_y have the same morphology and the same causal etiology. In this case, qualia reduce to bodily properties. For instance, you and your pal may have the same pain because each's arm has been wounded in the same way. If you compare a human being to a chimpanzee, to state a case, then the ground is not firm anymore, as Nagel has suggested. However, this solution also runs into many difficulties. To begin with, which bodily property? Consider this case: are women and men on a par with respect to any pain, including the pain of giving birth? That sounds implausible. The problem can be applied to other conditions: are people who suffer or do not suffer from auditory deficits on a par with respect to extremely loud noises? We can loosen the morphological criterion a bit, but where should we stop without being ad hoc? It seems that not even morphology is a good guide to similarity when it comes

⁷ For a review of the most recent attempts to find a neural correlate of conscious pain see Coninx (2021).

to determining the conditions under which two subjects could have a QIES. If none of these three readings of Nagel's argument is viable, let me try a radically Kripkean strategy.

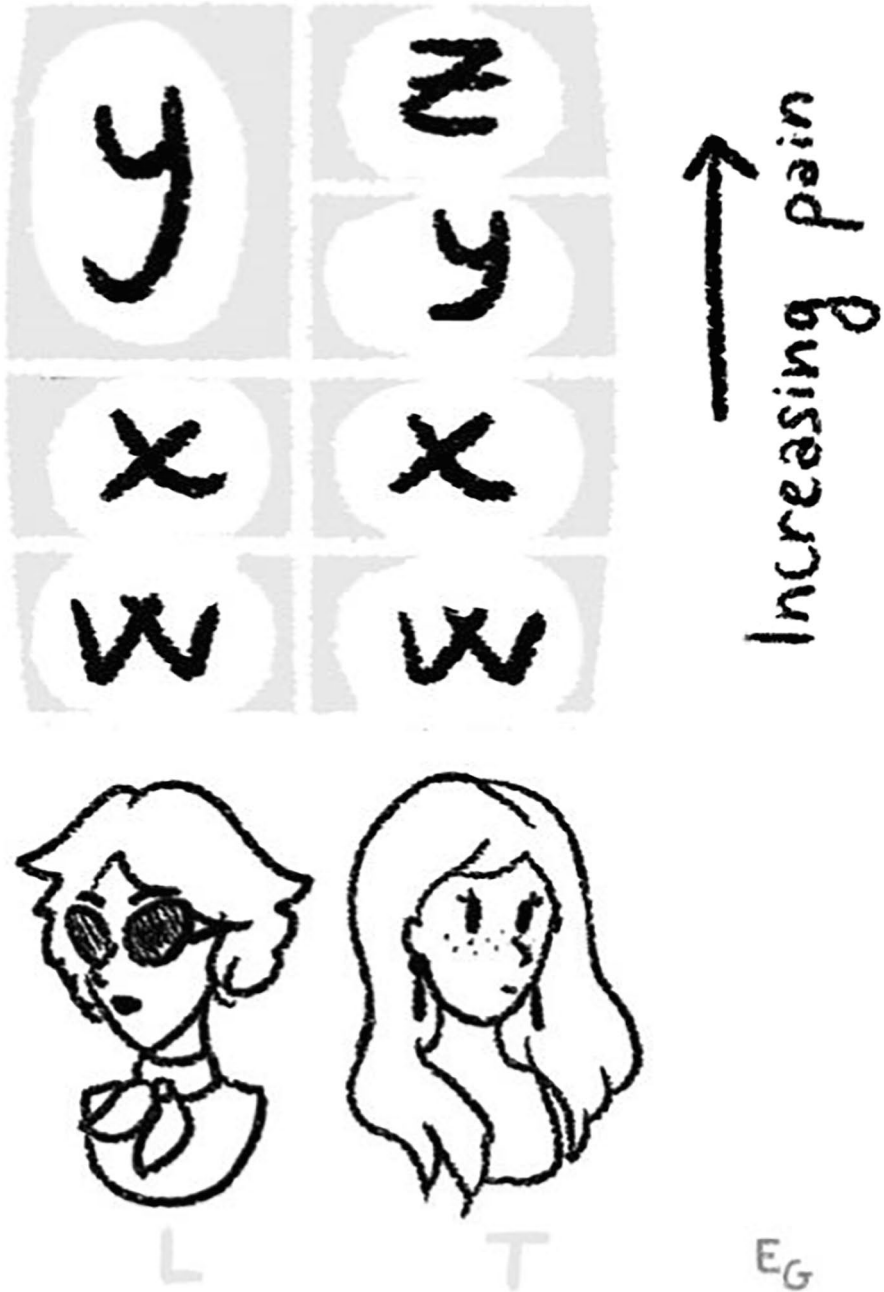
4 QIES Kripke's Style

The best way to analyze what a QIES is, is to imagine that qualia x is the same as qualia y if and only if people experiencing these two states feel the same. Such sameness can be met by imagining that if $Qx = Qy$, then, there would be no way to tell an x occurrence from a y occurrence. I suggest that a way to make sense of this "sameness" is by means of conceiving a quale swapping. Imagine Thelma and Louise both feeling pain. Now, Thelma and Louise are in a qualitatively identical epistemic situation (QIES) if and only if swapping their qualia does not result in any change in their experiences. So, the QIES is reached when, *per impossibile*, God swaps the pain of Thelma with that of Louise and vice versa without either of them noticing a change in their own experience.

- a) Qlx is Qty and
- b) Qly is Qtx .
Therefore,
- c) Qlx is Qly and
- d) Qtx is Qty .

We may now ask: supposing this is the best if not the only way to make sense of the QIES, how firm is this ground for establishing the QIES?

In feeling pain, the feeling is all the epistemology we need. While in QIES, Thelma and Louise supposedly experience the very same Q , say pain intensity. However, the following situation is possible. Imagine that Thelma is less sensitive to pain than Louise is, which means that Thelma is not as able as Louise to detect small variations in pain intensity. This is to say, if we were trying to establish a correlation, the values of the stimulus intensity and of the perceived phenomenal quality tend to diverge after a while. So, initially Thelma's intensity 1 maps onto Louise's intensity 1, and so for intensities 2. But then, as the values of stimuli intensity increase, the perceived phenomenal quality diverges: Thelma's intensity 3 may map onto either 3 or 4 on Louise's ladder of values because Louise's capacity to feel pain is more fine-grained than Thelma's. This can be compared with sensitivity to the shades of colors. Where Thelma sees red 3, Louise may see either red 3 or red 4, depending on the frequency of the patch of color to which she is exposed (see the image below). Clearly, colors differences can be revealed by measuring wavelength differences, pains differences can not.



