Controversies surrounding the relation between consciousness and cognition

Hugo Mari*
José Carlos Cavalheiro Silveira**

> Listen to the sound of Beethoven's Ninth Symphony, taste the flavor of a strong espresso, or feel the heat of a summer day. There is something that it's like to have these experiences; something that it's like to be conscious. Indeed, anything that we are aware of at a given moment forms part of our consciousness, making conscious experience at once the most familiar and most mysterious aspect of our lives. (Velmans & Schneider (2007, p. 18).

1 Preamble: quantitative controversies

Addressing Consciousness, from any point of view, is not a simple task. Much to the contrary, it is qualitatively complex and boundlessly extensive. In fact, inspired by the above quote from Velmans and Schneider, it is possible to inquire in which circumstances of life consciousness is not present and how uniform its presence may be. The authors remind us of three distinct sensorial guidelines, merely as a part of the totality of the body affected by consciousness.

Its complexity is revealed not only in the approaches that isolate them as a specific object, but also due to the direct correlation that it maintains with many categories, which are

* Professor do Programa de Pós-graduação da PUC Minas e Coordenador do Grupo de Pesquisa – Complex Cognitio. Sua atividade de pesquisa e docência está voltada para as áreas de semântica, pragmática, cognição e análise do discurso. Hugomari28@gmail.com.

** Professor do Departamento de Saúde Mental, Faculdade de Medicina - UFMG e membro do grupo de pesquisas Complex Cognitio do CNPq. Áreas de interesse: Ciência Cognitiva, Biosemiótica e Filosofia da Mente. Josil148@gmail.com..

possibly just as complex: qualia, attention, memory, language, intentionality, and perception, for example. When we list an array of theoretical possibilities through which the theme was addressed, it is possible to affirm that consciousness moves from one specific object in the field of Philosophy – Tye, Block, Dennett, Gallagher, Van Gulick, McLaughlin, Chalmers, etc. – to approaches that advance toward the realm of Neurosciences – Edelman & Tononi, Ramachandran & Hirstein, Crick & Koch, Plum and Posner, pervading a diversity of stages between these two poles.

This detachment is an imprecise approximation and seeks only to highlight new complementary paths seeking to address consciousness geared toward progress achieved through brain studies. Moreover, such approaches, even when intended to be specific, interconnect these two fields in a natural manner, as suggests Mandik, in his previously mentioned work – *The neurophilosophy of consciousness* (p.418).

In the publication from THE BLACKWELL COMPANION TO CONSCIOUSNESS, edited by Max Velmans and Susan Schneider (2007), the editors organize the work in five parts, with the qualification of a series of subsections, covered in 55 articles from 70 authors, from diverse fields of knowledge, filling nearly 750 pages. Most likely, at least in quantitative terms, the *Companion* represents only a small portion of that which is of theoretical production concerning consciousness. Therein, however, evidence is shown of the diversified content of its conceptual scope.

This theoretical production, which seems rather astonishing at first glance, offers us an essential array of the many paths traversed by the authors concerning consciousness. Here,

is it important to remember a quote from Sutherland (1989, apud Ramachandran & Hirstein): "Consciousness is a subject on which much has been written, but little is known." In this author's observation from more than three decades ago, the *much has been written* faces a certain resonance that is more consensual with the works produced in that time period, but the *little is known* seems more controversial due to the advances in the comprehension of the category, brought about by specific approaches. This does not imply the possibility of today facing an overall and sufficient comprehension of consciousness, which allows us to claim what it represents, how it functions, and where it takes place in our daily lives.

2 Controversies: consciousness and cognition – inside/outside

When we reflect on the objects that are in the world, which are supposedly "outside" of us, the first move tends to be to bring it "inside" of us, that is, to understand them, to take them on, from the point of view of adjusting them to our way of being in an attempt to make them an integral part of our being. When put in these terms, what appears is a controversial procedure in the act of presuming a dichotomy in our processes of perception, which tends to be defined by a correlation in which the *inside* corresponds to cortical processes (mind/brain) and the *outside* to the objects of the physical world. There is no clear consensus in this territory: there are theorists who emphasize this distinction, whereas there are others who see this with a twinge of suspicion, and still others, more recently, who view this as a cognitive impossibility. After all, how can we know X, if we do not

integrate it to the organism through our sensory-perception apparatus? How can we perceive something if it is not part of our organism?

In the following paragraphs, we will discuss a possible approach to some aspects of cognition sustained by a view that proposes a certain relativization between the inside/outside dichotomy and under which form can we consider the facts in question to be associated with conscious or non-conscious activities. We will first begin with a quote from the philosopher Sheets-Johnstone (2016, p. 24), who has dedicated herself to the assessment of this question:

> Clearly, the sense modality of kinesthesia and the complex sense modalities of the kinetic-visual and kinetic-tactile are basic to both subject/world and corporeal/intercorporeal relationships. Moreover, a double reality obtains in each instance in terms of the inside/outside complementarity of the kinesthetic and the kinetic-visual and/or kinetic-tactile themselves.

The author begins with basic consensual relationships in the scientific world, that is, subject-world, corporeal/intercorporeal, among an array of other possibilities to formulate these relations, to show instances that assimilate the complementarity of the inside/outside dichotomy in the organism's activities within an environment. Thus, the inner dimension of an organism seems to be intertwined with that which is outside of itself, and this complex texture interwoven with the things of the environment results, in our understanding, in an object itself, an object of cognition.

