A Proof of '1st/3rd Person Relativism' and its Consequences to the Mind-Body Problem

João Fonseca

IFILNOVA, New University of Lisbon

manatim.detective@gmail.com

1- A Short Note on the '1st/3rd Person Perspectives' Distinction

The suggestion of something akin to a 'relativist solution to the Mind-Body problem' has recently been held by some scientists and philosophers, either explicitly (Galadí, 2023; Lahav & Neemeh, 2022; Ludwig, 2015) or in more implicit terms (Solms, 2018; Velmans, 2002, 2008). In this paper I provide an argument in favor of a relativist approach to the Mind-Body problem, more specifically, an argument for '1st/3rd person relativism', the claim that 'The truth value of some sentences or propositions is relative to 1st and 3rd person perspectives'. This claim proves to have dramatic implications to the Mind-Body problem.

The argument for 1st/3rd person relativism is not a traditional philosophical one but rather closer to a formal proof. Traditionally, philosophical arguments tend to rely on 'intuition pumps', 'hidden' premises, non-discussed philosophical assumptions and, at least sometimes, vague and ill-defined concepts. These are some of the reasons philosophical arguments are so prone to endless scrutiny and ongoing discussion. In what follows, I provide an argument that does *not* rely on ambiguous claims or intuitive insights. Rather, I show that, provided the acceptance of the 1st/3rd person distinction itself, first order logic and set theory, '1st/3rd person relativism' follows *as a theorem*.

Effective and consensual results are rare in philosophy, but there are some: Quine's proof that logical truths cannot be established from linguistic convention (Quine, 1936), Goodman's argument against the possibility of formalization of inductive logics (Goodman, 1954), not to mention the famous 'Russell's Paradox' and its devastating consequences to Frege's logicist program (Russell, 1902). Rather than just *suggest*, these authors *showed* and *proved* their

philosophical statements. In line with these well known cases, my aim in this paper is to *show* and *prove* that '1st/3rd person relativism' is in fact a philosophical *result* that can be demonstrated.

The next section (section 2) presents the proof of '1st/3rd person relativism' in some detail. Section 3 evaluates the consequences of 1st/3rd Person Relativism to the Mind-Body Problem at large. It is shown that these consequences fit all the available data and solve a series of puzzles, thus providing solid and separate evidence in favor of '1st/3rd Person Relativism'. The present section briefly introduces the notions of '1st and 3rd person perspectives'.

It is unusual to start a discussion on the Mind-Body Problem by appealing to the 1st/3rd person distinction. The more traditional path is to assume 'Mind' and 'Body' as metaphysical categories and then argue for more specifications concerning their nature (eg: whether they are substances or properties) and the relation between them (reduction, elimination, autonomy, emergence, identity, etc). Nevertheless, the distinction between 1st and 3rd person's perspectives is crucial for a clear understanding of current discussions regarding the nature of consciousness and the Mind-Body Problem in general. At least since *circa* 1996, when David Chalmers published his influential book *The Conscious Mind* (Chalmers, 1996), the distinction between 1st and 3rd person has been pushed to the forefront of the discussion (in fact, this recognition dates back to Tomas Nagel classic paper 'What is like to be a bat' (Nagel, 1974)). This crucial role is obvious in the formulation of the 'Hard Problem of Consciousness' itself: *how* and *why* physical phenomena (that we can study through our *3rd person* scientific approach) is related to the phenomenological and subjective side of experience; the 'what-it-is-like-for-me' of conscious experience (*1st person* data).

Although widely mentioned in the philosophic and scientific literature, the distinction between 1st and 3rd person perspectives has not been subject to great scrutiny or conceptual clarification (but see Choifer, 2018). Both notions are usually left at the level of immediate and intuitive understanding. Basically, the 1st person perspective accounts for private experiences (the 'what-it-is-like' quality) of our consciousness; things like sensations, feelings or emotions whereas the 3rd person perspective corresponds to our objective knowledge of the (supposedly 'external') world (Nagel, 1986; Williams, 1978). In this paper I keep the distinction at this more

general and intuitive level of understanding. I will, nevertheless, make a brief note on some qualifications regarding the distinction between 1st and 3rd person perspectives.

The first main trait of both perspectives is that being 'perspectives', they should be considered as two distinct *epistemological* stances, i.e. they are *perspectives* on how to access reality. In that respect, 1st and 3rd person perspectives should not be identified with, respectively, 'Mind' (or 'Consciousness') and 'Body' (or the 'Physical') although, under some circumstances, they can be considered somewhat co-extensive with those notions[1]. They are instead *ways* we have to inquire about those realities. The 1st person perspective refers to the direct acquaintance with conscious mental states like sensations, feelings, thoughts and emotions, whereas the 3rd person perspective is a *perspective* in the sense that it refers to our human ways of trying to make sense of an external physical reality (the natural sciences and Physics in particular). However, in itself, the 3rd person perspective is not dependent on any *particular* subjective perspective whereas the 1st person's perspective *is* (Nagel, 1974; 1986). The 1st and 3rd person perspectives correspond to these epistemic *practices* and *capacities* and not to the realities they purportedly investigate[2].

It is also worth mentioning the fundamental theoretical role these two perspectives play in the field of Philosophy of Mind. In a non-published draft, David Chalmers claims that the 1st/3rd person distinction is *conceptually prior* to the very distinction between Mind and Body. His point being that the Mind-Body distinction (and also the Subjective-Objective distinction) *reduces* (his term) to the 1st/3rd person one:

> Perhaps the most important duality in the philosophy of mind is that between the first-person and third-person views of mental events. Some might say that the fundamental duality is that between mind and brain, or between subjective and objective - but all of these *reduce to* the first-person/third-person duality. (Chalmers, 1989, emphasis added)

[1] In relation to what I call '3rd person perspective' Nagel says: «It is not the same thing as our idea of *what physical reality is actually like*, but it has developed as part of *our method of arriving at a truer understanding* of the physical world» (1986, 14, emphasis added)

[2] It can be argued that 1st person perspective in fact *is* Consciousness. That is a valid point of view and one that does not interfere with the main point in this paper

Accordingly, in several places Chalmers re-addresses the Mind-Body Problem in terms of 1st and 3rd person perspectives (Chalmers, 1999; 2013).

As already alluded, when philosophers and scientists discuss the role and status of consciousness, they usually adopt approaches that, at the outset, assume the categories 'Mind' and 'Physical' as central whereas the '1st/3rd person perspectives' distinction is relegated to a minor and dependent role. Nevertheless, a closer look shows that this distinction is, not only crucial, but also conceptually prior to the Mind-Body distinction itself (as Chalmers points out in the quote above). In this paper I will assume as sound this conceptual priority of the 1st/3rd person perspectives distinction over the Mind-Body one. Basically, the idea is that, for instance, we have to state and define the Hard Problem in terms of 1st *vs* 3rd person perspectives but we cannot, in reverse, define that distinction in terms of 'Mental' and 'Physical' categories. Also, some philosophers deny any ontological status to the Mental, whereas others deny the Physical but no one puts the existence of 1st and 3rd person perspectives into question[3]. Here, I do not argue further for that conceptual priority though. All I need in the context of my argumentation strategy is the consensual recognition that the Mind-Body distinction and some specific questions within the Mind-Body Problem at large (like the 'Hard Problem of Consciousness') are *closely tied* to the 1st/3rd person's perspectives distinction.