Given such discrepancies, the following could happen. Thelma and Louise are feeling an intensity of pain for which there is not one-to-one but rather an

asymmetrical one-to-many correspondence. Pains are swapped: Thelma does not feel any difference; it is as if no swapping had been done. But Louise feels a difference in pain intensity, thus detecting that a swap has been done. So, due to a difference in the least stimulus intensity at which a subject perceives variation in pain intensity⁸ it turns out that while for Thelma Q_{ty} is Q_{lz} , for Louise Q_{lz} is not Q_{ty} .⁹ The problem then arises: are Thelma and Louise in a qualitatively identical epistemic situation or not? Yes, by Thelma's standards, no by Louise's. Since there is no further fact of the matter, QIES cannot be established and cannot be offered as a firm ground for pain identity. This result has an enormous bearing on Kripke's style arguments because what there is in feeling pain is completely determined by the very epistemic attainment, namely what a subject feels, and there is not any further fact to adjudicate the issue. Now, the concept of a QIES was there to establish conditions of identity for pain and other qualia. If, however, it is unable to establish those conditions, the concept of a QIES is not a firm ground on which to fix what it is to feel the same. If the concept of a QIES is not the ground for establishing if two subjects feel the same since there is no another concept in sight, the argument against type-identity cannot get past stage ii), where it was assumed that it is conceivable to feel pain without having C-fiber firing.

One could escape the argument of Thelma and Louise by arguing that QIESs are individual-relative: one can be in the same QIES only with oneself, not with anybody else. However, that would betray the concept of knowledge as we usually understand it. Even if the epistemic situation envisaged by Kripke is a condition of minimal knowledge,¹⁰ we nevertheless conceive of knowledge as not idiosyncratic: the purpose of knowledge is to establish intersubjective, if not objective, truths, even when these are relative to singular events. In the case at hand, the purpose of a QIES is to allow comparisons between various qualia by using identities among pairs of them. After all, it is an epistemic situation, not an introspective situation, even if the epistemology is attained via introspection. Moreover, it is perfectly possible that the situation imagined occurs to a single individual. That is to say, it could be the case that, say, Thelma changes her capacity to detect small variations in pain while getting old. So, we could imagine a pain swap such that young Thelma does feel a variation in pain, while old Thelma does not. Again, there would be no way to adjudicate the issue if the two temporal stages of Thelma are in a QIES or not.

So far, I have shown that you cannot have pain identity without physical identity because we do not have a clear way of identifying pain. But one may argue that the reverse is still viable: we can conceive two individuals both having C-fiber firing but one of them lacking pain, so my argument is not complete. A logical reaction on my

⁸ I am elaborating on the concept of pain threshold as it appears on the International Association for the Study of Pain website.

