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A Panexperientialist Ontology

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Abstract

In this work I propose the basis for a Panexperientialist ontology. The reasons for propose it, its assumptions, and its form are motivated by a scenario in which the nature of reality is constantly emerging. I arrive to such scenario by means of an analysis of relations. Also I defend this view from possible objections that could arise from advocates of semantic externalism.

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Declaration

I declare that this thesis was composed by myself, that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or professional qualification except as specified.

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Chapter 1

The emerging nature of Reality

In this chapter I show how a discussion about relations leads to a scenario in which the nature of reality is constantly emerging. This discussion includes Bradley's analysis of relations.

1.1 Bradley's infinite regress

In *Appearance and Reality*, Bradley (1930) argues in favour of the unreality of relations - which he considered contradictory. Such unreality supports his, "Absolute", which is the cornerstone of his metaphysical system (Sprigge, 1993)(Candlish, 2013). His analysis about relations is divided in what is known as infinite regress and in the principle of fission. The former can be explained as follows. Let us consider that relations, in the fundamental base of reality, are independent of their *relata*. This characteristic of being independent implies that a relation lacks some feature that forces it to apply to *determinate relata*. That is, the characteristic of being independent excludes the possibility that a relation by itself can be applied to each *relatum*. Being so and in order to a relation can bond a pair of entities, it needs of two other relations - which attaches the first toward such entities. For example, if the relata *a* and *b* are going to be linked by the relation *R*, it needs two extra relations: R_a and R_b , that attach *R* towards *a* and *b*. By the same reasoning, however, each of the new relations also would need two extra relations, and this would lead to an infinite regress. These results suggest that relations considered independent of its relata are not part of the fundamental base of reality.

If we consider that any characterisation involves a relation, and that this

is independent of its relata, Bradley's regress would lead to a picture of a non-characterisable nature of fundamental reality. To fully grasp this we must consider the relation *be different*. This seems necessary for being, because all that makes an entity be what it *is* is what makes it different from the others. In other words, to *being* something implies *not being other* thing. Hence, if we cannot guarantee this relation in our fundamental base of reality, what remains is ineffable. Accepting this result would lead to the end of explanations. This is because our purported fundamental base of reality would be proven to be ineffable. It seems to me that we can, roughly, point to the ineffable by means of the negation of the following tetralemma (Nagarjuna, 2004). For any *S* you please, it is not the case that: the ineffable is *S*, it is not *S*, either is *S* or is not *S*, neither is *S* nor is not *S*. Being so, it would be contradictory to assert that the ineffable *is* the basic nature of reality. Hence, we cannot consider some piece of characterised reality as arising from the ineffable.

It is worth noticing, that objections towards Bradley's infinite regress have been focused on his consideration of relations as being independent of their relata. Some objectors (e.g. Whitehead and James (Lemmon, 1992)) consider that there would not be problem in considering relations dependent on their relata - as if they had some internal force that attaches them to their corresponding relata.

1.2 The constantly emergence of reality

“Las cosas no tienen una explicación para que sucedan sino que, simplemente porque ocurren, obtienen una explicación. Pero tal explicación carece de todo valor ontológico, no es esencial” (Arnau, citar)¹ Arnau's comment on Nagarguna's Mulamadhyamakakarika (2004)

Due to the problems with Bradley's infinite regress, the option that remains is to consider relations depending on its relata. Let us call D_{ij} the relation, of the type, *be different* that depends on its relata *i* and *j*. Notice that, not only does the identity of D_{ij} depend on *i* and *j* (as being the specific relation that differentiates *i* from *j*), but the individuation of *i* and *j* (and hence their identity)

¹Things do not possess an explanation in order to happen but, simply because happen they obtain an explanation. But such explanation lacks any ontological value, it is no essential. (translation by B060279)

depends on D_{ij} . That is, any relation is codependent with its relata.

In this case, if in our ontology the fundamental bricks of reality are the elements of a *certain fixed* set $A = \{i, j, k, \dots\}$, this set fix a set of relations, of the type *be different*, $B = \{D_{i\alpha}, D_{j\beta}, D_{k\gamma}, \dots\}$; where α is the complement of the set $\{i\}$, β is the complement of the set $\{j\}$ and so on. This being so, reality could not provide something different from the elements of the sets A and B , because if something different (lets say p which can be e.g. any entity, relation, an accidental property, an observable occurrence) is obtained, this means that its individuation was provided by a relation $D_{p\delta}$ - where δ is the complement of $\{p\}$. Due to the dependence of relations with their relata, however, $D_{p\delta}$ can only exist if p was already member of A . There is, therefore, no characterization, individuation, entity, relation, accidental property, observable occurrence, state of affair, and in general any piece of characterized reality that is produced, constructed, or derived from an ontology with a fixed set of entities. That is, there is no difference between what purportedly is *explanandum* and what purportedly is *explanans*.