2- A Proof of '1st/3rd Person Relativism'

In this section I provide an argument in favor of '1st/3rd person relativism', i.e., the claim that 'The truth value of some sentences or propositions is relative to 1st and 3rd person's perspectives'. The first subsection (2.1) presents the argument in a more 'relaxed' and straightforward way. Subsection 2.2 formalizes and breaks down the argument, bringing to the surface all the assumptions sustaining it. As shown, the only compromise is with 1st order logic,

[3] What some *do* question is the *truth* of claims originating from a 1st person perspective (or alternatively, from a 3rd person perspective), not the very existence of the perspectives themselves.

set theory, the very distinction between 1st and 3rd person perspectives and three simple and obvious 'postulates'[4].

2.1- The Argument (I): the 'laid back' version

Some theoretical physicists and cosmologists like to toy with the idea that, if the universe is infinite, isotropic, flat and ergodic, then, according to probability, there will be an infinite number of rearrangements of matter/energy that replicates our observable universe (with some minor, or not so minor differences) (Tegmark, 2004). Imagine the following scenario: assume there is a remote region of the universe that replicates *exactly* our observable part of the universe including our solar system, the planet Earth and its inhabitants. These two earths are like each other in *every small detail*. The only difference between them is their spatiotemporal location in the universe as a whole. Now, take one arbitrary human inhabitant on the two planets, suppose her name is Susan. Susan on our Earth and Susan on the 'other' Earth have *exactly* the same life (from birth to death) in every detail including an exactly identical *mental* life.

For the sake of the argument's clarity, the discussion will enter a more formalized tone. So, let 'M' denote any arbitrary mental state someone can be in (M ranges over sensations, perceptions, emotions, thoughts, and so on). Take the set of mental states possessed by Susan in her entire life: {M', M'', M''',...}. Now assume that for each mental predicate 'M' in the set we form an open sentence with the same variable (say *x*). We get open sentences with the general form: 'M*x*' meaning '*x* is in M'. We now get the set: {M'*x*, M''*x*, M'''*x*,…}.The elements of the set can be sequentially ordered in time and, therefore, we have open sentences of the form 'M*x*(t)' (meaning: '*x* is in mental state M at time t') where a natural number is assigned to every 't' (t*k*) ranging over moments in time. Thus, we have a stock of open sentences of the form: 'M''''*x*(t_{84})', 'M'''*x*(t_3)', 'M'''''''*x* (t_{286})', 'M'''*x* (t_{75728})' etc.. There is a relation '≤' that orders those moments as the sequence: <t_1, t_2, t_3,... t_n> and we can use this ordering to get the finite ordered set of open sentences A = {M'*x*(t_1), M''*x*(t_2), M'''*x*(t_3),…, M*x*(t_n)}. Set A captures the *complete* mental life (in sequence, from birth to death) of both Susans (since they have exactly the same mental life) and *only* theirs.

[4] The fundamentals and inspiration for the argument presented here stem from a previous paper co-authored with Klaus Gartner from 2009 (Fonseca & Gartner, 2009). Nevertheless, both the argument and its conclusion are fundamentally diverse from the ones presented here.

Assuming this, I ask the following question: 'How many sets of mental states can we form from the satisfaction of all members of the initial set *A* by a single object?'First, a brief word on the meaning of this question. In a very simplified way, the *satisfaction relation* is a semantic relation by which open sentences (i.e., with free variables) of a formal language are 'transformed' into closed *true* sentences. Take as an example the open sentence (with a free variable) '*x* is a philosopher'. This sentence is neither true nor false but by substituting '*x*' by the name 'Socrates' we get the true sentence 'Socrates is a philosopher' (it is a true sentence since the name 'Socrates' refers to someone who is a philosopher). The object denoted by 'Socrates' is said to *satisfy* the open sentence '*x* is a philosopher'. In the present scenario, the members of *A* are open sentences with one free variable (with the general form 'M*x*(t)' meaning '*x* is in M at time t'). For instance, the open sentence '*x* sees (consciously) the color red at time t' can be *satisfied* by John if he sees red at time t. By 'satisfaction of all members of the initial set *A* by a single object' is meant that the *same* object must satisfy *all* the open sentences of *A* and not random objects of the domain *each* of which satisfy some but not all the open sentences of *A*. Apparently, the only objects that uniformly satisfy *all* members of *A* in the determined order (*A* is an *ordered* set) are the two Susans. Nevertheless, I will demonstrate that a careful analysis reveals that there is *not* an *absolute* answer to this question: there are only answers *relative* to 1st and 3rd person's perspectives.

Before moving on, I would like to suggest two operational definitions based on what was presented in section 1 regarding 1st and 3rd person perspectives:

Def1: Given an object *O*, there is a set of properties (P_1, P_2,...,P_n) of *O* that exists from a *3rd person's perspective iff* those properties of *O* are *objectively and publicly determined*

Def2: Given an object *O*, there is a set of properties (P'_1, P'_2,...,P'_n) of *O* that exists from a *1st person's perspective* to a subject *S iff S subjectively experiences* those properties of *O*

These definitions do nothing more than encapsulate and summarize the 'common knowledge' already established on *section 1* regarding the nature of 1st and 3rd person perspectives. Notice, for instance, that **Def2** makes 1st person knowledge dependent on a particular subject *S* while **Def1** does not make such a requirement for the 3rd person perspective. I take these definitions to be non-problematic, as they capture our fundamental and widespread convictions of what 1st and 3rd person's perspectives are at a very basic level.

Returning now to the question: 'how many sets of mental states can we form from the uniform satisfaction of all members of the initial set *A* by a single object?'. I will show that, given the definitions **Def1** and **Def2**, the answer to the question *differs* if it is given *either* from a 3rd person perspective *or* from a 1st person perspective. From a 3rd person perspective, and according to **Def1**, there are two *objectively determined* physical objects in different regions of space-time (say, 'Susan I' and 'Susan II') that satisfy our initial ordered set of open sentences (they differ at the *objectively determined* property '*space-time location*', therefore they are different objects). Let's shorthand 'SusanI' and 'SusanII' to just *a* and *b*. There is the set: B = {M'a(t_1), M''a(t_2), M'''a(t_3),…, Ma(t_n)} (the object *a* satisfies all open sentences of *A*) and the set: C = {M'b(t_1), M''b(t_2), M'''b(t_3),…, Mb(t_n)} (the object *b* satisfies all open sentences of *A*). So, from the 3rd person perspective there are *two* different sets with different elements.

Moving now to the 1st person perspective. From **Def1** and **Def2**, one of the noticeable differences between 1st and 3rd person perspectives is the 1st person's dependence on some specific subject *S*. In relation to the context at present, the subjects of interest are the 'two Susans' since, by assumption and following **Def2**, they are the only subjects who *experience* set *A* in its fullness and by the specified order of mental states. Each Susan is allowed to pick herself as the object satisfying all open sentences of *A* in the order stated by *A*. From a 1st person perspective they fill the *x* in the open sentences with themselves, presumably referred to by the pronoun 'I' (or 'Susan' used self-referentially) forming *true* sentences of the general form '*I* am in state M at time t'. If we assume *c* as the name whose reference satisfies all the open sentences of *A*, we would get the set: D = {M'c(t_1), M''c(t_2), M'''c(t_3),…, Mc(t_n)}. Nevertheless, there are *two* subjects capable of experiencing (and therefore satisfying all the open sentences of) set *A* from a 1st person perspective: Susan I and Susan II. Then, we should ask 'how many sets are there from a 1st person perspective, *taking into account* the existence of both Susans?'