⁹ Here, we may come back to the issue of the two variables: this case shows that what is just another token of the same type of sensation for Thelma is another type of sensation for Louise.

¹⁰ Such a knowledge would be a form of immediate acquaintance for which subjects cannot provide justifications or are not able to draw inferences, even perhaps those with a nonconceptual content. See Bayne 2010; Brewer 1999; Crane 1992; Peacocke 1994, 2001.

side would be the following: since we do not have identity conditions for pain, we cannot even say when there is no pain, so not even this conceivability is guaranteed.

A further rejection of my argument may go like this: to block the interpersonal case is enough to show that Thelma and Louise may have the same physical state while differing phenomenally, and to establish such a difference what is needed is just that it seems to one not to be in pain, for her not to be in pain. Such a conceivability is based on the idea that we have a direct and infallible (i.e., error-immune) grasp on our own internal feelings. This brings us to the case made by Timothy Williamson on the transparency of our own feelings. Williamson (2000) has argued that sensations, as he calls them, are not *luminous*, that is, we might not know what sensation we are experiencing. According to Williamson, we should imagine a person that feels cold at dawn but thanks to locally unnoticeable differences, feels warm at noon without having noticed the change. So, Williamson argues, one is not always in the position to know what is experiencing, and so one could be not in the position to know one's own mental state. Since it is one of the crucial assumptions of Kripke that in feeling pain one knows whether one is in pain or not, the conceivability that goes from having C-fiber firing to not having pain assumes luminosity.

Brian Weatherson (2004) has argued, contra Williamson, that feeling pain, as a self-presenting mental state, is identical with the belief that it is occurring: the feeling is identical to the belief that the qualia is occurring, a "phenomenal belief," and the identity between the qualia and the phenomenal belief is constitutive of pain. However, such a belief may well be formed on erroneous feelings, so this epistemological twist does not guarantee the point my objector is aiming at. Ram Neta and Guy Rohrbaugh have argued that one is sure to feel cold, or to feel pain, if in conditions "sufficiently similar" to the ones in which she feels cold, she feels cold, where the notions of "sufficient similarity" can be taken as a primitive, a notion that I have spelled in terms of a quale swap. Such condition of similarity is Williamson's safety requirement for knowledge, according to which "If in α_i , one knows that one feels cold, then in $\alpha_i + 1$ one feels cold" (Williamson, 2000: 97). According to Neta and Rohrbaugh, the requirement is to be "interpreted in such a way that it does not rule out variation in the truth-value of the belief between sufficiently similar cases. So construed, however, the requirement is implausibly strong." (Neta & Rohrbaugh, 2004: 399) The same kind of analysis emerges from Berker who says that "Williamson insists that in order for one's belief in α_i to be safe enough to constitute knowledge, one's belief must not be false in any similar case that one cannot discriminate from α_i " (Berker, 2008: 3). However, the strength of this requirement is needed in the case of Kripke's argument because, as Chalmers stressed, it is based on identity. So, if we accept Williamson's argument, we may conclude with Srinivasan that "the common picture of the phenomenal realm as one of privileged access turns out to be a Cartesian orthodoxy from which philosophy must be cleansed" (Srinivasan, 2015: 294). Surely, we may restrict Williamson's argument to states and prevent it from being applied to events and processes (see Jenkins, 2021) but, for that matters the debate on pain in the philosophy of mind, states are enough. And here the fact is that Louise may have her C-fiber firing and not feeling pain, but such a condition is tantamount to that of the unnoticeable difference in the case of the comparison with Thelma's sensitivity to pain. So, it could be the case that Louise believes she is not

in pain, but we cannot be sure that she is right about that because Louise could be wrong in cases that are sufficiently similar to the one we are considering. As Berker appropriately observes, Williamson himself notes that “it is precisely because [some philosophers] think that there is a tight connection between certain mental states and beliefs about those states that some philosophers claim the mental states in question to be luminous” (Berker, 2008: 9), and Kripke is exactly on this track believing that if it seems to one person that she is still feeling what she has felt so far, this is sufficient to establish that she is still feeling what she felt so far, that she is in a QIES with respect to what happened to her a moment ago. Similarly, if it seems to someone that she is feeling differently now than before, it is enough for her to say that she is not in a QIES with respect to what was happening to her before the swap. However, since, as per my previous argument, it is possible to imagine a divorce in these two conditions and there is no fact of the matter that settles the dispute, I conclude that the epistemology behind the concept of QIES is not solid ground to establish the argument against type-identity.