This result leaves us with two possible pictures. The first is one to which we admit a fixed set of fundamental entities and relations, and in turn a fixed reality (a static reality in which nothing changes). I discard this picture because I acknowledge that there is change. The other scenario is one in which, if we acknowledge that there is change, the identity and existence of any entity emerge and perish constantly. This again poses a problem for explanations, because if *identity* and *existence* of the elements of our ontology (and in turn of whole reality), are arising, our ontology has lost explanatory power. Furthermore, this result imposes a restriction about what we can conceive as *explicans*. This is due to the aforementioned emergence, that we cannot conceive as the building bricks of reality - which, in turn, would be the source of our explanations - to some entity or entities that have *identity* and *existence*. This is the view that I defend, and that is completely compatible with a panexperientialist perspective - which I am going to develop and defend in the next chapter.

There is other way to note that is problematic to consider an ontology with an entity or entities that have existed since always (or in other words a fixed set of entities). Let us consider a counterfactual theory of causation in which causal statements can be understood by means of counterfactual conditionals as 'If A had not occurred, B would not have occurred'. It seems that the roots

of this view is implicit in Hume's (1748) passage "we may define a cause to be *an object followed by another and where all the objects, similar to the first, are followed by objects similar to the second*. Or, in other words, where, *if the first object had not been, the second never had existed*". This view was developed by Lewis (1973) in the context of possible worlds. Lewis justifies the use of counterfactual conditionals for conveying causation arguing that when we think about a cause, we think about something that makes a difference from "what would have happened without it" (Lewis, 1973, p.557) (Menzies, 2014). Being so, it would be contradictory to consider on one side that is metaphysically necessary a fixed set of fundamental entities for support whatever happens; and on the other side consider that such set is the cause of the actual state of affairs. This is because such metaphysical necessity excludes the metaphysical possibility of a counterfactual situation in which such set does not exist. In that case, that set could not take the role of *A* in our counterfactual conditional. Hence, it could not be a cause.

For example, is contradictory to consider metaphysically necessary that matter and energy have always existed, and that these are the cause of all that have happened. This is because, for these to be a cause it is necessary a time, or an aspect of reality, in which these do not exist - and in this way their presence imply a difference. However, such scenario is impossible because it was assumed that is metaphysically necessary that these have always existed. Although some objections could be raised against this analysis of causation and metaphysical necessity I am not going to tackle such issues. This is because I want to defend the view that reality emerge constantly, and the strong arguments in favour of this were developed in the discussion about relations. Hence, I will now examine a possible objection to my analysis of relations.

1.3 Bradley's principle of fission

One could object that any analysis of relations that assumes that these are co-dependent with their relata, has to face the problem of the Bradley's principle of fission (1930, p.26) (Lemmon, 1992). To see how such a principle works, let us consider that the relata *i*, *j*, and the relation D_{ij} , of the type be different, are co-dependent. This co-dependence means that, for example, *i* has the characteristic of being a condition for the identity and existence of D_{ij} (this

needs of i to *be* the specific relation that is attached to it). I am going to label this characteristic as a . Also, because i can be individuated due to the existence of D_{ij} , i has the characteristic of being a sort of effect of the existence of such relation. I will label this characteristic as b . Due to the characteristics a and b are different, these are co-dependent with the relation D_{ab} of the type *be different*. Hence, by means of the same analysis a would have two features of the same type and each of them another two characteristics of the same type, and so on, ad infinitum. In words of Bradley “Each [relatum] has a double character, as both supporting and as being made by the relation” (Bradley, 1930, p. 26). It seems that any individuation generates two other individuations associated with being a condition and an effect, which, in turn, introduce other individuations ad infinitum. This analysis, that has the form of Bradley’s principle of fission, is used by him to argue in favour of the unreality of relations (1930). That is, to argue that is contradictory to conceive that the fundamental level of reality is relational.

Let us look closely at where the problem lies. At first glance, it seems that it is related to conceiving infinite relations and characteristics in our ontology, however, there is no logical contradiction in envisaging in our ontologies, the possibility or the necessity of infinite entities and relations. In fact, we have worked with them with no problem. For example, when we consider a real number it is implicit infinite relations of the type *be different* that lie between such number and the other real numbers. It seems to me that the kind of problem that Bradley suggested is that a process of individuation will never be fulfilled due to a restriction of the nature of the process itself, because, when performing an individuation for each step that we advance, there is always a further, new step that must be completed. I think that this is what Bradley saw as contradictory in the consideration of a relational nature of reality.

For example Bradley says “We, in brief, are led by a principle of fission which conducts us to *no end* [my emphasis]. Every quality in relation has, in consequence, a diversity within its own nature, and this diversity cannot *immediately* [my emphasis] be asserted of the quality” (Bradley, 1930, p. 26) This suggest that Bradley conceives that in order to individuate something a constructive process of individuation of characteristics has to be fulfilled (where such process has no end). However, once we acknowledge that relations are co-dependent with their *relata*, the process of individuation could not be seen as an

endless, constructive process. This is because such co-dependence implies that the individuation is given simultaneously with what is individuated. In other words, it does not matter if an infinite relations and relata should be required in order to individuate something, because all the elements of the process of individuation (its relations and their relata) are given together simultaneously or are not given at all. That is, Bradley arrived to a misleading conclusion with his principle of fission.