The answer turns out to be straightforward: there is just *one set* from a 1st person perspective (taking into account the existence of both Susans). Notice that Susan I and Susan II satisfy the open sentences (by substituting *x* by 'I' or 'Susan' or whatever other singular term) in *exactly the same way*. This can be appreciated by noticing that Susan's very act of satisfying the open sentences, is itself *one of her mental states* (say M*) and, therefore, its formulation in terms of a open sentence with the free variable *x*, is a member of set *A* i.e., '$M^*x(t_k) \in A$'. Since it has been established that the initial set of mental states *A* is common for Susan I and Susan II, M* is also common to both, which means they satisfy the open sentences identically. M*'s content could be translated as stating something like: '*c* is the object that satisfies *x* in the open sentences of *A*' or ''I' satisfies *x* in the open sentences of *A*' where 'I' can be represented by *c* for notational purposes. For Susan I the set would be: {M'$c(t_1)$, M''$c(t_2)$, M'''$c(t_3)$,…, M$c(t_n)$} (i.e., set *D*) and, for Susan II it would be, *likewise*: {M'$c(t_1)$, M''$c(t_2)$, M'''$c(t_3)$,…, M$c(t_n)$} (again set *D*). So, there is *only one* set from the 1st person perspective since, according to set theory, two ordered sets with the *same members with the same ordering* are the *same* ordered set (in this case, set *D*).

For some, there is probably the sense that something fishy is going on with the previous reasoning: doesn't the chosen name, say 'c', refer to *two* distinct objects (SusanI and SusanII)? Shouldn't there be two objects satisfying the open sentences of *A* and, therefore, the formation of two sets rather than one? The answer is a straightforward ' no'. Note first; it is assumed, in this context, that names refer to one, and only one, object in the domain. In natural languages, of course, it is normal that common names can refer to many different individuals, but in the present context, it is assumed that names like 'c' refer to just one object. 'But wait!', could the skeptic reply, "couldn't Susan (that is, both Susans) reason along the following lines: 'I am a physical object and there is *another* physical object just like me that also satisfies the set' and wouldn't this show that the 'unique object referred by a name' assumption is violated?'' Well, she definitely *could* reason that way. But notice; that reasoning is made from a *3rd person perspective*, respecting **Def1**, and not from a 1st person perspective, respecting **Def2**. Just because the reasoning is made *by* Susan *about* Susan herself, doesn't mean it can be classified as a 1st person's reasoning. What determines if a reasoning classifies as a 1st person perspective is its adherence to **Def2**. We can soundly think and reason about ourselves in pure 3rd person perspective ways. In our daily and mundane lives it is normal to mix up 1st and 3rd person

perspectives without even noticing it. But here, for the sake of the argument, I want to, as it were, 'decant' the 1st person perspective from the 3rd. So, *strictly* from a 1st person perspective i.e.: following **Def2**, all the Susans can access are their *subjective experiences* since it is assumed that their subjective experiences are *exactly the same*. If we construct the objects satisfying the open sentences of set *A* themselves as *sets of conscious experiences*, then, once again, they are the *same set* since they have the same elements. Therefore, from a 1st person perspective, there is indeed *just one object*, referred to by the name 'c', that satisfies all the open sentences of *A*. The 'unique name' result from the previous paragraph and the 'unique object in the domain' evidence just presented are complementary and consistent. In fact, this turns out to be a distinct and independent path to achieve the same result presented in the previous paragraph (and thus strengthening it): from a 1st person perspective, there is *only one set* formed by satisfying all open sentences of *A* with the same object.

In the end, we can *unequivocally* conclude that, in the present scenario, the 1st person perspective *always* counts *one* set whereas the 3rd person perspective *always* counts *two*. This result can be inductively generalized to any natural number *n* of identical copies (where *n* goes up to infinity). For any *n*, the 3rd person perspective counts *n* sets and the 1st person only counts *one* no matter the value of *n*.

A proof (by *reductio ad absurdum*) of '1st/3rd Person Relativism' easily follows: '1st/3rd Person Relativism' states: 'The determination of the truth value of some sentences or propositions is relative to 1st and 3rd person perspectives'. Now, assume the *negation* of this claim, i.e., that '1st/3rd Person Relativism' is *false*. If '1st/3rd Person Relativism' is false, we must assume that the sentences: 'There is one ordered set of mental states' *and* 'There are two ordered sets of mental states' are *both true* (i.e., they are both *derivable*). But, of course, this is an *inconsistent result*; we can very easily derive obvious contradictions like 'there are two ordered sets *and* there are *not* two ordered sets'. So, we must *negate* the *falsity* of '1st/3rd Person Relativism'. Therefore, '1st/3rd Person Relativism' *is true* (Q.E.D.).

The *only* way to answer the question 'how many sets of mental states can we form from the satisfaction of all members of the initial set *A* by a single object?' to avoid contradiction and inconsistency is by assuming the answer as being *relative* to 1st and 3rd person perspectives: the sentence 'There is only one ordered set' is true *relative* to the 1st person perspective and false

relative to the 3rd person perspective, whereas 'There are two ordered sets' is true *relative* to the 3rd person perspective and false *relative* to the 1st person perspective.

This closes the main argument in favor of '1st/3rd person relativism': to show how the rejection of '1st/3rd person relativism' is inconsistent and, therefore, '1st/3rd person relativism' is true. On the next subsection I develop this argument in some detail.

2.2- The Argument (II): a more detailed version

In this subsection, I present a more careful and 'broken-down' version of the argument provided above. That argument is, I hope, quite straightforward. Nevertheless, given the importance of the topic and because I am convinced that I am really presenting something akin to a *proof* of '1st/3rd person relativism', I will try with this more detailed approach, to rigorously isolate and make explicit the assumptions and presuppositions at work in the argument.

In what follows I will reformulate the demonstrations that, 1) there are two sets from a 3rd person perspective and, 2) just one set from a 1st person perspective. I will start by formulating three postulates fundamental for the proofs. As they are common in deductive demonstrations, these postulates are very obvious; almost truisms. My final aim is to show how, by accepting these three postulates and definitions **Def1** and **Def2**, the two incompatible claims follow just by logic and set theory.

> Postulate1: *The spatio-temporal location of a physical object ω is an objectively determined feature of ω*

Commentary: This Postulate encapsulates the claim that provided a reference frame, we can *objectively establish* the spatiotemporal location of a certain physical object.

> Postulate2: *Let the open sentence 'Mxt' stand for 'x has mental state M at time t'. For any subject S, if S is to determine whether any object satisfies 'Mxt' and S is in mental state M at time t, then S is justified in naming herself as an object that satisfies 'Mxt'*

Commentary: Take the open sentence ‘x has a headache November 15th 2023 at 17: 32 pm’. Suppose Peter has a headache on that precise day at 17: 32 pm. Peter is justified in stating ‘I (or ‘Peter’ used self-referentially) satisfy the open sentence ‘x has a headache on November 15th 2023 at 17: 32 pm’’ (which just paraphrases the sentence ‘I have a headache on November 15th 2023 at 17: 32 pm’).

> Postulate3: *For any subject S, the act of naming a sequence of objects* α *as satisfying an open sentence ‘*Φ*v’ is a mental state of S* (where Φ is a *n-adic* predicate and *v* is a sequence of variables)

Commentary: Take Alice. If she explicitly utters, or thinks to herself: ‘‘Socrates’ satisfies ‘*x* is a philosopher’’, then ‘‘Socrates’ satisfies ‘*x* is a philosopher’’ is a *mental state* of Alice.

Postulates 1-3 are very obvious and hopefully non-problematic. In principle everyone could agree with them. After all, the postulates deal with such basic things as: i- the spatial location of an object is a feature of the object that can be objectively determined, ii- the obvious fact that someone who finds herself in a particular mental state can judge that she satisfies the ‘open sentence formulation’ of that particular mental state and, iii- that to utter or think a particular propositional content makes that content a mental state of the one who utters or thinks it.