To conclude the first part of my paper: Kripke's argument is insufficient to discard the type-identity theory because it relies on the concept of QIES and such a concept does not offer a sufficiently firm ground for establishing when is it the case that two subjects, or the same in a counterfactual situation, are experiencing the same quale.¹¹ If this cannot be established, then we cannot establish that subjects can have the same quale while having type-different physical states, which is a crucial premise in the conceivability argument. So, without discussing the entailment from conceivability to possibility, the argument cannot get off the ground.

5 What About Intrapersonal Cases?

In discussing a version of the argument developed in the previous paragraph, Istvan Aranyosi has suggested, elliptically, that it may work for interpersonal cases but not for intrapersonal ones:

While I see some plausibility to this idea when it comes to imagining a zombie (two individuals in the same brain states, but one of them totally lacks phenomenal states), I think it does not have a bite in the case of so-called angels (two individuals in the same phenomenal states, but one of them lacks a brain or the whole body). The easiest way to conceive of the second scenario is to apply it to oneself; right now, as I am writing these words, I can easily conceive that I am brainless. (Aranyosi, 2014: 607)

Basically, Aranyosi is pointing at Descartes' version of the demon, which fools us with most of our experiences. Indeed, people suggest that it is perfectly possible to be in quite different physical states while preserving the very same mental state, so the type-identity theory is doomed to fail. We can express this intrapersonal version of the A-I A in the following way.

¹¹ Note that the argument applies independently of taking qualia to be universals or tropes, as tropes are perfectly or maximally resembling sensations.

(A-I A)*

- i) If feeling pain is identical to C-fiber firing then it is necessarily identical (i.e. it is not possible to feel pain without having C-fiber firing or having C-fiber firing without feeling pain);
- ii) It is conceivable that the occurring of the feeling of pain and of the firing of C-fiber are dissociated;
- iii) if the holding of ii) is not illusory then what is conceivable is possible;
therefore:
- iv) it is possible that one feels pain and does not have C-fibers firing;
therefore.
- v) to feel pain is not identical to C-fibers firing;
therefore.
- vi) the type-identity theory is false.

Is this argument correct? The very first thing to note is that we also have to consider the phenomenal property of feeling pain as a type, a universal, as C.I. Lewis would say. The phenomenal property must hold stable across variations in the physical conditions. We have seen that it was not possible to keep it stable across individuals. In the case of the intra-personal version of the argument, however, the QIES case seems easier to obtain, for one can imagine oneself to be in the very same phenomenal condition while being in a different physical condition. However, the argument I am going to discuss, which constitutes the core of this paper, takes up concepts and ideas from Kripke himself to show that you cannot easily change your physical properties while keeping your mental properties stable. And this can be shown independently by consideration of different kinds of conceivability (Chalmers, 2010).

Kripke applies his essentialist metaphysics not only to the referents of proper names and natural kind terms but also to how we refer to persons and particulars. It is plausible to maintain that such metaphysics must be accepted and applied consistently: one cannot accept rigid designation and its metaphysics for natural and psychological kinds (such as *C fibers* and *pain*) and reject it for persons and particulars. Let me describe Kripke's view when it comes to persons and particulars.

Kripke offers three criteria that are of use for what I want to argue. The first is the criterion of origin: "How could a person originating from different parents, from a totally different sperm and egg, be this very woman?" (Kripke, 1980: 113). The origin, where this origin may vary depending on the kind of entity one is considering, constrains the entity we are referring to as "the Queen Elisabeth" or "Thelma".¹² Surely, there are different ways of applying the criterion of origin: a crystal or a mountain may have their origins in a particular chemical or geological process, and an artifact may find its origin in the specific act of creation, which would explain why a molecule-by-molecule copy of the *Gioconda* would not be the masterpiece by Leonardo, no matter how indistinguishable from his work it might be.

¹² Clearly, I am supposing that Thelma is not a fictional character.

A second principle, strictly related to the previous one, that applies in particular to the case of artifacts, is the principle that considers the matter more than the process. On this Kripke says: "A principle suggested by these examples is: If a material object has its origin from a certain hunk of matter, it could not have had its origin in any other matter" (Ibid: 114, n. 56). As I said, here Kripke stresses that we can keep track of a particular by considering the very matter from which that entity has originated or, we may add, was grown from. Imagine creating artificial intelligence by replacing each neuron of an actual brain with an artificial functionally equivalent item, a thought experiment frequently explored in the literature (Block, 1978; Chalmers, 1996). There is a point at which our reference to "that brain" goes astray. This surely happens when all the neurons of the brain have been replaced by the equivalent artificial items, and it is obviously very difficult to say if there is a point at which this happens, given the soritical nature of the thought experiment. Nevertheless, Kripke argues, when we fix a reference to a certain material object, we bring with it its physical origin as well.