In the case of considering relations independent from their relata, we do face contradiction. That is because, in such cases, the process of individuation must be a constructive one, and Bradley's infinite regress shows that it never had an end and, therefore, an individuation could not be generated. Thus, the process of individuation requires, by the way it was conceived, that it never be fulfilled.

Chapter 2

Basis for a panexperientialist ontology

In our analysis of relations we have arrived to a scenario in which the identity and existence of any entity emerge. Here, we can recognize a state of reality in which once the identity and existence of an entity emerge; there is something essential that is necessary for such entity to be what it is. I will call this state the *level of the being*.

As entities with identity and existence cannot be considered the source of explanations, I propose to consider an ontological level that I will call the *level of potentiality*. In this level there is no necessary relation of the type *be different* that should be given. In other words, there are no two or more entities that are necessarily related with a relation of the type *be different*. This means that, in this level, entities neither necessarily have, nor necessarily do not have, identity and existence. My intention is that the *level of potentiality* be the source of the *level of the being*. That is, whatever that acquires identity and existence in the *level of being*, can be found in the *level of potentiality* with no definite identity or existence. In other words, to the entities in the *level of potentiality*, I am giving the role of being in a stage in that possibly acquires some definite characterisation, identity and existence. For example, consider that the proposition 'Socrates is wise' is true. This can be so, because in the *level of the being* Socrates is definitely related with the characteristic of being wise, while in the *level of potentiality*, Socrates neither wise nor not wise, instead Socrates is possibly wise and possibly not wise.

A panexperientialist view can support the scenario in which reality is

arising constantly, the *level of being*, and the *level of potentiality*. I think that the constitutive material of any entity in the aforementioned levels is experience. We can find the arising and perishing of characterisations, identity and existence of experiences in its flux. Here, we can recognize a state of experiences in which they are definitely characterized, and have a definite identity and existence. That is, we can recognize the *level of the being*). We also can recognise a state in which experiences are not necessarily individuated or characterised in certain or other ways. For example, when we are in a state of consideration, reflection, or doubt, our experiences are in a stage of possibility of acquire certain characterisation. Now, I ask you to try extracting all the concepts of your immediate experience. What remains could be ineffable. When you are not in such state you can remember it, and recognise in it the constitutive material of entities in the *level of being*; that is, when you are not in an ineffable state you can characterise it by saying that it has such material. That is, the mere presence of experience, with no definite characterisation, provides the elements of the *level of potentiality*.

In the panexperientialism that I defend, experience is whatever arises in your mind, but that does not necessarily belongs to someone or something. When I say this, I am fixing the reference of the word, 'experience'. That is, I am pointing to the sort of material that I call experience, but with the word, 'experience'. I am not referring just to your personal experience. In this sense, experience involves Fregean thoughts (Gaskin, 2015) as, for example, the number 5, which is something that can arise in your mind, but is not something that belongs to your mind. Experience also comprises perceptual experiences, *qualia*, mental representations, propositional attitudes, emotions, abstract entities.

2.1 The proposal

Due to what I have said, I embrace a Panexperientialist view, the bases of which are that:

1. the fundamental level of reality is the *level of potentiality*, which is the source of the *level of the being*,
2. the reference and meaning of words are experiences. This being so, the

reference and meaning of the words, 'being' and, 'exist' are experiences,

3. the identity of any entity (including, for example, time, causality and the Self) is a set of experiences (this set arises from all of the possible sets of experiences in the *level of potentiality*) This set emerges when the certainty¹ arises that certain experiences (the elements of the set) are an entity, instead of a mere bunch of experiences,
4. The existence of any entity arises when its identity arises with the certainty that it exists.

Point 1 was sustained by the analysis of relations in the last chapter and in the beginning of this chapter. Point 2 seems, to me, to be a natural requirement for a panexperientialist proposal. For example, Bradley, when defending his panexperientialism view, proposed the reader extracts all the sentient experience from anything that he/she considers has being and exists, and judges him/herself if it is still possible to speak about it or its being. He concludes: I can myself conceive of nothing else than the experienced... Anything, in no sense felt or perceived, becomes to me quite unmeaning [my emphasis] (Bradley, 1930).

In my personal case, when I try to understand something, I am looking for some experience. That is, when I look for the *meaning* of words I seek to experience something. That is, for me, it is intuitive to conceive that meaning of words is experiences. Of course, my intuitions are not arguments, but this does not mean that they does not have any force (Kripke also holds that intuitions have force to sustain ideas - in fact he thinks that intuition "is a very heavy evidence in favor of anything" (1981, p. 42)). Furthermore, when considering that two persons *A* and *B* disagree in the truth-value of a certain proposition of the sort, 'X is P', if we acknowledge that *A* and *B* are communicating, it is implicit that they share something that is being conveyed in their conversation. What is shared cannot be: 'X being P' or 'X not being P', because these are mutually exclusive. Instead, what is shared transcends the definite characterisation being P. In other words, there is something in their communication that is meaningful without necessarily possessing or being P. Hence, what is shared seems to be an element of the *level of potentiality*, which, as was discussed, should be experience. These ideas, I think, support point 2. However,

¹A certainty is also an experience.

advocates of semantic externalism could argue against it. It seems to me that my view could be threatened if their objection is a strong one. Because of this I am going to discuss this issue in the last two chapters.

