

TOWARDS AN EXPERIMENTAL SCIENCE OF NATURAL CONSCIOUSNESS FROM THE FIRST-THIRD-PERSON PERSPECTIVE

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Abstract. We argue for the possibility of validating the presence of consciousness in another person from a perspective that blends both, a third-person approach of coming close to, observing, and understanding the other; and a first-person assessment of how the experience of the other feels like. For this, we will need to explain how the line between the third-person and first-person approaches is blurred in some methodological approaches. We rest our position largely on the back of some seminal conclusions of the meditations of René Descartes and other theories concerning consciousness like Chalmers' naturalistic dualism and, to some secondary extent on Integrated Information Theory (IIT). Additionally, we describe fundamental contextual principles already developed in the literature and the arts (like Stanivlaski's Acting System), and then we use them for setting a suitable methodology that we feel can be used to validate the presence of others' conscious experiences in one's consciousness (at suitable periods of spacetime). Finally, we give general methodological guidelines for the construction of the concrete experiment and we explore very briefly the potential implications of this kind of research in other academic and non-academic settings.

Introduction

Nowadays, there is a vivid philosophical debate about the origins, nature, and existence (in an objective way) of what can be considered as the most 'real' subjective natural phenomenon, i.e., our conscious experience (Chalmers, 1997a). Thought experiments, like the existence of (philosophical) zombies and conceivability arguments, are used in this area of research as one of the most prominent conceptual methods (Brown and Fehige, 2011).

We can identify two large areas of interest on which the study of consciousness is focused. One of them relates to the physical processes originating and

structuring our conscious experiences. Here, the main focus is on the neural functional state of conscious experience which has been widely researched and has many competing and complementary theories (Kim and Blake, 2005), (Dehaene et al., 2006), (Lamme, 2006), (Block, 2011) and (Cohen and Dennett, 2011). The data used in these theories come from neural processes that can be identified by measuring neural activity during different conscious states or during tasks that involve cognitive capacities associated with conscious experience. The second area of interest involves the study of consciousness from the perspective of subjective phenomenal experience and usually involves a more wide conception of consciousness that goes beyond the neural functions (Chalmers, 1995) and (Chalmers, 1997b). Unlike the first theories, subjective experience is not so ‘easily’ measurable and the theories can seem very vague from a scientific point of view given the lack of reproducible empirical evidence. Within the scientific community (studying consciousness) the theories concerning the first topic are usually said to deal with the ‘easy problems’ of consciousness while the latter deal with the ‘hard problems’, precisely because of the difficulty in obtaining measurable data and their conceptual difference to the former one. Some researchers believe that solving the easy problems will solve also the hard problems since they are the same (Cohen and Dennett, 2011), while others maintain that the hard problems involve something going beyond the measurable neural states and functions (Chalmers, 1995). Even if one agrees that solving the hard problem can be reduced to solving the easy problems, we maintain that a good theory of consciousness should be able to connect neural states and functions to particular phenomenal states in a structurally sound manner, so both positions will benefit from a more systematic and reliable way of measuring phenomenal experience.

Most of the discussions regarding conscious experience encompass a considerable number of conceptual positions like (naturalistic) dualism (Chalmers, 1997b), materialism (Dennett, 1993), (proto-)panpsychism (Chalmers, 2011), epiphenomenalism (Robinson, 2015) and (Russellian) monism (Alter et al., 2012), among others. However, how should an answer to the question concerning the nature and objective existence of our most vivid self-experience look like? Should it look like a relative opinion? Is it not for any of us our very existence and experience a more tangible and objective truth than any physical (external) fact in nature can be? Should not the existence of a black hole be for me a more tangential truth than my own ‘internal’ existence?

Let us assume that tomorrow there will be no technology and no implicit visual evidence of it in the world at all. In particular, there would be no photographs. Thus, there will be no indirectly accessible evidence of the existence of a black hole. So, which of these two ontological claims would be more ‘objective’ for each of us? Which is more ‘believable’: the conscious experience of myself or the existence of a black hole?

This raises a very natural question: In the experimental sciences we have been able to design experiments to prove the existence of lots of natural phenomena (e.g. physical objects and the so-called ‘laws of physics’), like elemen-

tary particles and black holes. Then, would it be possible to design an experiment to prove the existence of others ‘conscious experiences’ from our first-person perspective (e.g. our own experience)? Equivalently, how could I prove, feel, or experience that someone else is conscious (from his/her perspective in myself)?

1 Ontological Background and Some Methodological Principles

In this section, we describe a collection of intra- and inter-disciplinary principles allowing us to support the thesis that one can develop experimental pillars for experiencing others’ consciousness in a first-person perspective.