The third principle Kripke discusses is one described by the following quote: "I am not suggesting that only origin and substantial makeup are essential. [...] So (roughly) being a table seems to be an essential property of the table" (Ibid: 115, n. 57). That is, classifying is picking out the nature of things, for a consistent classification is one in which things are sorted according to their common nature. In classifying, we are not just determining the principles of similarity by which we will gather things into consistent classes, we are also implying whether we can count things or not, whether we take them to be simple or compound, and so on. This principle, then, can be called *sortal essentialism*, in short *sortality*.

Let's label these principles origin, substance, and sortality. What I shall argue is that these are essential properties of persons, such that no one can survive changes in origin, substance and sortality. If, like everybody else, I cannot survive these changes, since these are my essential properties, which of my properties could I change while leaving my phenomenal properties unchanged, to permit the anti-identity argument to apply?

To begin with, the properties that can be modified in the counterfactual situation are those that do not affect the type of phenomenal condition one is feeling. Call these the phenomenally irrelevant properties. By using the method of duplication, we can imagine that a property P of subject S is phenomenally irrelevant if and only if duplication of S without duplication of P leaves the phenomenal condition of S unchanged. Basically, one cannot imagine changing a property that leads to a dramatic phenomenal modification, such as the disappearance of the feeling of pain.

Having this in the background, we may consider whether the properties that may change while leaving phenomenal properties unchanged can be contingent or necessary properties. Obviously, contingent properties can change, since for instance, I can become bald, myopic, or rich and still be me. However, it seems that changing these specific properties does not make the case the anti-identitist aims for, because these properties are irrelevant to the issue at stake. My becoming bald may be neutral with respect to some phenomenal states of mine.¹³ So, it seems, we should keep

¹³ Even if not by all: I cannot feel my hair being twisted by the wind, but I can still feel pain.

the pertinent background properties unchanged in order to consider which properties are phenomenally irrelevant. Analogously, we should keep our brain working or not anesthetized to have pain, for this is a non-phenomenal property, which is phenomenally relevant.

Different contingent properties that may be relevant to the phenomenal condition of a subject could include being absentminded, forgetful, or scatterbrained. Suppose that in the counterfactual condition I instantiate one or all of these: this entails my being less accurate and reliable in considering whether the phenomenal property I am experiencing is still the same or not, for it is the nature of these properties of mine that make or prevent my prima-facie impressions of my own phenomenal states from being reliable and accurate. So, these properties cannot change while my pain-type experience goes on being the same.

Let's now consider the necessary properties of particulars and see how variations in these are admissible given Kripke's criteria. In order to make the case against the type-identity theory, one has to make a case for type different physical realizers of a maximally similar or identical phenomenal property. Such different realizations of pain, however, should not modify the subject of the experience, that is, they should be irrelevant not only as regards the nature of the pain, and so phenomenally irrelevant, but also irrelevant to the subject himself. For, imagine affirming: I could still be in pain and be a robot. That would obviously run against the conditions for saying that it is me that you are talking about. Both origin, substance, and sortality are modified in considering a counterfactual situation in which *I*, this very person, am a robot. If these are modified then it is not me the one we are talking about, and so the counterfactual situation does not hold. Similarly, it is unclear whether it would be possible for a woman to say, "If I were a man, I would not have been able to stand the pain of giving birth". In such a case, at least Sortality is violated if being "male" or "female" is part of the classification at stake in saying something about a person. More in general, we can state three general conditions the anti-identitist must respect. To make the anti-identity case, the properties envisaged in the counterfactual cases should be: a) irrelevant for the identity of the subject, b) irrelevant for the phenomenal type in question and c) instantiate a different type of physical property. Let me illustrate the reasons we should consider these conditions fixed to prove the anti-identity argument.

The case for *a*: for the anti-identity argument in the intra-personal form to be established, we must assume that the subject who is feeling pain holds stable across possible worlds. So, the identity of the subject should not change. If we agree with Kripke's criteria on what determines the metaphysics of persons and particulars, any variation in the mental properties and states of a person must be compatible with the origin, substance, and sortality of that person. The case for *b*: irrelevance must hold because the cases one is conceiving of should not change the phenomenal character of pain, that is, should not violate the requirement of taking phenomenal properties as types of experience or as universals. Clearly, this is not to say that one could not have less intense pain, but it should still be pain. Finally, the case for *c*: in imagining the case for the A-I A*, we are imagining that the variations in the physical properties should be as robust as type different properties are, not simple token variations, and the like. Now that the criteria have been settled, it is time to see how to use them and discard those cases that do not meet them.