Points 3 and 4 are in part justified by point 2. That is, point 2 justifies that talking about identity and existence is talking about experience, however, this does not justify the requirements about the arising of the certainty that a particular set is an entity (instead of a bunch of experiences) and the arising of the certainty that an identity exists. I propose such requirements, because I think that such certainties are the difference between experiences in the *level of potentiality* and experiences in the *level of the being*. This being the case, if a proposition is expressing some experiences, this becomes true when the aforementioned certainties arise. Hence, a logical process that transfers the truth-value *true* from premise to conclusion is a process that allows the arising of the identity and existence of the experiences expressed by the conclusion. This can be obtained by means of the rules of logic, and the arising of the identity and existence of the experiences expressed by the premises.

2.1.1 A couple of general objections

One could argue that I am denying that there could be something independent of mind - of the mind that belongs to someone, or to the personal experiences of some individual. In this light, it may seem that I am suggesting that, for example, stars did not exist when I was not born, however, I am not asserting or suggesting any such thing. To be clear, the observer, what is observed, the mind of a certain individual, the Self, the distinction between mental and physical phenomena arise in the *level of the being* due to the presence of experience in the *level of potentiality*. One way in which we can conceive the emergence of the Self is considering that it depends on the presence of will in the *level of potentiality*, where, will is a relation between a set of desires that some events occur and such events. In this conception, the presence of desire is prior to the emergence of the Self. From this proposal, a particular mind depends on experience in the *level of potentiality*, but this does not depend on the particular mind. Hence, what is objective (in the sense of being independent of a particular mind) in this view, is the presence of experience in the *level of potentiality*.

I am not denying that in the *level of the being* the following characterisation

can arise: Stars would have existed even if no sentient being had never existed. What I am asserting, however, is that if such characterisation does not refer to experiences, then for me it is a bunch of empty words.

Other objections could be raised too. One could argue that, in order to deny something I should conceive of what I am denying. The objector could say that I am denying the existence of something that is not experience, therefore, I am experiencing something that is not experience. The dissenter could say that this contradiction implies that I cannot deny the existence of something that is not experience. To reply to this objection, first, let us look at these thoughts more systematically. Let us label as X the expression, 'the existence of something that is not experience'. The premises of the argument of the contestant are, therefore:

1. If I deny X, then I conceive X
2. I deny X

The conclusion of applying *modus ponens* to these premises is: I conceive X. Considering that to conceive is to experience, it follows that: I am experiencing X. I completely agree that, in the case of the conclusion being false, one of the premises or all of them are false, however, I neither affirm nor deny premise 2, because X (interpreted, as the objectors does, as referring to something that is not experience) is meaningless. That is to say, something is meaningful if it refers to experiences. In other words, the expression, something that is not experience exists is meaningful, and acquires some truth-value, if, and only if, such expression refers to experiences.

In the next section, I am going to give force to this Panexperientialist view, showing how it can help to understand and interpret the Schrodinger equation.

2.2 About quantum mechanics

From the point of view of this proposal, the basic nature of reality (that is, the nature of the *level of potentiality*) is neither necessarily causal and deterministic, nor is it not. This does not however, exclude that, in the *level of the being*, causality and determinism can arise. Thus, this view allows that, for example, the *arising* of physical properties and objects can follow certain rules or laws.

This being so, physical laws express patterns in the *arising* of physical properties and objects.

I will call the objects and magnitudes in the *level of potentiality*, *potential objects* and *potential magnitudes*. Also, in this view, physical variables refers to *potential magnitudes* until such variables obtain certain definite value, in which case they refer to magnitudes in the *level of being*. In the *level of potentiality* a potential object γ_o , for a time t_o can emerge in many different positions with many different momenta. The arising of such magnitudes and object can, however, follow a law in such a way that, if at the time t_o the object γ_o arises in the definite position x_o with a definite momenta p_o , then we can know, with certainty, the positions and momenta that would arise for any time posterior to t_o . The law that rules this 'arising' can be expressed by the Hamilton-Jacobi equation, which contains Newton's laws (where S is action, m is mass, x is position, and V is potential energy):

$$\frac{\partial S}{\partial t} + \frac{1}{2m} \left(\frac{\partial S}{\partial x} \right)^2 + V = 0 \quad (2.1)$$

The important thing here, is that this equation describes a classical (in contrast to quantum) behaviour, and is contained in the following expression:

$$L = \int P \left(\frac{\partial S}{\partial t} + \frac{1}{2m} \left(\frac{\partial S}{\partial x} \right)^2 + V \right) dxdt \quad (2.2)$$

This expression also contains the probability conservation equation:

$$\frac{\partial P}{\partial t} + \frac{1}{m} \frac{\partial}{\partial x} \left(P \frac{\partial S}{\partial x} \right) = 0 \quad (2.3)$$

This expresses that the sum of all the probabilities that an object has a certain position, remains constant across time (where P is the probability density). This is an equation that is fulfilled in both the classical and quantum realms. Equations 1 and 3, which describe a classical behaviour, can be derived from 2, by means of a process that is known as minimisation. The central point of this exposition is that the Schrodinger equation (strictly speaking the hydrodynamical version of the Schrodinger equation², which is the main equation of