My aim now is to show how both conclusions (that there is one set from a 1st person perspective and two from the 3rd) are deductible having accepted **Def1**, **Def2** and Postulates 1-3. I present the two arguments in a sort of ‘natural deduction’ formulation. I isolate the premises of both arguments and justify the inferences one by one until reaching the conclusion. I will not, nevertheless, formalize the statements but rather present them in English. For my purposes here, this presentation in natural language is sufficient. For the same reason I will also skip reference to the rules of inference used in each case (with just a few exceptions). My aim is just to show that both conclusions are soundly and logically derived from the premises once **Def1**, **Def2**, Postulates 1-3, 1st order logic and set theory are accepted.

Starting with the deduction of the 3rd person's claim that there are two ordered sets constructed by the satisfaction of all the open sentences members of *A* in the order stated by *A*. I begin by isolating two premises resulting from the hypothetical scenario presented at the beginning (the first premise is common to both 1st and 3rd person deductions):

> (1)- *A* is the ordered set of all the mental states of SusanI and SusanII (and only them) under the form of open sentences with the general structure 'M*x*(t)'. The temporal ordering of the set mirrors the temporal sequence of SusanI and SusanII mental states. $A = \{M'x(t_1), M''x(t_2), M'''x(t_3),\ldots, Mx(t_n)\}$
> **[Premise]**

The second premise, in each case, determines which point of view (1st or 3rd person perspective) is being adopted. I start with the 3rd person perspective and what kind of evidence is available in accordance to what is stated in **Def1**. Accordingly, from the accepted scenario, premise 2 states:

> (2) - SusanI and SusanII are two physical objects located in different regions of spacetime
> **[Premise]**

Having introduced the two premises, we can start the deductive process:

> (3) - SusanI and SusanII have different objective determined features/properties
> **[form (2) and Postulate1]**

> (4) - SusanI and SusanII (renamed as, '*a*' and '*b*' respectively) are *different* objects ($a \neq b$)
> **[from, (3) and Leibniz Law]**

> (5) - *a* and *b* satisfy all the open sentences of set *A* in the temporal sequence presented in *A*

[from (1), (4) and first order logic]

(6) - The satisfaction of the open sentences of *A* by *a* and *b* constructs the sets: *B* = {M'*a*(t_1), M''*a*(t_2), M'''*a*(t_3),…, M*a*(t_n)} and *C* = {M'*b*(t_1), M''*b*(t_2), M'''*b*(t_3),…, M*b*(t_n)}

[from (5), set theory and first order logic]

(7) - *B* and *C* are distinct sets ($B \neq C$)

[from (6) and set theory]

Therefore,

(8) - There are two sets (*B* and *C*)

[from (7)]

Once given the two premises (1) and (2) the conclusion that there are two sets is deduced by relying on Postulate1, first order logic and set theory.

Moving now to the argument proving the conclusion that there is just one set from a 1st person perspective. The first premise is the same as the first premise of the previous argument. The second premise is the 'marker of adherence' to the 1st person perspective's evidence as stated in **Def2** (including the reference to *particular subjects*: SusanI and SusanII in this case). So, we get the argument:

(1*) - *A* is the ordered set of all the mental states of SusanI and SusanII (and only them) under the form of open sentences with the general structure 'M*x*t'. The temporal ordering of the set mirrors the temporal sequence of SusanI and SusanII mental states. *A* = {M'*x*(t_1), M''*x*(t_2), M'''*x*(t_3),…, M*x*(t_n)}

[Premise]

(2*) - SusanI and SusanII (and only them) experience all the elements of *A* in the temporal sequence displayed in *A*

[Premise]

(3*) - SusanI and SusanII name themselves as the objects satisfying all open sentences of *A* in the order displayed in *A*

[from (2*) and Postulate2]

(4*) - SusanI's and SusanII's acts of naming themselves as the objects satisfying all open sentences of *A* in the order displayed in *A*, are mental states of SusanI and SusanII

[from (3*) and Postulate3]

(5*) - SusanI' and SusanII's acts of naming (themselves as) the objects satisfying all open sentences of *A* (in the order displayed in *A*) are members of *A*.

[from (1*) and (4*)]

(6*) - SusanI's and SusanII's acts of naming (themselves as) the objects satisfying all open sentences of *A* in the order displayed in *A* are the *same* mental state and, therefore, they use the same name to refer to the (same) object satisfying all open sentences of *A*

[from (1*) and (5*)]

(7*) - Let β stand for an arbitrary name SusanI uses to refer to the object satisfying all open sentences of *A*.

[Assumption]

(8*) - SusanII also names the object satisfying all open sentences of *A* as 'β'

[from (6*) and (7*)]

(9*) - By naming the object satisfying all open sentences of *A* as 'β' SusanI 'constructs' set $D = \{M'\beta(t_1), M''\beta(t_2), M'''\beta(t_3),\ldots, M\beta(t_n)\}$ and SusanII constructs set $E = \{M'\beta(t_1), M''\beta(t_2), M'''\beta(t_3),\ldots M\beta(t_n)\}$

[from (1*), (7*) and (8*)]

(10*) - Set *D* and set *E* are the same set (*D* = *E* since *D* and *E* have the same elements ordered in the same way)
[from (9*) and Set Theory]

(11*) - There is only one set whatever the name chosen to denote the object that satisfies all the open sentences of *A*
[from (9*), (10*) and Existential Generalization - close the assumption started at (7*)]

Therefore,

(12*) - There is only one set
[by Elimination of Existential Quantifier from (7*) to (11*)]

The breaking down of the two arguments above serves the sole purpose of making explicit the presuppositions and assumptions needed to derive the conflicting conclusions 'there are two sets' and 'there is one set'. As explicitly stated on the bracketed notes, aside from first order logic and set theory, in order to derive 'There are two sets' one needed to assume **Def1** (implicitly in premise (2) signaling the assumption of a 3rd person perspective) and Postulate1. The deduction of 'There is only one set', besides first order logic and set theory, depended on assuming **Def2** (implicitly in premise (2*) signaling the assumption of a 1st person perspective), Postulate2 and Postulate3.

Instead of the separate deductions (1)- (8) and (1*)- (12*), a common derivation could have been constructed that would have concluded *both* (8) ('there are two sets') *and* (12*) ('There is only one set'). As noted before, such a result leads to contradictions (for instance: 'There are two sets *and* there are *not* two sets'). If we were dealing with deductive systems (which we are not but can accept this assumption for the sake of simplicity), one could conclude something like: 'There cannot be a single deductive system *DS* which includes **Def1**, **Def2** and

Postulates 1-3, since it is *inconsistent*'. A way out from this is to suggest *two* distinct deductive systems, *DS'* and *DS"*, where *DS'* includes only **Def1** and Postulate1 (and first order logic and set theory) and *DS"* includes only **Def2**, Postulates 2 and 3 (and of course first order logic and set theory). This, obviously, amounts to accepting '1st/3rd person relativism': there are *two* deductive systems (*DS'* and *DS"*) constructed *relative to* 1st and 3rd person perspectives rather than *one* single ('complete' or 'absolute') deductive system *DS*. Note that *DS'* captures *3rd person evidence* as stated in **Def1** and Postulate1, whereas *DS"* captures *1st person evidence* with **Def2** and Postulates 2 and 3 (recall how Postulates 2 and 3 make essential reference to a specific subject *S*). The sentence 'There are two sets' is true (or *derivable*) in the 3rd person perspective deductive system *DS'* and 'There is one set' is false (or *non-derivable*), whereas 'There is only one set' is true (*derivable*) in the 1st person perspective deductive system *DS"* and 'There are two sets' is false (*non-derivable*)[5]. Since '1st/3rd person relativism' states: 'the determination of the truth value of *some* sentences or propositions is relative to 1st and 3rd person perspectives', this particular instance of relativism proves this statement through existential generalization.