First, one of the most natural conclusions that we can find in Descartes’ second meditation (Descartes, 2020) is the fact that our consciousness (or conscious being) is, from our perspective, the most stable and existential structure of nature. Even more, it is the first one to provide us with the ontological support of a ‘natural’ existing structure (in our subjective perspective) without any kind of doubt. On the other hand, from the modern development of sciences like (human) physiology and (neuro-)biology ((Goldman-Rakic, 1987), (Fregly et al., 1996), (Feher, 2017), (Kandel et al., 2000)); we immediately conclude that there is no single cell, in what we call ‘our bodies’, accompanying us from our conception time until our ‘departure’ of this world. In other words, the thesis that only our bodies are the most reliable and verifiable structure for ourselves is just a mono-disciplinary illusion. In fact, if we compare the biological structures consisting of our bodies at the age of 8 months of conception with our bodies at the age of 10, 20, and 50 years old, we see that all these physical human entities share almost nothing from a purely physiological point of view. However, inside each of them, there is essentially the same ‘I’, the same ‘I think, (therefore I am, here in this constantly changing ‘body’)’.

So, although from an atomic perspective, our phenomenological envelope (or body) changes and is renewed constantly, our inner self is there, almost immutable and stable. From this evident fact, we conclude that although the concepts of ‘consciousness’ and ‘body’ are intimately related and together form a creature (or concept) called *human*, they are ontologically different structures in nature. Effectively, both entities are so different that throughout millennia of intense study, the seminal properties, principles, and organs of consciousness remain still a big mystery (Zelazo et al., 2007). However, nowadays we have a lot of quantitative and qualitative information about the central organs and properties of the human body (Tortora and Derrickson, 2017). Thus, to be able to understand how to develop experimental principles for undergoing others’ consciousness, and, in fact, for cleansing our formal understanding of consciousness, it is fundamental that we do not fall into a biased perspective of the form ‘expecting only (kind of) physiological properties for consciousness’. Such a perspective would blind us from developing a genuine, holistic, and transparent science of empirical consciousness.

Second, one of the most crucial and seminal properties of consciousness in our context is strongly related to the notions of ‘aboutness’, attention and, attentional control (or mental concentration) (see for example (Berto, 2018), (Tomlin and Villa, 1994) and (Astle and Scerif, 2009)). More explicitly, using a spatio-temporal metaphor, we can say that one primary feature of consciousness is its ability *to enter and penetrate deep inside things/ entities/ structures (qualitatively) in nature*. It means, through a constant and intense process of focused observation, our conscious being is able to grasp, comprehend, (sometimes) manipulate, apprehend, realize, and penetrate the essence of virtually anything.

This ontological journey is similar to a quest into outer space, where the spacecraft corresponds to my inner ‘I’, the current location is the object of conscious attention of my ‘I’, and the target of destination is the projected state of aboutness of a specified target entity, or phenomenon, in an internal state of genuine comprehension, assimilation, understanding, apprehension or realization. For example, my quest for understanding how to multiply natural numbers starts at some point in elementary school, when I got an initial idea and intuition about counting and manipulating numbers. Afterward, this conscious journey goes to the temporal stations of ‘listening to the classes of my math teacher’, ‘doing (a lot of) math exercises’, and finally finishes at the paradisaical island of ‘now I really understand how to multiply any pair of natural numbers’ (supported by objective evidence given, for instance, in the form of an approved test). This conscious and genuine realization was the genuine goal of this short journey.

More generally, the goal can be changed to ‘getting to know the person X’, ‘learning to dance Salsa’, ‘learning to play drums’, ‘learning to speak Hindi’, and ‘funding a company’, among many others.

Now, if we focus our attention on the enhancement of information happening in our consciousness when we perform this kind of journey, we see that after we have arrived at our destination, our cognizance about the target is, strictly speaking, deeper. So, in the particular case that the goal is ‘getting to know a person X’, we conclude that the more the goal is achieved, the bigger the amount of foundational information we have acquired about X; and, subsequently, the deeper we ‘penetrate’ into the (conscious) being of X.

Another theory that can support our current position in an indirect manner, is called Integrated Information Theory (IIT) (Tononi and Koch, 2015). IIT has an advantage over other slightly similar theories like panpsychism (Chalmers, 2011), in that it defines a way in which conscious experience could be measured in quantity and quality, although it does not claim to be able to show how consciousness arises. IIT, also unlike panpsychism, defines conscious processes as a product of the interaction of complex structures that are non-reducible but that can be structurally described. In this respect it differs from the typical notion, coming from panpsychism, that consciousness is everywhere as some form of ‘fundamental’ property, but it agrees with it in that consciousness is not only a property of brains and some neural functional states but of systems that organize information in a particular way. In this regard, IIT is closer to a concept like panprotopsyism (Chalmers, 2011), where consciousness is the product of

interacting elements, but goes further than it in defining how precisely these elements must interact.

Specifically, particles at a micro level have a kind of proto-phenomenal property and when they are configured in the ‘right’ ways, they can fulfill sufficient conditions for the presence of conscious experience within the corresponding agents. It implies, that phenomenological data could be (physically) shared among entities, since, for example, external influences can generate similar patterns of neurons’ interaction in several agents producing common phenomenological structures among them. In other words, the physical interaction between conscious agents can cause considerable phenomenological commonalities (materialized through inner perceptual transformations) in the quality of their conscious experiences.