²Such hydrodynamical version are the hydrodynamical Madelung (1926) equations. Wallstrom (1994) has argued that these are not equivalent with the Schrodinger equation. However, his objection does not seem strong, since Madelung such equations has been used until now in many different interpretations of Quantum Mechanics as e.g. Bohm (1952) 'hidden variables', Nelson's Stochastics, etc. (Jammer, 1974) (Reginatto,1998).

non-relativistic quantum mechanics) can be obtained applying minimisation to 2 (as in the classical case), with the restriction that the following expression (where M is constant) be fulfilled:

$$\int \frac{1}{P} \left(\frac{\partial P}{\partial x} \right)^2 dx = M \quad (2.4)$$

This being the case, this restriction seems to be the only difference between the classical and quantum equations. I am now going to analyse what this equation could be expressing.

2.2.1 Fisher Information

The left part of equation 4, $\int \frac{1}{P} \left(\frac{\partial P}{\partial x} \right)^2 dx$, is a measure of information. Specifically, it is a way of expressing the Fisher information, whose general form is:

$$I = \int P(x|\theta) \left(\frac{\partial \ln P(x|\theta)}{\partial \theta} \right)^2 dx$$

This gives a measure of information about the parameter θ that is present in the data x , where $P(x|\theta)$ is the density of conditional probability of x with the θ given (Frieden, 2007)(Cover, 1991).

We can assume that x is the data obtained by measurements; that is, perceptual experiences. For example, suppose that we are measuring a certain, fixed position. The values that are obtained (repeating measurements of the same position) are the data x . We can consider θ as the actual value of the position. (This consideration has also been done by Reginatto in his *Derivation of the equations of non relativistic quantum mechanics using the Principle of Minimum Fisher Information*, 1998). Thus, in this case, the Fisher information is a measure of the amount of information that our measurements (perceptual experiences) carry about the actual position.

Let us bring P to the proposition, 'it is not the case that every single measurement is equal to the *actual* position', and let us call R to the proposition, 'there is at least a sample of measurements for which the measure of Fisher information differs from the ones that are obtained for other samples'. We can assert that 'if P , then R ' is true, however, equation 4 expresses that, no matter how many times we repeat the measurements or the values that are obtained, that the amount of information that data carry is constant. That is, equation 4

expresses that R is false. That being so, we have it that $\neg P$ is true. Essentially, every single measurement is equal to the *actual* position. This is a scenario that reminds us of the ontology proposed in which the identity and existence of entities are constantly emerging. That is, the proposal, allows measurements (perceptual experiences) to be the identity of the property position, and that position emerge with each measurement. In other words, this proposal allows to interpret Schrodinger equation as one that express that the identity and existence of physical properties as position and momenta arises.

Chapter 3

Semantic externalism

A semantic externalist could reject that the meaning and reference of words is absolutely determined by experience. This is because they could argue that meaning and reference is also determined by the external reality that a representative realist conceives (which I will call *representative external reality*) (Kripke, 1981) (Pessin and Goldberg, 1995). External reality, in general, requires that its entities and relations do not depend on an individual mind. My view does not reject such external reality. However, *representative external reality* also requires that its elements and relations are not experiences. Semantic externalist, at least some of them, assumes representative realism. This view considers that our perceptual experiences *depend* on *representative external reality* (in the way that they represent, convey, or are influenced by the identity and existence of objects, entities, events, relations and laws of such external reality). That is, the arising of sensory experiences is part of a process, which I will call *representational process*. The elements that intervene in such process are our senses, the physical influences (e.g. light or sound) that are used by the observer to interact with the *representative external reality*, and such external reality.

In this chapter, I am going to explore, briefly, some arguments exposed by Kripke (1981) in his work *Naming and Necessity*, and by Putnam (1973) in his work *Meaning and Reference*. Also, I am going to analyse if such arguments exclude that the meaning and reference of words be experiences.

In *Naming and Necessity* Kripke (1981) argues against the 'descriptive theory of reference'. This relates a name to a cluster of properties; that a speaker *X* believes that applies to the named entity and picks this out. These properties

are expressed by descriptions. For example, the name 'Kant' could be related to the description, the Philosopher that wrote *The Critique of the Pure Reason*. Kripke argues that names are not disguised descriptions. He introduces the term, 'rigid designator'; a term that designates the same entity in all possible worlds in which the entity exists (1981, p. 48). He also considers the notion of a "possible world" as a stipulated counterfactual situation (1981, pp.44-49) (Mackie, 2006). He defends that a description can pick out different entities across possible worlds, while a name is a rigid designator - this is called the modal argument. For example, the name 'Kant' designates the person Kant in all the possible worlds in which Kant exists, however, the description the Philosopher that wrote *The Critique of the Pure Reason* does not designate the same person across the possible worlds. This is because we can imagine a possible world in which the person Kant chose to be soldier, or in which he decided to not write such book, and in such worlds Kant would not have been the Philosopher that wrote *The Critique of the Pure Reason*.