Def1, **Def2** and Postulates 1-3 are simple and obvious statements that few (if any) philosophers and scientists would dispute. That being said, it doesn't require a great act of boldness to declare that '1st/3rd person relativism' is actually *proven*. Something like a *theorem* stating relativism is *demonstrated* by relying on **Def1**, **Def2**, Postulates 1-3, first order logic and set theory. I will end this section by stating some important constraints a demonstration of '1st/3rd person relativism' must face and how the present argument satisfies those constraints, thus surpassing some possible residual objections.

The *first constraint* on a putative demonstration of '1st/3rd person relativism' states the following: 'The question to be posed *has to be capable of being answered* by *both* 1st and 3rd person perspectives alike'. Unlike questions concerning *just* physical features, that only the 3rd person perspective can answer or, alternatively, *just* about subjective experiences, only grasped by a 1st person perspective, the question being posed is stated in a way both perspectives can answer straightforwardly. In fact, it is shown above that there are *effective procedures* to answer the question from both 1st and 3rd person perspectives (assuming **Def1**, **Def2** and Postulates 1-3).

[5] By assuming the premises ((1)-(2) and (1*)-(2*)) as *true* (in *DS'* and *DS"* respectively), both (8) and (12*) are also *true* (in *DS'* and *DS"* respectively)

The *second constraint* states that, in the argument under consideration: 'Both 1st and 3rd person perspectives have to be epistemically credible'. This constraint is specially important in restraining the grade of *introspection* necessary to achieve the 1st person answer. Sometimes, the dependence on introspection is seen as a weakness of 1st person's claims. It is argued that introspection is not reliable enough to sustain certain complex statements. For instance, even if it *seems* that we have complete conscious control of our choices and decisions from a 1st person perspective, it doesn't necessarily follow that there is free will without any doubt, especially when that claim seems to clash with scientifically credible results obtained from a 3rd person perspective (Libet, 1985). In the present case, the only situation *loosely* referring introspection is the unproblematic and undisputed claim, expressed in Postulate2, that 'for any given subject *S* if *S* consciously experiences mental state M at time t then, *S* can *claim to be* in mental state M at time t' which in itself is almost a conceptual truth (a tautology) and not something obtained from introspection. As shown above, the conclusion that, from a 1st person perspective 'there is just one set' follows logic, set theory and conceptual claims (not obtained from introspection). So, in the present case, the 1st person perspective is as epistemically credible as the unproblematic 3rd person.

Finally, the *third constraint* states: 'Neither 1st or 3rd person perspectives have knowledge that can prevent the other perspective's conclusion'. In more prosaic words: 'Neither perspective 'knows more than the other' to the point that it can deny the other perspective's answer'. The important feature is that according to **Def1** and **Def2**, the kinds of *evidence* available to 1st and 3rd person perspectives *exclude* each other, meaning they are 'epistemically insulated' from each other. For instance, to the 3rd person perspective it is *indifferent* that the mental states of set *A* are consciously available to the subjects (SusanI and SusanII), or not knowing 'what is it like' to be in a specific mental state. From a strict 3rd person perspective, there is *not* a subject that *experiences* mental states. On the other hand, from the 1st person's perspective, it is *indifferent* that there are more subjects in distinct regions of spacetime experiencing all the elements of set *A* (see subsection 2.1). So, the notion that one of the perspectives could 'know more than the other' (and, therefore override the other perspective's claim) simply doesn't make sense; the evidence available to one of the perspectives *cannot be added* to the other. The two perspectives do not cut across each other.

The conclusions that the 1st person perspective counts one set and that the 3rd counts two are just formal and conceptual consequences not dependent on 'ambiguous introspective access', nor on vague 'intuition pumps', nor on previous philosophical assumptions. Furthermore, the satisfaction of the three constraints stated above, grants us that both answers (from 1st and 3rd person perspectives) have the *same legitimacy*. The only assumption in the argument, aside logic and set theory, is the simple and unproblematic acceptance of definitions **Def1** and **Def2** and Postulates 1-3. Nothing seems to prevent the acceptance of these very basic assumptions. Furthermore, if we accept these assumptions (that no one seems to contest), we are *forced* to accept the truth of both claims (from 1st and 3rd person's perspectives). And so, what follows is in fact a *formal proof* of a contradiction only '1st/3rd Person Relativism' can solve. In short, the argument is a formal *discovery* of the, hitherto unnoticed, '1st/3rd Person Relativism', or, to paraphrase: the fact that the truth value of some sentences or propositions is relative to 1st and 3rd person perspectives.

The only viable skeptical move against '1st/3rd Person Relativism' would be to deny at the outset the *very existence* of a 1st person perspective or, respectively, of a 3rd person perspective. But as already mentioned in section 1, no one seems ready to risk such a bold, unmotivated and counter-intuitive move (one thing is to deny the *truthfulness* of some 1st or 3rd person claims, another, far more radical, is to deny the *very existence* of a 1st or 3rd person perspectives themselves). The distinction between 1st and 3rd person perspectives is so unanimous it can be considered 'philosophically neutral'. I contend that the relativist conclusion is non-negotiable; it is the only solution that makes sense *and* is in accordance with basic evidence, logic and set theory.

3- '1st/3rd person relativism' and the Mind-Body Problem

In this section some consequences of '1st/3rd person relativism' on the Mind-Body problem are briefly addressed. I emphasize 'briefly' because a full fledged evaluation of such consequences transcends my current concerns. Further investigation on this topic deserves a separate paper on its own. Nevertheless, a quick overview of the impact of '1st/3rd person

relativism' on some of the most perennial puzzles concerning the Mind-Body Problem is worthy of some attention since these consequences turn out to provide additional evidence in favor of '1st/3rd person relativism'.

Just a preliminary note: as mentioned in section 1, the basic (non-problematic) assumption underlying the next discussion is taking 1st and 3rd person perspectives as more or less coextensive, in certain contexts, with (respectively) the terms 'conscious experiences' and 'physical data'. Taking the inverse strategy of the argument presented in section 2 (where '1st/3rd person relativism' was assumed as *false* in a *reductio ad absurdum* type of proof) '1st/3rd person relativism' is assumed as *true* in order to evaluate what its consequences are in explaining and predicting some issues typically associated with the Mind-Body Problem.

3.1- The Explanatory Gap and the Hard-Problem of Consciousness

Before directly addressing the impact of '1st/3rd person relativism' on the Explanatory Gap and the Hard-Problem of consciousness, we should get back to the third constraint stated above in subsection 2.2. Recall: 'the kind of knowledge accessible to either 1st or 3rd person perspectives is 'epistemically insulated' from the other perspective'. This means there is *not* a convergence between the two perspectives (or 'reference frames'). This is a general hallmark of 'alethic relativism' (relativism about truth): different reference frames in dispute are incompatible with each other and non-converging[6] meaning that these reference frames are sort of 'encapsulated' and is impossible to translate or deduce one in the terms of the other. One frame of reference cannot be 'derived' in terms of the other[7]. It is not possible, in principle, to change or modify the contents expressed by one reference frame in terms of the other; they never meet. Applied to the particular case of '1st/3rd person relativism', this condition asserts

[6] «Relativists hold that several *incompatible non-converging reference frames*, in terms of which we perceive and understand the world, could exist.» (Krausz, 2011, pag 71, emphasis added)

[7] It is true that 'Relativity in Physics' admits transformation rules that allow one reference frame to derive the values of physical quantities available in another reference frame (such as Galilean Transformations in Classical Mechanics and Lorentz Transformations in Special Relativity). But it is precisely *because* we need *additional* transformation rules to deduce one frame of reference from another, that we can appreciate that those frames, *by themselves*, do not converge into each other.

that 1st and 3rd person perspectives are incompatible, non-converging and non-deductible in relation to each other.