Furthermore, all the structural elements of the approach developed in “the extended mind” turns out to be very useful for our grounding work (Clark and Chalmers, 1998). Explicitly, the notion of ‘epistemic action’ and ‘epistemic credit’ are central here, since inside of them reside the fact that parts of the external world¹, regarding a fixed conscious being, can be (genuinely) considered as part of the inner phenomenological framework (i.e. consciousness) along particular tasks of bi-directional causal interaction (e.g. playing video games, which forces the user to collaborate bidirectionally with highly complex (virtual) landscapes for solving knotty ‘missions’).

Even though theories like panpsychism try to explain somehow where consciousness comes from and theories like IIT try to explain how it manifests itself, they cannot really explain why a particular phenomenal experience is experienced the way it is or feels the way it feels. So, why does a particular experience have a particular quality? Damasio seems to have one of the theories that can explain this (Damasio, 1999). Damasio’s idea maintains that human conscious experience is related to emotional content since it is experienced in particular ways that are connected to how we feel about things and cannot be reduced to the purely functional state but depends also on the material (e.g. biological), where the state is manifested. So, the functional states of a neuronal environment together with the particular chemical reactions generated in emotional processes are what provided us, partially, with the particular quality of experience that we commonly perceive. That would explain why human consciousness has a qualitative difference from other conscious entities (that are part of the approaches emerging from panpsychism), for example, silicon-based systems that follow the informational integration principles of IIT, and that even though conscious, will still have a different quality of experience.

Additionally, the human conscious experience could also be seen as possessing a fundamental emotional content that is influenced by a particular type of matter (biological-macroscopic), going beyond the (physical-macroscopic) solely structural properties of the corresponding conscious agent.² This is ex-

¹ For example, other’s consciousness.

² Here, the terms micro- and macroscopic are presented in the sense of the new cognitive foundations’ program of artificial mathematical intelligence Gómez-Ramírez (2020e).

pected since, even though any type of matter has a natural predisposition to experiential phenomena according to panpsychism or IIT, the corresponding biological matter has gone through a different historical process in comparison to matter based on silicon, which contributes to the construction of their intrinsic properties or derived 'identity'. Now, exactly at this point emerges implicitly a very unique new feature of conscious experience that transcends its physical embodiment, i.e., the specific and structural blue-print of the continuous qualia generating consciousness can be essentially incubated in different physical exemplifications.

Let us describe an enlightening, but partial example for explaining this unusual feature of consciousness. Let us compare consciousness with a driver and the body with a car. So, a (particular) conscious physical agent would be represented by a (particular) driver riding a (particular) car. And, its specific behavior would be represented by its peculiar way of riding (for example in the context of a chariot race). Therefore, if we consider two conscious physical agents A and B, represented by drivers DA and DB; and by cars CA and CB, then when changing the driver DA to the car CB, we obtain a new conscious physical agent C, with qualia essentially the same as A, but in a different particular embodiment. Thus, one would observe strong qualitative similarities between agents A and C (since both are formed by the same driver), however, specific kinesthetic differences could also be observed (since both are made by different vehicles).

The former feature can be called *the principle of qualitative transference of the essence of phenomenological qualia*. This principle is pragmatically supported by the most outstanding spiritual movements and religions in the world (Hellern et al., 2013), where the notion of consciousness can be, sometimes, identified with and included in the notions of soul, spirit, inner self, etc.

In conclusion, in this section, we presented the initial ontological principles and features of our cognizance apparatus that will help us prepare the basis of our methodological setting.

We will develop here a methodological process that will work together with our ontological position. Given that the West has relied on a scientific tradition that has its roots in a dualist position, we would like to expand our methodological view with very valuable perspectives coming from Eastern schools with a lot to say about conscious experience. For this, we can reference a discussion that grew up from the contrast between Western and Eastern ethological traditions. Frans de Waal made this distinction clear in his book "The Ape and the Sushi Master", where he compares the tradition in western and Japanese primatological studies (De Waal, 2001). For de Waal, the Japanese researchers had an advantage in that they came closer to the object of study (i.e. primates) in contrast with the western style, where the primates were observed from a distance during the studies. The reasoning behind the western methodology was that keeping a distance from the object of study is imperative to make an objective analysis of what is going on. In other words, the minute you come close to the object, you will 'contaminate' it or affect it in a way that will negatively influence its natural behavior. For the Japanese primatologists coming closer to the primates

was much less problematic, something that de Waal justifies due to their religious tradition, namely, humans and nature are seen as less separated than in the West. Cultural traditions like Shintoism in Japan are then closer to a panpsychist notion of the universe since animals (or even objects) can share many of the qualities and properties humans have. For Japanese primatologists creating an empathetic bond with the animals was essential for understanding them. This allowed the Japanese to understand the primates in a different dimension and ‘see’ things that were not evident from the more distanced perspective of the western tradition. Needless to say, several western scientists adopted some of the Japanese methodologies and vice versa, thus balance was achieved. In particular, the blended new methodology coming from the western and Japanese schools turns out to be the most successful one (De Waal, 2001).

Now, inspired by the former case, we want to subtract and extend some of the core aspects of the former combined methodology. This is to highlight the prominent role that the task of experiencing along with the (conscious) object of study has, in studying and ‘proving’ others’ conscious experience in 1st person perspective. This paradigm-shifting approach is also supported by standard methodological procedures in modern physics. Specifically, a lot of discussions around the measurement problem in quantum mechanics offer as a main conclusion the fact that a necessary condition for studying any type of (natural) entity X, is to measure them, i.e., if one wants to obtain a real understanding of some aspects of these entities, then one should ‘get in touch with’ them (Alter et al., 2012). Besides, the more structural the properties of a subject study are, the deeper the necessity for a profound engagement with that subject.