I want to clarify that there is nothing in the notion of rigid designator, possible world, and in the modal argument that ties meanings or referents of names with objects in *representative external reality*. In order to make such clarification it is worth to consider the following characterisation given by Mackie (2006) (Robertson and Atkins, 2013): P is an essential property of an entity X just in case X has P in all possible worlds in which X exists, whereas P is an accidental property of X just in case X has P but there is a possible world in which X lacks P.

The modal argument together with Mackie's characterisation of essential properties justify that names refer to something essential however, ontological criteria (e.g. the necessity of the origin thesis, or Kripke's intuitions that physical properties are not experiences) are used to choose what is going to be essential. For example, Kripke considers that the term, 'heat' refers to the average of kinetic energy of molecules - or without being strict he also says that, 'heat' refers to the movement of molecules (1981: 129-133). He considers that at first we identify heat with whatever is the physical phenomenon that produces the *sensation of heat* - in the actual world. This means that the *sensation of heat* helps us to fix the reference, but that sensation itself is not the reference. Once we have discovered, by scientific methods, that the physical phenomenon is the average of kinetic energy of molecules, this is what is going to be attached

to the name 'heat' in all the possible worlds; even if in some possible world the movement of molecules does not produce the particular sensation of heat.

In other words, between the motion of molecules and the sensation of heat, Kripke *assumes* or decides that the former is fundamental. Being so, the motion of molecules is an essential characteristic (or the whole identity) of the entity heat and the *sensation of heat* is an accidental property of it. Once this *assumption* was made, the name, 'heat' is attached to the phenomenon *motion of molecules*, and in any possible world in which we conceive this phenomenon we will call it, 'heat'. However, someone could have considered the *sensation of heat* as the essential property of the entity heat, and attach the name 'heat' to such sensation in any possible world in which we conceive it. In which case, he would not have gone against the notion of rigid designator, possible world and the modal argument. This is because, the name, 'heat' would be a rigid designator, the modal argument would be valid, and there is no problem in *stipulate* possible worlds that contain the sensation of heat - remember that possible worlds are "not discovered by powerful telescopes" (Kripke, 1981). Hence, there is nothing in the notions of rigid designator, possible world, and the modal argument that force us to choose a certain entity as essential. Thus, they do not provide a restriction of choosing something in the realm of experience being essential, and based on the aforementioned notions and the modal argument, we can conclude that names may refer to experiences.

Now let us examine Putnam's 'Twin Earth Experiment' (1973). He conceives that two speakers, with exactly the same psychological states, refer to two different things using the same word 'water'. The one is an earthling that refers to H_2O and the other is an inhabitant of 'Twin Earth' (which is almost an exact duplicate of Earth) that refers to a substance with chemical compound XYZ. Both substances, in each planet, fall from the sky when it rains, fill the oceans, quench the thirst, etc. The argument that Putnam provides to support that an earthling refers to H_2O - and that an inhabitant of Twin Earth refers to XYZ - is just depicting the aforementioned scenario. That is, it seems that for many people, to say that the word 'water' refers to H_2O is so obvious that this does not deserve a justification.

The intuition that seems to be supporting the statement that 'water' refers to H_2O - and other similar assertions that Putnam gives in his *Meaning and Reference* (1973) is:

A that when a word is used with the *purpose* to refer to something, it is used to refer to *it* and not to refer to what *seems* to be it (I am completely agree with this intuition).

However, intuition A by itself does not rule out a scenario in which e.g. when the word 'water' is used it is used with the *purpose* to refer to the stuff that falls from the sky when it rains, fills the ocean, quenches the thirst, etc. (notice that such stuff can be found in Earth and Twin Earth), instead of use 'water' to refer to the stuff that has certain chemical composition. The other assumptions that are implicit in asserting that 'water' refers to H_2O is that natural terms as 'water' refer to scientific entities. I do not see any problem to hold this view. In fact, my proposal allows that 'water' refers to H_2O - where this is a set of experiences that does not depend on a particular mind (that is, in my proposal, H_2O can belong to the external world). Being so, my proposal allows that words refers to entities in the external world, but remember that such entities are sets of experiences. On the other hand, it seems that in *Meaning and Reference* Putnam is committed with *representative external reality*. Because of this, he would reject that 'water' refers to experiences. He would hold that when 'water' refers H_2O , this is referring to an entity in *representative external reality*.

We have seen that when commitments with *representative external reality* - and in turn with representative realism - are avoided, words can refer to experiences. In the next chapter I argue that we do not have strong reasons for sustaining representative realism.

Chapter 4

Problems with Representative Realism

I consider that we do not have good reasons to think that experiences depend on entities and relations of the *representative external reality*. Being so, it would be difficult to guarantee the existence of the *representational process*, and this will pose serious problems for the semantic externalist view. First, I present an argument *a la* Berkeley (1710) (Richmond, 2009) (BonJour, 2007). It seems that veridical experiences and hallucinations can have the same phenomenal character. Where a veridical experience is one that can be justified by the existence of an entity of the *representative external world*, while an hallucination is not supported by any entity of such external world. In the case that the aforementioned character determines the identity of experiences, these (either the veridical experience or the hallucination) do not require of the existence of an entity of the *representative external world* for be what they are. Being so, the *representative external world* seems explanatory redundant, and unjustified.