Succinctly, the 'explanatory gap' regarding consciousness, addresses the seeming impossibility of deducing subjective experiences from physical knowledge (Levine, 1983, 2001). In the physical sciences we can, for instance, provide a completely satisfactory explanation of water's macro-properties (like boiling at a certain temperature, its phase transitions from liquid to solid or gas, etc) by deducing them from its chemical micro-composition and other relevant physical information. The same doesn't seem to happen if we try to explain 'Pain' (i.e., the *subjective feeling* of pain) in terms of its physical realization, say, 'C-fibers firing'. It seems clear that we cannot deduce (the *subjective feeling* of) 'Pain' from information regarding its neural correlates. This apparent lack of a deductive link between phenomenal properties and physical properties corresponds to what Michael Levine coined as the 'explanatory gap': there is, or seems to be, an unbridgeable *explanatory gap* between conscious experiences and physical information. Paraphrasing in terms of 1st and 3rd person perspectives, the explanatory gap states the *incapacity of translating* 1st person conscious experiences *in terms of* 3rd person perspective methods (physical science). This lack of 'deductibility' from 1st person 'information' into 3rd person (and vice versa) is well attested by the 'What is like to be a bat' argument proposed by Thomas Nagel (Nagel, 1974). Nagel's point is more directed to the seeming '*epistemological* cut' between 1st and 3rd person's *perspectives* (or 'subjective' and 'objective' perspectives, in Nagel's terminology (see also; Nagel, 1986)) rather than with the *metaphysical* question of how the 'Mental' relates ontologically to the 'Physical'[8]. As the argument goes: a complete 3rd person knowledge of a bat's neurophysiology would leave us in the dark as to answer, from a 1st person's perspective, the question 'What is like to be a bat?', namely how it is like to perceive the world through sonar. The same result, in a slightly different guise, would be to suggest that a congenitally color-blind neuroscientist could know everything from a 3rd person perspective about color perception but, nevertheless, be incapable of experiencing colors from a 1st person's perspective (eg, would not know 'what *is it like* to see red'). This is basically Nagel's epistemic point regarding 1st and 3rd person perspectives and may sound somewhat trivial and without significant metaphysical import, but

[8] This epistemic formulation is also the framing of a well known 'weaker' and simplified version of Jackson's Knowledge Argument (Jackson, 1982. Also see Nida-Rümelin & O'Conaill, 2019, for a nice presentation of this weak version)

it is all we need to make the point of how there seems to exist an *explanatory* gap between 1st and 3rd person *perspectives*.

It is easy to grasp how the explanatory gap is, in fact, an *expected* and *directly predicted consequence* of '1st/3rd person relativism', in particular by what is stated in the 'third constraint'; precisely the *non-deducibility* and *non-convergence* between 1st and 3rd person perspectives. In the end, the widespread assumption of the existence of an explanatory gap (Crane, 2010) acts like a *piece of evidence* in favor of relativism itself.

The question could now be stated as something like: what is the impact of this relativist consequence on the perception of the traditional 'Explanatory Gap Problem'? The first thing to notice is that, according to relativism, the supposed 'gap' is certainly *not* an *explanatory* one. It is not 'explanatory' in the sense that, according to relativism, there *can* be a *complete explanation* from a 3rd person's perspective by ignoring any 1st person's knowledge (and vice versa). The 3rd person's perspective *does not lack* any kind of information. According to relativism (as expressed in constraint 3) it is *not* even supposed that either 3rd or 1st person's perspectives *can* or *should* explain or inform each other. They are fundamentally *distinct*, *irreducible* and *non-converging* frames of reference. They are distinct and incompatible *primitive* frames of reference in our relativist 'setting'. According to '1st/3rd person relativism' there is not any lack of explanation to be solved.

Secondly, and for the same reason, there isn't even a 'gap' since, according to relativism (and again as expressed by constraint 3), 1st and 3rd person perspectives do not share, and therefore do not *dispute*, the same explanatory 'frame'. If I'm allowed to adopt an analogy, we could imagine that, if 1st and 3rd person perspectives defined and disputed the same 'explanatory plane', there would be a 'clash', and therefore, something like a gap between them could be expected, but given relativism, these two reference frames *do not* define the same 'explanatory plane'. Rather, each perspective can be understood as defining a plane *parallel* to the other that never meets. This is what Constraint 3 states: 1st and 3rd person perspectives are incompatible/non-converging/non-deductible in relation to each other. To consider 'conscious experience' (1st person) as the *explanandum* and 'physical knowledge' (3rd person) as the *explanans*, is a sort of a 'categorical mistake': it mixes 'apples and oranges'. This is the 'original sin' that prompts the notion of an explanatory gap in the first place. As *expected* from

relativism, 3rd person perspective *does not* explain 1st person data, *and yet*, there is not 'any gap' to be bridged.

The existence of an *apparent* explanatory gap is itself a piece of evidence in favor of relativism. Relativism *does not* imply the *existence* of an explanatory gap (i.e., of something that lacks explanation) but rather the *sense* that there is one. Therefore, the widespread *sense* that there is an explanatory gap is in itself a piece of evidence for relativism (it is, a verified consequence of 1st/3rd person relativism).

The Hard Problem of consciousness is deeply related to the Explanatory Gap. From the Explanatory Gap it concludes that to answer the question: 'How and why do physical processes in the brain give rise to conscious experiences?' is a *hard* problem if compared to questions regarding explanations of behavior or specific functionally defined cognitive abilities like memory retrieval or face recognition (Chalmers, 1996). But then again, from a relativist stance, the (hard) question itself is ill-posed (in light of Constraint 3). Asking for an explanation of 1st person data in terms of 3rd person data is, again, like 'mixing apples and oranges'. In this vein, a possible answer to '*how conscious* experiences arise from brains' could be a simple 'they don't!' From a'1st/3rd person relativism' point of view, physical/brain states (3rd person) *do not* give rise to conscious experiences (1st person). To think otherwise would consist in a clear violation of constraint 3; 1st and 3rd person perspectives are in separate and unrelatable planes.

3.2- Mental Causation

'1st/3rd person relativism' has other philosophical consequences to the Mind-Body Problem besides the Hard-Problem of consciousness. One of those problems is 'mental causation' that can be summarized as follows: assuming there are mental properties (or events) and physical properties (or events) in our ontology, we know that physical events (namely some body movements) are the causal effects of some other events[9]. The question is: what kind of events, mental or physical, are the causes of those physical effects? Our common sense assumes that at least some of the causes are mental ones; it seems to me that my *intention* to raise my

[9] What follows is just *one possible way* of framing the problem of Mental Causation.

hand is the *cause* for raising my hand but this suggestion faces some difficulties. More specifically, *if* it is assumed that physical and mental properties are *not identical* (eg, any version of dualism or non-reductive physicalism), the conjunct acceptance of two fundamental principles concerning physical causation seem to turn mental causation redundant and epiphenomenal. The two principles are:

(i) *The Causal Closure of the Physical* (CCP): Any physical event that has a sufficient cause has a sufficient physical cause.