Here we can make a comparison with Dennett’s third-person view of conscious experience which he refers to as heterophenomenology (Dennett, 2003, 2007); which, even if we consider it useful and valuable, could suffer from some of the same shortcomings experienced by western primatologists in the study of apes and chimpanzees. The idea related to getting closer to our object of study which, in our case, is the conscious experience of another person, by making their experiences part of my own, is that we could have a qualitatively different and deeper access to understanding (intellectually) and experiencing (phenomenologically) the (others) conscious phenomena in comparison with doing this only through a third person (distant) perspective.

Finally, the work of F. de Vignemont related to what extent we can ‘know’ others’ mental states from a first-person perspective is highly valuable for our discussion (De Vignemont, 2010). In fact, de Vignemont shows that there is a lot of neurobiological evidence of the thesis that our minds can experience, to some extent, other people’s emotions as if they were one’s own (an additional reference is (Decety and Jackson, 2006)). Moreover, the notion of reconstructive empathy (i.e., the process of recreating other people’s emotions on one’s mind merely by having a common emotion with them, lacks the feature of immediacy, i.e., having direct access to the corresponding emotion through direct causal introspection. So, the notion of reconstructive empathy represents in our context only a partial approach to what we want to achieve.

Something similar happens with the concept of mirror empathy (Hatfield et al., 1993), (Iacoboni, 2009). Effectively, it is not sufficient that we automatically and unconsciously activate mirror neurons and a specific emotional inner configuration when we perceive other people's specific gestural expressions for ascribing to this emotional response the property of genuine co-consciousness or, in our context, first-third-person conscious experience (Ayer and Ayer, 1963), (De Vignemont, 2004). It lacks a minimal amount of causal common grounds over the corresponding emotion, a seminal amount of structurally-shared phenomenological history, and the unconscious direct suppression of emulation for the imitating agents to be replaced by a kind of common (bi-)introspection (De Vignemont, 2010).

It is important to notice that, although, to some degree, some neurological mechanisms are supporting the first-third-person conscious experience, we also possess other neurologically based mechanisms that, in some situations, prevent us from reaching this kind of structural cognitive empathy. For instance, when one pursues a total structural cognitive empathy with another's disturbing emotion without possessing it at a specific spatiotemporal interval, one may undergo an episode of overarousal, tending to prevent one conscious mind from living such a traumatic experience (for more details see, for example, (Decety and Jackson, 2006)).

So, beyond the former finding, we may conclude as well from the former considerations that the merely neurobiological approach seems to be incomplete for our present purposes.

2 General Guidelines for the Experiment

After making our ontological and methodological perspectives clearer, we now will proceed to describe what such an experiment can look like.

To construct our experimental framework we will revisit the classical (Chalmers') principles governing consciousness to see how we can generate from some of them, among others, suitable hints for constructing an experimental theory of natural consciousness (Chalmers, 1995).

At first sight, the only information that I have about the conscious experience of another person is the external signals that such a person (let us call her Mary) can give to me. For example, I receive information in the form of speaking and written language, or the form of physical movements. Now, based on that information, how could I prove in a verifiable way what is like to be Mary?

In order to achieve this, let us start by experiencing what is it like to move like Mary. From the phenomenological point of view this is a reasonable starting point, since, by the structural coherence principle (Chalmers, 1995), how Mary moves her body (and how that movement is processed) is directly related to the way in which her corresponding 'kinematic experiential' states vary. This is because there exists a kind of structural 'isomorphism' between the kinematic patterns being transported through the nervous system to the brain, which di-

rectly affect the awareness (access to global control), and the corresponding ‘phenomenological’ kinematic patterns generated in the conscious experience.

So, the closer I match my body movements to Mary’s, the closer I am to having the bodily-kinematic phenomenal properties that Mary has. The same argument could be used when we replace the action of movement with any other concrete observable activity Mary does. For instance, reading Mary’s books; speaking Mary’s language; eating Mary’s style of food; living in Mary’s house, and imitating the finer psychological aspects of how Mary usually talks (from a linguistic as well as a logical perspective, i.e. an anthropological perspective).

The global idea behind this is that if I can modify my behavior and interaction with the external environment in such a way that my awareness starts to be as similar as possible to Mary’s awareness then, because of the double-aspect principle of information (Chalmers, 1995), I will begin to experience the isomorphic phenomenological aspects in my experiential information space. That happens because some of Mary’s phenomenal actions are ‘isomorphic’ (from the point of view of information theory) to some of Mary’s physically embodied informational actions (i.e. the ones taken to be imitated by me), and those actions are structurally related with external physical conditions as the ones given in most of the examples before. Furthermore, these corresponding external physical conditions are very similar to the ones that I am imitating. Thus, if we apply again the double-principle of information to my experience by performing Mary’s activities, then my phenomenal information space will be, to some extent, isomorphic to Mary’s phenomenal information space. In conclusion, I will experience on my own an isomorphic phenomenological version of what is like to be ‘Mary performing such an activity’. Besides, we can talk in this context about a kind of *phenomenological and informational reflection* between Mary and me, namely, Mary’s phenomenological experience is reflected in her external movements and environment through an informational process, which at the same time is reflected in my phenomenological experience, since I am imitating Mary’s activities and I am surrounded by Mary’s (physical) context.