6 Debugging Some Cases

The first case that should be discarded is one where a rearrangement of the C-fibers is imagined. This would not make a case in favor of the anti-identitist case because we would have the same type of property, only a different exemplification. So, my getting old and losing many neurons and connections is not a case in point.

How about imagining not having C-fibers but rather K-fibers? In order to evaluate this case, we should imagine these K-fibers to be compatible with what can develop from my parents' gametes. For, my having C and not K fibers was presumably determined by my genetic make-up which, in turn, was determined by my parents' gametes. If K-fibers are compatible with this condition, that is, if it is possible that by some genetic vagary a human being can be born with K-fibers instead of C-fibers and that these K-fibers allow for the transmission of nervous signals, then the Origin criterion has been met. However, I doubt that these fibers would be compatible in this way. On the one hand, this may not be an a priori question but rather a question to be settled by empirical research, so arguing that it is possible could be an ad hoc move. On the other hand, what kind of relation is entailed by imagining my DNA being compatible with my having a type-different tissue in the brain? If it were possible to have tissue differences without DNA differences, that would be equivalent to saying that tissue structure and composition do not supervene on DNA. Basically, we would have to imagine a possible world in which tissue variations are not backed up by DNA variations. Such independence, however, is of the same logical kind we are discussing, phenomenal properties not supervening on physical properties, and so this possibility again begs the question about the dependency relation we should hold stable. So, the possibility of having K-fibers is a blind alley.

Let us consider the suggestion made by Aranyosi: could I be brainless and still be in pain? Surely, it is possible that a brainless individual is in pain, but can I be brainless and still be in pain? That is, can the very individual that is me be in a counterfactual situation in which the phenomenal properties are preserved but not the physical properties? The first thing to consider is whether having a brain is an essential property of mine. For, if it is, then surely it is not possible for me to lack it. So, suppose I am in pain, and the phenomenal property of being in pain is realized by some other physical substance. In this case, the substance criterion is violated because, in order to be me, I should be composed of a certain kind of matter. Me, this very person, cannot be made out of cheese or whatnot. At least, not given the metaphysical background that Kripke has in mind.

Clearly, if I am brainless, the common physical realizer of my pain state is not present, and without such a realizer, since phenomenal properties need a realizer, I cannot feel anything, a fortiori I cannot feel pain. A retort to this last observation is to assume that being in pain is a fundamental property, one that does not need any realizer in order to be instantiated. This option, however, begs the question about the materialism that the type-identity theorist is advocating. For, it simply assumes that phenomenal properties are basic properties of the universe, alongside charge or atomic forces, but one cannot assume this and then use such an assumption

to motivate anti-identitism, for this move begs the question. So, it should be discarded.¹⁴ Finally, even stipulating that even without a brain I could be in a QIES to the one I have when I feel pain while having a brain begs the question because that would presume that physical properties are phenomenally irrelevant, which instead was the very issue at stake.

The anti-identitist could use the following argument. Suppose I feel pain in my limb. My limb is then removed, but I continue to feel pain, phantom limb pain. Clearly, if pains are taken to be central states, then my not having the relevant limb does not demonstrate anything because there is no physically relevant type difference. However, if pains are taken to be global physical states, states in which we have to consider the entire organism, then the difference is evident, and the anti-identity case has a chance. There is a long and vexed debate on whether we may consider pains to be located where we feel them to be or not (Aydede, 2009, 2017, 2019; Bain, 2003, 2007; Corns, 2017; Gozzano 2019; Hill, 2006, 2012; Tye, 2002, 2006), and the viability of the anti-identity case is dim. Without taking this into account, there is a different line of the reply.

As Neil Williams has suggested, Putnam could well be considered an essentialist that does not take essential properties to be only intrinsic ones. Putnam endorses this “relational essentialism” in the case of diseases: it is an essential property of polio to be caused by the poliovirus, and the same holds true for tuberculosis. As Williams says, “In brief, Putnam endorses the possibility that natural kinds of disease could turn out to have (or do in fact have) a cause as their essence.” (Williams, 2011: 155). The point made by Williams and Putnam is interesting for the following reason: imagine a person feeling pain because of a specific disease, like shingles. This is due to a virus, Herpes Zoster. So, the pain that one feels with shingles is essentially due to the virus. If one accepts essentialism also in this relational version, it is not possible to conceive of someone being in pain because of the shingles and then, keeping the pain fixed, change the origin of the pain because that would be tantamount to changing the essence of the disease. I think this would pose a further constraint in addition to those that the anti-identitist has to meet to make his point.