(ii) *The No-Overdetermination of Physical Causation* (No-O): physical effects are usually not overdetermined (if *P* is a physical event caused by a certain cause *C* then, nothing other than *C* is required to cause *P*)

Taking (i) and (ii) as premises, we are led to agree with what Jaegwon Kim calls *'the causal exclusion of the mental'*: all causation is physical (there is no room for mental causation on the physical) (Kim, 1993, 1998). Accordingly, mental events or properties are, at best, *epiphenomenal*. Since it was established, on the previous section, that the physical and the mental do not establish any connection at all, the prospects for relativism concerning mental causation do not seem very promising. In order to exemplify this, and bring the 1st and 3rd person into the picture, suppose we have two candidates for the causal explanation of a certain bodily behavior, say 'avoidance behavior'. One of the candidates would consist in a *1st person acquired* causal explanation. It could state something like:

(1) The feeling of fear *causes* avoidance behavior

On the other hand, our *3rd person methods* in neuroscience suggest (let's suppose) the following:

(2) Neural state *x causes* avoidance behavior

(2) is a full-fledged neuroanatomic description of the neural pathways leading to the motor execution of avoidance behavior. Assuming CCP and No-O, as stated in (i) and (ii), it is difficult to accommodate causal claim (1) as expressing something true. If all physical properties are only causally related to other physical properties, it seems that only causal claim (2) is legitimate. But, then again, (1) seems pretty obvious and true *from a 1st person perspective*.

From a 1st/3rd person relativist point of view, it is clear the problem only arises if we adopt an absolute perspective. Assuming 1st/3rd person relativism, (1) and (2) can *both* be accepted as legitimate causal claims for the same physical event (the avoidance behavior). Causal claim (1) can be legitimate and true *from a 1st person perspective* and (2) can be equally legitimate and true, but *from a 3rd person perspective*. Given relativism, these two causal claims are not in conflict since they do not share the same 'explanatory frame of reference'. From a 1st person perspective, the causal efficacious property responsible for bringing about the avoidance behavior is the specific *qualitative* character of the 'feeling of fear' *qua* conscious state which, according to relativism, is definitely neither identical nor reducible to any physical property acquired through the 3rd person perspective (given the distinction of reference frames). From the 3rd person perspective, on the contrary, only physical properties cause the avoidance behavior. The question 'What causes avoidance behavior?' does not have an absolute answer. Only answers relative to the 1st and 3rd person perspectives are adequate. The problem of mental causation only arises by supposing, contrary to relativism, that (1) and (2) share the same absolute explanatory framework. So, given 1st/3rd person relativism, the question 'is consciousness causally efficacious?' can be consistently answered 'Yes', from a 1st person perspective *and* 'No', from a 3rd person perspective[10].

Note that this sort of conciliatory move, made possible by 1st/3rd person relativism, mitigates and relativises conditions (i) and (ii). The CCP principle can be accepted but it *only* concerns the 3rd person perspective's frame of reference since only this frame of reference deals with what we know as 'physics', whereas from a 1st person perspective the CCP principle is just

[10] More specifically, from a 3rd person perspective the question doesn't even make sense, since there is simply no such thing as 'consciousness' from a 3rd person perspective.

false[11]. The No-O principle does not apply either for essentially the same reason: (1) and (2) that is, physical and mental accounts of the same effect do not share a common explanatory framework and, therefore, do not 'compete' as causal explanations of that effect, i.e. there is not a threat of overdetermination in this relativistic context. Consistently, '1st/3rd person relativism' grants mental causation while at the same time assuring that mental and physical properties are not identical.

3.3 – Neutral Monism, Abstract Invariance and Psychophysical Covariance

As stressed above, by assuming 1st/3rd person relativism, the two causal claims (1) and (2) *can* both be true (from 1st and 3rd person's perspectives, respectively). If we assume (1) and (2) as being true, it can legitimately be asked: what is/are the reality/ies 1st and 3rd person perspectives talk *about*? Relativism in general assumes that the different reference frames under a relativist relation refer to the same things in dispute. Only if they do can the dispute be said to consist in a true disagreement and not in a simple misunderstanding (MacFarlane, 2014). Since '1st/3rd person relativism' is true (or at least, *assumed* as being true), we have to conclude (1) and (2) are talking about the same common reality.

In a way, the question amounts to asking 'what kind of ontology or metaphysics makes the two causal claims (1) and (2) simultaneously true?' or still, 'what metaphysical scenario is consistent with 1st/3rd person relativism?' According to the relativist proviso that the two reference frames are talking about the *same single underlying reality*, the answer appears to be that a certain form of monism is the direct metaphysical consequence of '1st/3rd person relativism'. Furthermore, if the fundamental reality (call it a *substance*) can be 'viewed' by 1st and 3rd person perspectives as sustaining, respectively, 'mental' *and* 'physical' properties, then 1st/3rd person relativism seems to imply a certain form of Neutral Monism where the fundamental or basic 'substance' is *neither* mental *nor* physical but something distinct from both (Goff, 2017; Mach, 1886; Russell, 1919; 1927). In particular, the present kind of neutral monism is probably a 'mathematical' or structural one (Bain, 2003; Ladyman et al, 2007;

[11] Alternatively, it could be considered (from a 1st person perspective) that the 'avoidance behavior' is *my* behavior accessible to *my* consciousness. Therefore, the 'avoidance behavior' should also be considered a 'mental/conscious experience' as the 'feeling of fear' itself. Things being so, the causal claim (1) should be considered a 'mental-to-mental' causal relation and not a 'mental-to-physical' one

Tegmark, 2014); since, if *neither* 'mental' (1st person) *nor* 'physical' (3rd person), this common reality most probably has to be *abstract/mathematical* to some extent. This 'formal' reality could comprise invariant features of reality common to both 1st and 3rd person perspectives. These invariant features would probably be 'formal' or 'abstract' because they share the same common ground that is 'filled-in' or 'fleshed-out' by 1st and 3rd person perspectives. A good example of these invariant abstract features could consist in the common 'relational structure' of isomorphic neural and phenomenological spaces being proposed and found in current psychophysics (Fink, et al, 2021; Malach, 2021; Churchland, 2005; Klein et al, 2004)[12]. This could provoke the search for *psychophysical symmetries*, analogous to the ones deployed in 'traditional' physics, in order to try to uncover the nature of the invariant common underlying reality sustaining both 'conscious' (1st person) and 'physical' (3rd person) properties. One current proposal to *what* abstract entity could supposedly be 'filled in' by the 1st and 3rd person perspectives is 'information' (Chalmers, 1996; Velmans, 2002). This general claim is in line with several metaphysical proposals put forward recently by philosophers (Sayre, 1976; Floridi, 2008), neuroscientists (Tononi, 2015; Tononi et al, 2016) and physicists (Fredkin, 2003; Lloyd, 2006). Together, they reclaim John Wheeler's slogan stressing the fundamental role of information as the basis of all reality: 'It from bit'.

From these last considerations, 1st/3rd person relativism seems to vindicate a certain kind of 'Dual-Aspect Monism'; the idea that 'the Mental' and 'the Physical' are just *two aspects* of the same underlying neutral reality. According to this proposal, the 'Physical' and the 'Mental' are as two 'modes of presentation' (from 3rd and 1st person perspectives) of a more fundamental common underlying reality or 'fundamental substance'. 'Dual-Aspect Monism' was first suggested by Baruch Spinoza in the 17th century (Spinoza, 1677) and has been recently re-approached and revived by contemporary philosophers and scientists (Atmanspacher & Rickles, 2022; Skrbina, 2014; Solms, 2018; Velmans, 2002, 2008; Nagel, 1986 and, to a certain extent, Davidson, 1963). Dual-aspect monism is sometimes considered a special case of neutral-monism (Rosenkrantz & Hoffman, 2011).