It is worth noting here that in practical terms the most challenging tasks will be to generate the best conditions making me able to perform Mary’s activity as near as possible to how Mary does it.

This approach is supported by a very simple analogy coming from experimental sciences, i.e., if I want to prove that a specific physical object obeys some particular formal model, then I need to ‘experience’ on my own the corresponding experiment that proves the concrete phenomenon. In other words, I need to expose my consciousness, through, for example, my vision, my touch or, my hearing; either to that particular object directly, or to an indirect trace of the object by means of a suitable device. This would be the most direct way of ‘validating’ that a formal description of this physical phenomenon effectively coincides with the corresponding (conjectured) physical phenomenon. Of course, there are also other indirect ways of obtaining a vicarious certainty regarding a physical theory, like reading a technical article. However, in this case, ‘self-assurance’ processes also include a component of ‘trusting’ the journal and the

author(s) writing the article. In particular, one needs to ‘believe’ that the experiment described in the article could be objectively reproduced anywhere else and that, under similar conditions, the results should be essentially the same. So, this second kind of ‘proof’ is, strictly speaking, a kind of meta-summary of the actual proof that, for matters of effectiveness (time, space and resources), is often missed. Now, contrary to the common objects of study, which are usually external physical phenomena, regarding consciousness, we should take into account the problem of 3rd person vs 1st person perspective. In this case, the measuring tool is an agent with subjective perceptions, which will require an epistemological extension of the traditional objective measuring paradigms.

For instance, suppose that you want to prove in a direct manner that lions indeed exist. So, you would need to expose one of your basic senses (e.g. vision, touch) to a real lion to be completely sure that there are such animals. Otherwise, you would support your belief about their existence in a kind of ‘indirect’ data, for example, in photos, videos, and oral testimonies. So, your ‘proofs’ would rely in this case on others’ 1st-person perspectives proofs. Something similar occurs if we want to prove experimentally that some ‘physical’ phenomena exist. Effectively, what we do is expose some of our senses to some data coming from the phenomena we are interested in. In these cases, such ‘exposure to the evidence’ is very ‘simple’ because it requires a smaller number of sensory experiences (either visual, auditory, or other). For instance, all we need to see are some images or touch something, or listen to some sound recording. However, in the case, of experiencing X’s conscious experience (e.g. Mary), we need the whole spectrum of our senses, because we need to be able to achieve simultaneously a kind of X’s way of seeing, hearing, touching, smelling, speaking, moving and finally feeling. Thus, we would require our whole phenomenological capabilities. And, this is a necessary condition for the experimenter in order to be able to ‘prove’ that X has conscious experience.

Moreover, let us consider each of our five basic senses as a (phenomenological) dimension allowing us to have contact with the external world in a very unique way; and we add as a sixth dimension the phenomenological ability affording us to say ‘I feel Y’ or ‘I understand Z’. Then, the problem of verifying someone else’s conscious experience in the 1st-person perspective can be considered as a 6-dimensional experimental problem in natural sciences. So, it can be considered as one of the most challenging ones, since, for example, the verification of the existence of black holes, atoms, bosons, specific kinds of cells and animals are at most 4-dimensional problems. The reason is that they require, in general, just some visual and/or tactile and/or aural and (phenomenological) understanding. For example, if we want to verify that a particular type of cell exists, then we need a special kind of microscope, the right substance, and a minimal understanding of the main properties defining such a cell. In conclusion, the experimental challenge that we have before us requires the design of (sub-)tests covering each of these six dimensions.

Now, following the former approach we infer that for proving from a 1st-person perspective that Mary’s consciousness ‘exists’, we need to start by being

exposed through our senses to Mary's sensitive experiences to be able to experience Mary's phenomenal states from a qualitative point of view.

So, one of our main goals would be to extend experimentally Descartes' paradigm "I think therefore I am", to a kind of *I think about you, therefore you are*. Therefore, going further we could extend the former claim to *I feel you, therefore you are in myself*, which will put both agents in a position where they are 'phenomenologically coordinated' and, in doing so, experiencing the other, or being like the other happens from the 1st person perspective providing a much more direct experience of the other's world.

On the other hand, being conscious at a time 't' is always being conscious about something, e.g., a concrete physical object, a specific environment, a sensation, an abstract concept (in general an 'entity'), and him/herself. In fact, the 'aboutness' of consciousness is, in some sense, fundamentally related to the entity being the object of such an intention. For example, when I say that I am conscious of 'someone', then my subjective 'perception' of that person is fundamentally related to the real person. So strong is this relation that it is common to listen to phrases like 'I know my best friend'. Informally, it means that I have acquired in some psychological aspects a real knowledge of that person and that this knowledge is coherent with the actual behavior of that person.