Let us go back to the phantom limb. Clearly, the reasons to undergo a limb surgery may vary and not necessarily can be traced back to specific diseases. So, in such a case, presumably one has the same feeling while being physically different. However, this is again a matter of whether it is the brain the physical state we should consider, or the whole organism. If the former, no change is to be assumed and the type-identity is secured, if the latter we have to assume that the physical location of the pain is relevant to the individuation condition of pain, something that many phenomenologists are willing to deny. Finally, one may imagine having a feeling of a white screen while looking at one, and then this feeling becoming one as of a gray screen. The case is worth considering assuming that no further previous experience interferes with the experience of a white screen as grey. Basically, if the case goes against the principle of causality, according to which

¹⁴ This is the panpsychist assumption. As such, this is irrelevant for the issue at stake, as many panpsychist declare themselves to be materialist (e.g., Strawson 2015).

similar causes determine the similar effect. This line of thinking, then, brings in the issue of the kind of modality we are aiming at.

One may wonder if the modality I am considering is nomological rather than metaphysical. First, we should notice that, at most, only the origin principle finds its roots in the nomological necessity, while neither the substance nor the sortality principles do. But I believe origin should not be taken as saying that because my origins are fixed by DNA, then my parents were necessary to originate me. Rather, it says that by virtue of my being that kind of biological entity, DNA is part and parcel of being such an entity. However, granting this point, if modal pluralism is endorsed and modal monism is rejected, the distinction should be considered. Kripke, a modal monist, famously considers this problem marginally by saying: "Physical necessity might turn out to be a necessity in the highest degree. But that's a question I don't wish to prejudge" (Kripke, 1980: 99). However, if one follows Kit Fine's pluralism, natural and metaphysical necessity should be distinguished by virtue of their different modal force: "There appears to be an intuitive difference to the kind of necessity attaching to metaphysical and natural necessities (granted that some natural necessities are not metaphysical). The former is somehow 'harder' or 'stricter' than the latter" (Fine, 2005: 259). But it is unclear how to play this force when both the concepts of I and pain are involved with respect to an actual and a counterfactual situation. If it is a natural necessity that an individual has a such-and-such origin, substance, and sortality, then, it is far from clear how that individual could be metaphysically contingently related to its DNA, its flesh and blood, its being human and still be that individual. And less clear is whether the changing of the conditions of satisfaction for something to be that individual would or would not affect the phenomenal character of pain. The satisfaction of these too many constraints puts this metaphysical identification in jeopardy, I think, but clearly, this is something I cannot adjudicate now.

In this paper, I have defended the type-identity theory of the mind from the fundamental attack leveled against it, the one set by Kripke (1980) and developed by Chalmers (1996). I have shown that the supposed contingent relation between pain and C-fiber firing cannot be established because we cannot firmly individuate a qualitatively identical epistemic situation (QIES) to be related to type different physical states. The contingency then is illusory. Nor we can imagine having type identical physical states and different mental states because the luminosity assumption is not solid ground. I have also considered how far one can go in imagining type-different physical states to subserve the same qualitative situation. In this respect, I have considered the constraints of origin, substance, and sortality: if one wants to argue that it is possible for me to experience the same type of pain while being in a different physical state, these principles should be respected. The cases I have explored violate one or another of these constraints. So, neither the interpersonal nor the intrapersonal cases raised against the type-identity theory stand scrutiny. Therefore, the type-identity theory of mind is still a live solution to the mind-body problem.