This feature, i.e. the relativist claim that conscious and physical states are, respectively, the 1st and 3rd person's perspectives' 'modes of presentation' of a shared common (probably

[12] Fink, et al (2021) see these isomorphisms as a necessary condition for the proper establishment of Neural Correlates of Consciousness.

abstract) reality, has as a consequence that conscious experiences and certain physical configurations *should be* tightly *correlated* and expressed in terms of *covariance*. This is in fact what is systematically empirically verified. From all we know, for every change in a relevant physical/neural parameter there is a direct proportional change in conscious contents and *vice-versa*. 1st/3rd person relativism justifies (because it *predicts*) this correlation and covariation: conscious states and physical/neural events are correlated and co-variant *because* they correspond to how 1st and 3rd person perspectives realize the *same* (possible abstract) common structures *and,* for *each particular instance*, 1st and 3rd person's perspectives define exactly the same values within that shared structure (for instance, the same value in an informational space (Chalmers, 1996)). Physical and conscious states are two ways to access the *same shared structure*. Therefore, it can be stated that '1st/3rd person relativism' successfully *predicts* the existence of *covariance* between brain states and conscious experiences and also explains *why* they co-occur, i.e., it explains *why* (certain) physical events are always accompanied by conscious experiences. This is, of course, a possible answer to the '*Why* formulation' of the Hard-Problem of consciousness. It was already shown that the '*How* formulation' of the Hard-Problem (*how* do conscious experiences emerge from the physical) does not make sense within a relativist framework. The '*why* formulation' of the problem ('*why* are some physical states accompanied by conscious experiences') can be answered by noticing that 'conscious experiences' and the co-occurred 'physical properties' are just two 'pickings' of the *same* underlying reality by 1st and 3rd person perspectives respectively. To question *further* on *why* nevertheless there are conscious experiences and not *just* physical reality is to prioritize the latter over the former; which is an unmotivated move once '1st/3rd person relativism' is accepted.

4-Concluding remarks

In this paper I made the strong case for what I call '1st/3rd person relativism'; the idea that 'the truth value of some sentences/propositions is relative to 1st and 3rd person perspectives'. The main argument for 1st/3rd person relativism is a precise and rigorous formal proof, only requiring, besides set theory and 1st order logic, the acceptance of the unproblematic distinction between 1st and 3rd person perspectives. These claims, taken together with the denial of 1st/3rd

person relativism, lead to a contradiction thus demonstrating the truth of 1st/3rd person relativism via *reductio*. This result alone, being a formal proof, would be sufficient for claiming for '1st/3rd person relativism''s truth.

Nevertheless, 1st/3rd person relativism gains even more credibility when its consequences are confronted with some of the most prevailing puzzles concerning the Mind-Body problem. This confrontation reveals that '1st/3rd person relativism' successfully *predicts* and *explains* a large set of those puzzles and also that it conforms to almost all the conflicting intuition and all empirical evidence currently available. Making a brief summary: 1st/3rd person relativism *predicts* the existence of an (apparent) Explanatory Gap; *explains why* the Explanatory Gap is just apparent and the origins of such illusion; *dissolves* the Hard-Problem in its 'How' formulation; *solves* the Hard-Problem in its 'Why' formulation, *solves* the problem of Mental Causation; *explains why* Mental Causation looks like a problem in the first place and *predicts* and; *explains* the empirically found correlation and covariation between conscious experiences and brain (physical) states.

Any other philosophical proposals currently dealing with the Mind-Body Problem pale in comparison to '1st/3rd person relativism' in terms of its explanatory scope and, at the same time, in terms of its parsimony and simplicity. Also, '1st/3rd person relativism' does not seem plagued with contradictions or apparent big difficulties other proposals seem to face. '1st/3rd person relativism' retains the explanatory power of all other proposals combined without inheriting their problems. It is noticeable that '1st/3rd person relativism' explains, in terms of *its consequences*, our purportedly current paradoxical predicament of finding many neural correlates of conscious experiences *and*, at the same time, lacking any remotely satisfactory proposal for how the brain *causes* consciousness (Hoffman, 2008). '1st/3rd person relativism' smoothly *predicts* the occurrence of, on one hand, neural-phenomenological correlations *and*, on the other hand, the non-convergence of 1st and 3rd person's frames of reference, and therefore, the lack of any causal links between brain (3rd person) and consciousness (1st person) (1st person's conscious experiences *are not* even supervenient on - 3rd person's acquired - physical facts. Supervenience is a non-symmetric relation and according to '1st/3rd person relativism' all relations between 'consciousness' and 'the physical' have to be symmetric).

All this success is even more remarkable if one considers that, contrary to virtually all other philosophical proposals on the Mind-Body Problem, '1st/3rd person relativism' *was not* conceived to deal *directly* with that problem. Rather, it was adopted as the only solution to avoid an inconsistency brought about in a context (the number of ordered sets of mental states) that only very tangentially and remotely has something to do with the Mind-Body Problem. The *consequences* of '1st/3rd Person Relativism', when *applied* to the Mind-Body Problem, put all pieces of the puzzle into place and provide a clear and coherent picture. But solving the 'Mind-Body puzzle' *was not* the mobile for the adoption of '1st/3rd Person Relativism' and that makes its overarching success in dealing with it even more noticeable and remarkable. This is one of those rare occasions in philosophy where we are dealing and evaluating the actual *consequences* of a philosophical proposal, a proposal that *was not* conceived nor tailored to deal with the Mind-Body Problem in the first place. Nevertheless, all these consequences fit the data and solve the problems *better* than any other available proposal directly conceived to deal with the Mind-Body Problem. *Even* if there was not a 'formal proof' for '1st/3rd Person Relativism', the impressive explanatory power and successful fitness of its consequences in dealing with the Mind-Body Problem alone, would consist in a powerful argument in its favor. It is a kind of a 'No-Miracles argument' applied to this particular relativist claim: it would be something akin to a *miracle* to '1st/3rd Person Relativism' to be false in face of all the observed consequences and explanatory power. Since it seems reasonable to assume that we should not rely on miracles, it follows that '1st/3rd Person Relativism' is, at least, most probably *true*[13]. If we take *both* the 'formal proof' of '1st/3rd Person Relativism' *and* the 'No-Miracles argument' in terms of its consequences, we get a *very strong* case for '1st/3rd Person Relativism' indeed. In fact, the 'formal proof', being a 'formal proof', should be sufficient to convince anyone about the truth of '1st/3rd Person Relativism'. Nevertheless, the way relativism fits all the available data and how it easily solves some of the most recalcitrant difficulties faced by generations of scientists and philosophers adds to its rightfulness.

Taking into consideration how strongly supported '1st/3rd person relativism' is and how wide and encompassing its explanatory power, it does not seem too bold to claim that, for now on, no serious philosophical or scientific program dealing with consciousness can dismiss or

[13] This argument is an abductive one rather than deductive. For the traditional No-Miracles argument in philosophy of science see (Putnam, 1975)

ignore it. Moreover, 1st/3rd person relativism suggests a *change of paradigm* concerning the Mind-Body Problem and Consciousness Studies: instead of taking the Mental and the Physical as primitive and trying to establish a certain kind of relation between them, 1st/3rd person relativism suggests taking 1st and 3rd person perspectives as two different and irreducible reference frames from which we access the same underlying reality. This general approach solves the puzzles associated with the former 'paradigm' and suggests a new framing where new philosophical and scientific questions will naturally arise, helpfully establishing a renewed perspective on the nature of the physical and the mental.

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