Now, it is necessary to make a sort of parenthesis here to clarify how we can exactly relate to others, given that we relate in different levels and several ways to distinct people, depending on the relationship we have with them. Concerning this matter, we find that the discussion surrounding some studies on empathy could be enlightening (Slaby, 2014). Effectively, there is a great deal of talking about popular speeches dealing with how relating to others and understanding them involves 'putting yourself in the others' shoes'. What this idea evokes is a sort of perspective shifting that we must engage to understand other people. As Slaby so eloquently puts (Slaby, 2014), there is a problem with this approach given that a person cannot renounce their agency (in Heideggerian terms) and, as such, any perspective's shift will be plagued by the perspective of the agent making the effort to see things from the other's point of view. This is not difficult to imagine, if we understand that the history (phylogenesis, ethnogenesis, ontogenesis, and sociogenesis) of an agent ends up shaping their prospective decision-making. In other words, there is an imperative of differentiating the self from the other when we try to understand others, see the world like them and possibly act like them.

Based on this criticism Slaby concludes that the empathetic approach of perspective shifting falls short of allowing a true identification with the other except in very simple and uninteresting cases. This is why Slaby proposes that Interaction Theory (Gallagher, 2001), in contrast to the empathy studies, could provide a framework with which to achieve a more truthful account of experiencing the world as the other. What this theory suggests, based on the inevitability of the agent's own agency, is that two people that interact in similar contexts could develop a closer understanding and mental connection, than by using purely psychological methods like simulation and imagination. This idea is not necessarily

new, since it has been examined, for other purposes, in more anthropological studies where the engagement of common activities is the basis for the generation of a sort of joint cognitive system that allows better coordination and tacit understanding (Reynolds, 1993), (Hutchins, 1995) and (Stahl, 2006). What all these interactive approaches for understanding and working alongside others have in common is that they see our mental world not as something hidden that can come out only through introspection, but as something much more evident in the way an agent engages and interacts with its surrounding.

This creates the possibility that by the continuous interaction with the other, we engage in conscious and subconscious information gathering and processing by means of our senses, and this allows us to create, first, a sort of model of the other that will make effective interaction possible and, second, a more precise joint phenomenological experience that will match sensations, feelings, intuitions and other phenomena that are not always possible to explicitly communicate, imagine or simulate. In this interaction, both, the first-person and third-person perspectives of the conscious reality of the other come together in one common experience.

An experiment based on this kind of interactive process can be used to evaluate how we can really get into understanding the other and assign a mental world to him/her/it, given the shared phenomenological experience and the connection generated through interaction. Like Slaby says the “accounts of joint agency and mutual recognition—lie important further tasks for a philosophy of mind that aspires to move for good beyond all forms of solipsism, subjectivism, and individualism” (Slaby, 2014, Pag. 257). We are not proposing that an experiment will completely solve the issues behind what it is to know that the other is also a conscious entity, but it will bring into the scene stronger factual arguments and experiences, instead of (fictional) hypothetical ideas like the existence of philosophical zombies, which can be employed in several directions to defend a quite diverse amount of opinions in related matters (Chalmers, 2011).

Closing the parenthesis and going back to the experiment, one possible way of achieving this practically is to use actors to generate the kind of interacting experience required. The benefit of using actors is that they are more trained in pretending to be others and engaging with others in improvised and artificial settings and situations (Lewes, 1875). But, even within the acting world, there are considerable theoretical challenges to take into account. For example, using actors that engage with method acting will pose problems similar to those identified by Slaby in empathy studies given that method actors try to use their own mental world as a way to identify with fictional characters. In other words, they generate mentally along the way a marked distinction between themselves and others, and sometimes they get too involved in their inner world preventing them to be vulnerable to external influences, which is what we would want to achieve. On the other hand, actors who follow Constantin Stanislavski’s system (Stanislavski, 1989), (Hodge, 2000) will be closer to the conception of interaction theory, since this kind of actors get a (kind of) ‘identification’ with the

corresponding characters by engaging in the interactions the latter ones would also experience.

An additional challenge is the matter of evaluation. We need not only to find people that are close and capable of trying ‘to be the other person’, but also we need to be able to specify formally how they are closer to the one(s) they imitate in comparison with what they were before. What seems to us the ideal approach would be the one accommodating all methods available, but this poses several challenges.

Any experiment like the one we proposed requires lots of time and space, which neural imaging techniques do not allow for. It could probably still be included in some way, but not in the most practical one.

This means that psychological methods of evaluation need to be our focus. For this, a mixture of personality and well-being (e.g. ‘feeling’) questionnaires should be the most appropriate, like the Five Factor Model (FFM) (Costa Jr and Widiger, 1994) for testing the general personality structure and some form of satisfaction/happiness scale regarding to a certain activity to test a person’s subjective impression of their well-being or emotional state in a specific situation. Employing such methods should provide some measure of how a person generally experiences his/her own (and others’) life and how he/she does so in specific situations, and how these qualitative features change throughout the experiment for the one who is imitating someone else, or even for both.