A type of representative realists called disjunctivists would object against the mentioned argument (Richmond, 2009). They would say that the phenomenal character of experiences does not define completely their identities. This is because a veridical experience has the fundamental feature of *be dependent on* an entity of *representative external reality*. While an hallucination lacks this fundamental feature. Being so, there is at least one experience that depends on an entity of *representative external reality*. In the next two sections I will examine whether this could be so. For present purposes, I am going to ignore the fact that there is no consensus among philosophers or physicists about the way in

which we can explain mental experiences (especially *qualia*, see, for example, *The explanatory gap* (Levine, 1983) (Jaegwon, 2005) as supervening on, being reduced by or (in general) arising from the physical processes and entities.

4.1 Some effects of special relativity on the external world

When we take seriously the idea that physics tell us something about a purported external reality, we must address that many of the properties with which we intuitively identify objects (such as trees, tables, the moon, etc.), cannot be considered essential properties of objects in external reality. For example, consider a sculpture; it is intuitive to think that its shape is an essential property of it. Based on the special theory of relativity, however, the shape of a sculpture differs between observers that move relative to the sculpture at different velocities from each other. This is because physical properties, such as length (and in turn shape), time and wave-length (and in turn colour and sound), depend on the velocity of the inertial referential frame of the observer (Greiner, 2004). In other words, these depend on the velocity with which the observer moves in relation to what is observed.

Many physicists and representative realists would agree that the theory of relativity expresses certain phenomena of the *representative external reality*. This being so, the aforementioned properties cannot be considered as essential properties of objects in external reality; this is because such properties depend on the velocity of the observer. Hence, it seems that when a representative realist talks about objects in the *representative external reality*, he is referring to something without definite shape and colour. In that case, and if we assume the *representational process*, our visual and auditory perceptual experiences (which are basically images of shapes, colours and sounds) bear nothing of the essential identity of objects in external reality. Hence it seems unavoidable to conclude that perceptual experiences are independent of entities in *representative external reality*. A representative realist could reply and say that the relevant aspect of reality is its structure, part of which is involved in physical laws, or mathematical invariances that are expressed by equations that relate *physical properties*. These equations are e.g. Lorentz covariant (Greiner, 2005), that is, that they

hold the same in any inertial referential frame no matter the relativistic effects on properties. For example, the space-time invariant interval is represented by the equation $s^2 = s'^2$, where $s^2 = \Delta r^2 - c^2 t^2$, Δr is a spatial interval, c is the speed of light, and the same applies to s'^2 the difference is that this correspond to a different reference frame from the one related to s^2 . In the next section I will reply to this objection.

4.2 What happens when we choose different physical influences?

In this section, I am going to analyse whether the patterns obtained between perceptual experience, and in turn, the laws of physics based on these, differ when different physical influences are used.

Let us imagine that a hunter shoots a bird that is next to a bat. The order of the events the hunter sees is: first, the bullet goes out of his shotgun, and then the bird hit by the bullet dies. The phenomenon that the hunter experiences (which I will call *hunter phenomenon*) is composed of these events in that temporal order. Let us assume that the bat uses sound to know about its surroundings, and that the speed of the bullet is faster than the speed of the sound. The order of the events that the bat perceives is: first, the bird dies, and second, the hunter shoots. This is because the bird is close enough to the bat, to receive the information of the death of the bird first. The phenomenon that the bat experienced (which I will call *bat phenomenon*) is composed of these events in that temporal order. Let us notice that for the hunter, the past event is the bullet coming out from the gun and the present event is the death of the bird, for the bat, the past event is the death of the bird and present event is the bullet coming out from the gun. We can agree that, at least most of the time, under the same initial conditions, the hunter will experience the *hunter phenomenon* and the bat will experience the *bat phenomenon*. In that case, and following Hume's conception (1740) of causality, such phenomena are patterns that we usually call causal relations. For the hunter the cause is that which for the bat, is effect. That is, we have the same two events bound by two, different, causal relations. I do not think that there is a criterion to argue that one causal relation is truer

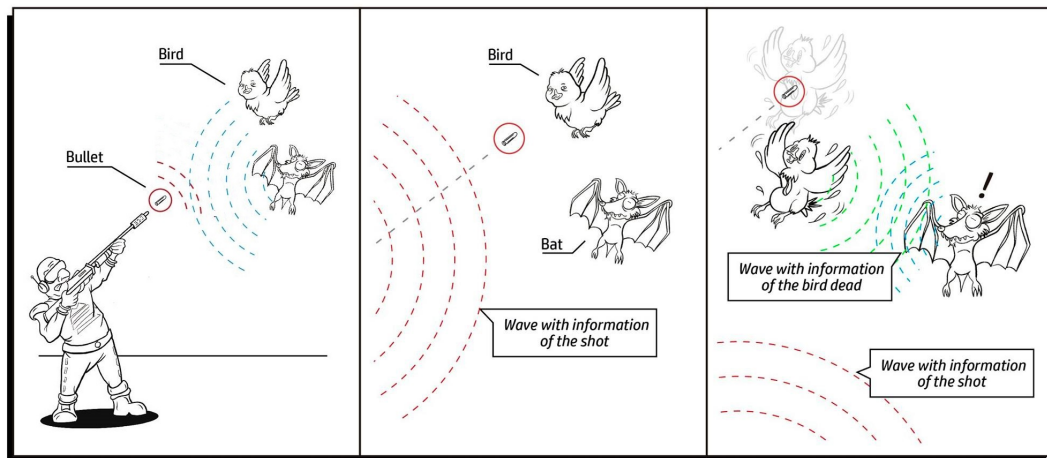


Figure 4.1: The example of the bat (Graphics used by permission of Diego Zamorano)