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References

- Aranyosi, I. (2014). Review. *Mind*, 123, 605–609.
- Aydede, M. (2009). Is feeling pain the perception of something? *Journal of Philosophy*, 106, 531–67.
- Aydede, M. (2017). Pain: Perception or introspection? In J. Corns (Ed.), *The Routledge Handbook of Philosophy of Pain* (pp. 221–231). Routledge.
- Aydede, M. (2019) “Pain”. *The Stanford Encyclopedia of Philosophy* (Spring 2013 Edition), Edward N. Zalta (ed.),. <https://plato.stanford.edu/archives/spr2013/entries/pain/>
- Bain, D. (2003). Intentionalism and pain. *Philosophical Quarterly*, 53, 502–23.
- Bain, D. (2007). The location of pains. *Philosophical Papers*, 36(2), 171–205.
- Balog, K. (2012) “Acquaintance and the mind-body problem” in Gozzano and Hill (Eds) *New Perspectives on type identity*, Cambridge: Cambridge University Press: 16–42.
- Bayne, T. (2010). *The Unity of Consciousness*. Oxford University Press.
- Berker, S. (2008). Luminosity regained. *Philosophers' Imprint*, 8, 1–22.
- Block, N. (1978), “Troubles with functionalism”, in N. Block, (1980) (Ed.), *Readings in the Philosophy of Psychology*, 2 voll., Harvard University Press, Cambridge Ma, 1: 268–305
- Brewer, B. (1999). *Perception and Reason*. Oxford University Press.
- Chalmers, D. (1996). *The Conscious Mind*. Oxford University Press.
- Chalmers, D. (2010). *The Character of Consciousness*. Oxford University Press.
- Coninx, S. (2021). The notorious neurophilosophy of pain: A family resemblance approach to idiosyncrasy and generalizability. *Mind & Language*, 1–20. <https://doi.org/10.1111/mila.12378>
- Corns, J. (Ed.). (2017). *The Routledge Handbook of Philosophy of Pain*. Routledge.
- Crane, T. (1992). The nonconceptual content of experience. In T. Crane (Ed.), *The contents of experience* (pp. 136–157). Cambridge University Press.
- Feldman, F. (1973). Kripke's argument against materialism. *Philosophical Studies*, 24, 416–419.
- Feldman, F. (1974). Kripke on the identity theory. *The Journal of Philosophy*, 71, 665–676.
- Fine, K. (2005). “*The varieties of necessity*” in *Modality and Tense*. Oxford University Press.
- Gendler T., Hawthorne, J. (2002) (Eds), *Conceivability and Possibility*, Oxford University Press, Oxford.
- Gozzano, S. (2019) Locating and representing pain. *Philosophical Investigation* 42(4), 313–332.
- Gozzano, S., & Hill, C. (2012) (Eds) *New Perspectives on type identity*. Cambridge University Press.
- Hill, C. (2006). Ow! the paradox of pain. In M. Aydede (Ed.), *Pain: New Essays on its Nature and the Methodology of Its Study* (pp. 75–98). MIT Press.

- Hill, C. (2012) "Locating qualia: Do they reside in the brain or in the body and the world?" in S. Goz-zano, Hill, C. (Eds) *New Perspectives on type identity*, Cambridge: Cambridge University Press: 127–149.
- Jenkins, D. (2021). Luminosity in the stream of consciousness. *Synthese*, 198(Suppl 7), S1549–S1562.
- Kripke, S. (1980). *Naming and Necessity*. Harvard University Press.
- LaPorte, Joseph, "Rigid designators", *The Stanford Encyclopedia of Philosophy* (Spring 2022 Edition), Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/spr2022/entries/rigid-designators/>
- Levin, M. (1975). Kripke's argument against the identity thesis. *The Journal of Philosophy*, 72, 149–167.
- Lewis, C. I. (1929). *Mind and the world-order*. Charles Scribners' Sons.
- Loar, B. (1990/1997) "Phenomenal states", *Philosophical Perspectives* 4, revised in N. Block et al. (Eds) *The Nature of Consciousness*, Cambridge Ma. Mit Press: 597–616.
- Lowe, J. (2002). *A Survey of Metaphysics*. Oxford University Press.
- McDonald, C. (1989). *Mind-Body Identity Theories*. Routledge.
- Nagel, T. (1974). What is it like to be a bat? *The Philosophical Review*, 83, 435–450.
- Neta, R., & Rohrbaugh, G. (2004). Luminosity and the safety of knowledge. *Pacific Philosophical Quarterly*, 85, 396–406.
- Peacocke, C. (1994). Non-conceptual content: Kinds, rationales and relations. *Mind & Language*, 9, 418–428.
- Peacocke, C. (2001). Does perception have a nonconceptual content? *Journal of Philosophy*, 98, 239–264.
- Putnam, H. (1975). "The meaning of 'meaning'", in *Mind*. Cambridge University Press, Cambridge.
- Soames, S. (2018) "Kripke on mind-body identity" in D. Jacquette, *The Bloomsbury Companion to the Philosophy of Consciousness*, Bloomsbury, London: 170–185.
- Srinivasan, A. (2015). Are we luminous? *Philosophy and Phenomenological Research*, 90, 294–319.
- Strawson, G., (2015), "Real materialism (with new postscript)" in T. Alter e Y. Nagasawa, (a cura di) *Russellian Monism*, Oxford University Press, New York, pp. 161–208.
- Tye, M. (2002). On the location of a pain. *Analysis*, 62(2), 150–153.
- Tye, M. (2006). Another look at representationalism about pain. In M. Aydede (Ed.), *Pain: New Essays on Its Nature and the Methodology of Its Study* (pp. 99–120). MIT Press.
- Weatherston, B. (2004). Luminous margins. *Australasian Journal of Philosophy*, 82, 373–383.
- Williams, N. (2011). Putnam's traditional neo-essentialism. *The Philosophical Quarterly*, 61(242), 151–170.
- Williamson, T. (2000). *Knowledge and its Limits*. Oxford University Press.
- Yablo, S. (1993). Is conceivability a guide to possibility? *Philosophy and Phenomenological Research*, 53, 1–42.

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