Finally, the foundational results obtained in the second central pillar of artificial mathematical intelligence (AMI) (or cognitive-computational metamathematics (CCMM)) are of total relevance in our discussion (Gomez-Ramirez, 2020). Explicitly, the second constitutive pillar of AMI consists of a global taxonomy of the most structural and fundamental cognitive mechanisms used by the mind during formal abstract scientific creation (Gómez-Ramírez, 2020d). For example, some of these seminal processes are conceptual blending, metaphorical thinking, analogical reasoning, conceptual substratum, conceptual generalization, particularization, exemplification, duplication, and identification, among others (Gómez-Ramírez, 2020a,c,b,d). So, due to the universal nature of these cognitive mechanisms in the global process of thinking and feeling about the world, and their structural influence in shaping our general manner of phenomenologically being; it seems straightforward to use them in order to construct an initial abstract phenomenological blueprint of someone’s consciousness by collecting systematically some of the prototypical instances of each of the former mechanisms, e.g., some foundational metaphors of the particular subject (e.g. Mary), like ‘the life is (like) an adventure’, or ‘living is (like) suffering’; some basic personal analogies, etc.

So, once we have this kind of initial phenomenological radiography of the agent of study (e.g. Mary), shaping considerably the particular way of being (of Mary) about the world, we add as part of the experiment a last phase in which the second subject, aiming to experience the initially external (Mary’s) conscious being in first-person perspective, should learn very carefully each of

the prototypical instances of this unique radiography to be able to near the inner qualitative comprehension of the initial subject (e.g. Mary).

This last part is one of the most crucial and delicate ones since we should classify very carefully and as objectively as possible a wide spectrum of prototypical, representative and archetypal concrete instances of the complete list conforming to the former taxonomy of cognitive foundational mechanisms.

The precise design and execution of the corresponding experiment will be the central matter of further study. In this paper, we focus mainly on describing the core ontological setting for developing an experimental science of natural consciousness in a first-third-person perspective. However, now we will present hereafter a possible collection of the phases of the experiment:

Let X be the person who wants to experience Y's consciousness in the first-person perspective.

First, X and Y will be tested with several qualitative personality tests and different psychometrics that can give us an initial global personality blueprint and a manner of comparing quantitative and qualitative the degree of 'cognitive closeness' of X and Y regarding a lot of multiple respects. This global test will also include the whole collection of subjective prototypical instances of the taxonomy of cognitive mechanisms coming from AMI. Let us call this whole global test the G-test. Here, a numerical scale about qualitative feelings and mental dispositions, among others, will be used. For example, questions like: do you feel satisfied in the current state of daily life? will be replaced by a question of the form: from 1 to 1000 how much satisfied do you feel with the current state of your daily life? This can be done to be more precise in the evaluation of comparisons between X and Y.

Second, X will study Y, in essentially the same way as a professional actor does. This means, that X will be exposed to all the possible documentation that can bring light about the inner world of Y, e.g. personal writings, videos, recordings, photos, places of living, clothing, favorite food, interviews with the Y's closest persons, acquaintance with the favorites activities of Y (profession, hobbies, and other occasional practices), among others.

Third, an immersive spatio-temporal experience of X living like Y will be prepared. Effectively, X will start gradually to 'live like Y' as many hours a day as possible and always in a genuinely free manner. Here, X could live and sleep in the same place where Y usually does and be surrounded by the objects, entities, and persons that usually surround Y. Optimally, all the relatives and (close) friends and colleagues of Y should deal with X as if X were Y. In this phase, X will intermittently be with and without Y in the same situations and places. This is to learn and put into practice the behavior of Y. Even more, Y should study specific videos of X prepared beforehand in which X naturally behaves in specific daily and intermittent scenarios. This phase also includes X learning and performing all the basic activities that Y performs e.g., specific sports, hobbies, etc. Furthermore, this phase of the experiment involves natural and emphatic conversations between X and Y where both sincerely talk about their thoughts, opinions, views, and feelings in (and after) life.

Fourth, a specific sub-experiment(s) will be carefully designed where X and Y should agree with a concrete activity(s) A (B, C, etc.) to be performed at a specific time(s) and where Y will explicitly consent that X try and look for feeling and being like Y performing A (B, C, etc.). Here, the spectrum of possibilities of the activities is huge, it varies from thinking (or feeling) deeply about something to doing a particular physical action or having a specific mental disposition or state about something. In this phase, the testing tools will include self-made and contextualized questionnaires aiming to make 'explicit notes' of the implicit X's and Y's introspection during A (B, C, etc.). This will be done, to be able to compare and quantify the closeness of X and Y during A (B, C, etc.).

Fifth, all the initial G-test will be again performed on both X and Y, to be compared with the ones done during the first phase of the experiment. Here, we can explicitly see in what respects X and Y get closer, in which ones remain essentially the same and in which ones perhaps move away.

Highly suitable candidates for this experiment can be couples who deeply love each other and have spent a lot of years together. Nonetheless, potentially any pair of persons with a suitable disposition can be appropriate. Moreover, in the context of a couple X and Y, a strong candidate for a suitable activity A is sexual intimacy. In fact, there are quite strong studies showing that the subjective experience of orgasmic pleasure and satisfaction are structured more on psychological and psychosocial factors, in comparison with their physical counterparts (Mah and Binik, 2005) and (Komisaruk et al., 2006).