than the other¹. This is because, in both cases, the laws of physics govern the processes of the arising of the patterns.

This example suggests that, for a single causal relation in the *representative external reality*, we can have many different causal relations in the realm of experience corresponding to different physical influences. Hence, it seems that causal relations in the realm of experience are independent from causal relations in the external world. However, a disjunctivist could reply that there is at least one veridical causal relations in the realm of experience that correspond to a causal relation in the *representative external reality*. He could say that this is due to there is at least one causal relation in the realm of experience whose identity comprises the fundamental feature of *be dependent* of the causal relation in the *representative external reality*. However, I reply, the identity of causal relations are completely determined by empirical evidence (Hume, 1740). That is, the identity of a causal relation cannot be determined by inferences as 'there should

¹Notice that even the causal order of the events that the bird would experience depend on the physical influences that it uses. That is, the bird does not have a privileged experience about causality.

be a characteristic that distinguishes genuine experiences from non-genuine - as e.g. the feature of *be dependent*'. This is an inference because it presupposes a relation between experiences and something that is not experience (that is, something that is not empirical evidence)- namely a causal relation in the *representative external reality*. Being so, the objection of the disjunctivist has been undermined.

Science is based on experimentation. When Physicists make experiments the information that they gain about the world, at least in the first stage, are by means of sensory experiences. That is, their empirical evidences are sensory experiences and relations between them. These relations are expressed by mathematical equations conveying laws and invariances as e.g. the time-space invariant. The representative realist is the one that considers that these mathematical expressions convey something of the *representative external reality*. However, this hardly could be obtained, because as we saw causal relations in the realm of the experience seem independent from causal relation of *representative external reality*.

From this and the last sections we can conclude that the relation between experiences and the *representative external reality* that representative realism and semantic externalism take for granted seems unsustainable. Being so, it is a weak objection the one that a semantic externalist raised against my view - that meaning and reference is experience.

Concluding Remarks

- The analysis of relations, and also causation, reveals that it is contradictory to conceive a fixed set of entities in our ontology. In other words it is contradictory to conceive in our ontology an entity or entities that have existed since always.
- A cornerstone of my view is the assumption that meaning and reference are experiences. We have seen that semantic externalism had problems to support a strong objection to my view. We arrive to such conclusion analysing representative realism, and concluding that it has a weak support, if any, to guarantee a relation between *representational external reality* and experience.

- The panexperientialism that I propose is an anti-realistic view. This is because it does not fulfil with the principle of bivalence that a realist view requires (Dummett, 1982). Dummett considers that realism is a certain interpretation of the statements of some class. The minimum that is involved in such interpretation, is that such reality “renders each [and every] statement in the class determinately true or false” (Dummett, 1982, p. 55). The last is the principle of bivalence, which is not fulfilled because entities in the *level of potentiality* cannot render each statement determinately true or false.
- My intension in this dissertation has been to propose a coherent compelling view of reality that is founded in experience. This proposal is also a characterization of reality that emerges in the *level of the being*. Because of that, it has the same hierarchy that any other ontology, that is, it is an opinion, a suggestion. This could result useful to understand science phenomena, and also gives other way to approach to it. I am not talking just about Physics but also e.g. Cognitive Sciences. The feature of a constant emergence and perishing of identity and existence seems to be expressed by means of Fisher information. This feature belongs to experience, and since mental and physical phenomena are classifications of experiences it is expected to find this characteristic expressed not only in quantum behaviour but also in mental phenomena. With the growing interest in the studies of consciousness it has been offered approaches from Quantum Mechanics (Hammeroff, Penrose, 2014) (Stapp, 2009). This proposal could be suitable to give new lights and forth in such field.
- It seems to me that this proposal shares fundamental views with Bradleys ontology. Not just because his work inspired my analysis of relations that pushed us to anti-Realism. But also, his Absolute is very similar to the *level of potentiality*. In order to have a taste of how could be his Absolute we should conceive a pre-conceptual qualitative experience. Where its elements are just individuated in order to point them, but not because they are definitely characterized as having some status as universal, particular, tropes, abstract entities, etc. As he said such elements are different but are not separated. It is in the realm of Appearance that due to relations

we have entities definitely characterized and separate. This realm is what I call *the level of the being*.

- Finally, in our analysis of relations we have the option of stop giving explanations. This seems to me an attractive approach to reality. But, of course, I cannot write a dissertation avoiding giving explanations.

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