Lastly, in the design and training of X, and, (in some dimension) of Y, some of the methodological pillars of Stanislavski's acting system are completely appropriate for our experiment due to their immense heuristic value for allowing people to immerse themselves into others (conscious) subjective experiences (Stanislavski, 2013), (Stanislavski, 1989). Explicitly, the acting's columns vital in our context are the following: a clear goal of what is the concrete objective of my conscious experience transformation, a certain realization of the intended action to be fulfilled (in Y's world of events), a strong awareness of the particular (Y's) context and circumstances on the given action, a mature emotional truth (from X's perspective) that matches coherently with the specific (Y's) emotion and action that want to be experienced, enough imagination and creativity to be able to motivate and to inspire the genuine emotion and action (of Y's) as close as possible, the exploration of underlying semantic information (mostly by X) given in the form of unspoken language, emotions, sensations which can enrich the particular experiment, concentration and focus (of X and Y) to open and to maintain accessible the 'cognitive door' in order to be able to allow the other subjective experience to fill (literally) the own one, a rich dynamic interchange between relaxation and tension aiming to facilitate the phenomenological translation of experience(s), enough sense memory in order to be able to recall vividly with and through the senses the emotional and cognitive fundamentals of the other (e.g. Y), and finally, a systematic and solid rehearsal process which facilitate and enable a continuous qualitative improvement of the blended and unified experience(s).

3 Conclusions and General Remarks

Assuming a strongly naturalistic approach to the study of consciousness, i.e., taking for grant the self-evident fact that consciousness is part of the natural realm, as much as a planet, an atom, and a black hole are; we showed that, at least from the theoretical and ontological point of view, it is possible to experience in a 1st person's perspective the conscious experience of someone else (at some level). In fact, this kind of other conscious' first-person experience possesses the most challenging task for the experimental natural sciences, not only for the formal but also for the practical perspective, since it is the only 'six-dimensional' empirical challenge for the corresponding 'phenomenological observer'. This is true even compared with the discovery of new particles in high-energy physics (or elementary particle physics), the formal description of refined properties of black holes in astronomy, the experimental verification of quantum gravity in modern physics, the materialization of quantum computation in computer science, or the solution of the Riemann hypothesis in contemporary mathematics.

In addition, due to the former facts, this kind of experiment involves a complete behavioral transformation of the observer, which involves any of his/her/its senses along with his/her/its subjective feelings. Specifically, a considerably big amount of his/her/its habits should be temporarily altered into the habits of the corresponding subject of study, to be able to resemble the conscious states of the latter one in a provable way.

One of the main claims that we want to prove during the experiment is that, although two subjects can have different physical genetics blueprints, their phenomenological mental experiences can be aligned and can be identified so strongly (at some specific periods) that their qualitative commonalities (at such temporal duration) surpasses quite strongly the physio-genetics differences. Thus, this is one of the most fundamental and distinguishing properties of consciousness as a unique structural entity of nature.

Now, doing inductive holistic reasoning, we see that one of the strongest external pragmatic grounding basis of our hypothesis that we can experience first-third-co-consciousness is the existence of great actors. Effectively, how could it be possible that secondary persons (i.e., actors) can resemble and inspire so strongly the life, manners, words, feelings, movements, and ideas of a primary person, without having structurally in their conscious minds some kind of ability of first-third-co-consciousness going beyond the immediate spatiotemporal realm? Is it not our main hypothesis one of the most natural-phenomenological causes for the ontological and methodological ability that underlies such great actors? For example, actors like Jim Caviezel and Jim Carrey in movies like *The Passion of the Christ* and *Man on the Moon*, respectively; are prototypical instances of how two actors can be so structurally and phenomenologically in-

volved in the roles of two other persons (i.e., Jesus von Nazareth and Andy Kaufman, respectively).³

Although we make no claims on how consciousness actually comes to exist, we aim to offer a natural and objective setting where foundational answers to the nature of consciousness can be studied and subsequently answered in a way closer to the one used in the experimental natural sciences.

One of our main goals in this paper is to set the initial ontological-empirical principles for an experimental fact that is more intuitive and natural in other environments like the spiritual and artistic one, i.e., the pragmatic possibility of experiencing (an initial and contingent) union-blending of conscious ‘beings’ among two, or more conscious agents.

The most natural step forward is to materialize the specific experimental environment, along with the potential construction of new measuring instruments for being able to apply the principles described throughout the former sections.

It seems more or less obvious to say that the applications of this kind of *new phenomenological technology* encompass disciplines like (social) psychology, philosophy (empathy studies), anthropology (the inner structure of the human being), sociology, (public) politics and psychiatry among many others. In fact, the problem of understanding how we cooperate, integrate, and fusion information among our perceptual and processing cognitive engines is a seminal building block for the development and projection of the upcoming cities of the near future, as well as for the generation of improved and authentic (public and private) communication structures in our societies.

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³ The reader is kindly invited to see both films as well as additional documentaries about the cognitive effect of the actors during and after shooting the pictures. See, for instance, the documentary *Jim& Andy: The Great Beyond*.

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