Therefore, when we see any object in the world, no matter how extravagant its structure or its way of being or living in this world may be, even if we are unaware of any functionality

attributed to it, we cannot affirm that it is "outside" of us in its totality, since the act of perceiving many other aspects of its reason for being implies that these aspects have already been absorbed by us and that we, therefore, are conscious of them. They have already been embodied in some extent of our organism, due to the fact that it has color, form, size, mobility; due to the fact that it is portable, ingestible, aromatic, etc. In the end, what we presuppose to be in the world is also, in some way, inside of us, and the inside/outside dichotomy disappears when faced with our desire and our capacity to understand.

We can make use of our capacity for visual perception to better exemplify this fact. This capacity is stimulated by electromagnetic waves that emanate in some way from the surface. People in a classroom can look to the left wall and say it is *white*. It is possible that the hues of *whiteness* that each one perceives may well contain differential traits due to the many factors that determine one's perception – angle, distance, lighting, and even unique specifications of one's visual apparatus, etc., but no one will see that wall as *red*, *green*, or *blue*, for example, unless they have some type of conic lesion in their retina.

The electromagnetic radiation is an object of the world, but it does not represent much to us, except when the organism encodes it, for example, in terms of chromatic waves, providing more than 100 million colors. We are unaware of the chromatic waves that the wall irradiates, even if they are within the interval between 400nm and 700nm. Nevertheless, the eye is sensitive to them and, together with the brain, encodes them and provides us with an answer of the type of *whiteness* for this process. This *whiteness* is not an object of the world, but rather an object that the organism, with no conical lesions to the retina, produces;

something that we attribute to a corporeal meaning by capturing the stimuli through our visual sensory-perception apparatus, together with the ramifications of the cortical system – especially the V-4 region of the visual cortex – implied in the reading of these stimuli.

In synthesis, the *whiteness* is not outside of us – it is not merely a phenomenon of the physical world – nor is it inside of us in an isolated manner – it is not simply a random mental image – but rather it results in a process that dilutes the inside/outside dichotomy. The erasure of this dichotomy is possibly the most primitive pattern that an organism can configure in terms of human cognition, that is, its capacity to synthesize physical stimuli and diverse cortical procedures in a single object of comprehension. The objects of cognition, in any of their sensorial dimensions, are objects themselves, constructed by the organism, about which we have full consciousness: we are capable of remembering a white wall and of naming it as such, for example.

Similar, but also differential, facts can be contemplated for all other dimensions of our cognitive activity: the meaning of the *smoothness* or the *roughness* of a surface depends on procedures of the haptic sensory system and fully on an organism's visual system in consonance with cortical mapping that involves motor and visual areas of the brain in a specific way. It is the organism itself, in its constant interaction with the environment, which produces these types of meanings, drawing upon an interconnection between the haptic-visual sensory perception activity and appropriate correlates of the brain apparatus.

Similar to what we argued for the visual experience, the outside/inside dichotomy is, in fact, diluted, considering that

smoothness and *roughness* are objects produced by an organism's cognitive activity: they are properties produced through a qualified and direct experience with certain objects. Therefore, they are not only physical properties, nor are they mental images that we place upon objects of the world, but rather something that is produced through the interaction of the organism with the environment. What is the extension of this type of phenomena? Are we aware that they are smooth and rough surfaces much like we have for white walls? Is the inside/outside relation diluted in all circumstances?

These are not simple questions and any answer to them is necessarily linked to the categories of perceptive processes, such as memory and even projections. In these cases, the symmetry between the processes resulting from activities carried out through different sensors can also be disrupted. Thus, both the *whiteness* and the *roughness/smoothness* are corporeal meanings, given that it is the organism that "feels" each one of these dimensions of the world due to its own direct experience with the environment. However, as the group of our sensory perception activities are always involved with other factors (memories, attention, intentionality, etc.), the outside/inside symbiosis resonates as being more significant for primordial experiences, as it characterizes the essential moment of our experience with things of the world. From that point on, we then open space for other processes that we value to intervene in the environment

In this sense, *roughness/smoothness* can be cognitive objects that, through a primordial experience, we are capable of remembering and projecting for some objects. One organism may detect the *roughness* of the trunk of a *casuarina* tree as

compared to the smoothness of a *pau-mulato* tree, without, in either case, having had a haptic sensory-motor experience. The person is able to remember (or even project), through an anticipation of the visual system, which may well have a characterization of *roughness* or *smoothness*. From this we can extract two questions for a complementary discussion: (a) Do we have full consciousness of the memories or of the projections that we make of these facts? and (b) Does the dilution of the outside/inside axis validate cases such as this or only the cases of primordial experience?

In the case of (a), the answer is a confirmation of the full consciousness of our actions. We learn only once and are conscious of the application of that which we learned for new situations. It is logical that the relation between *smoothness* and *roughness* can be defined by a continuum, where border states can obscure our decisions, but this does not negate our conscious capacity to deal with both concepts. In (b), the situation is more complex, since the idea of the dilution of the outside/inside axis would tend to validate only the inaugural experience from which we construct cognitive objects with an integration of the axis. In all other cases, we validate the application of such objects to an external reality that is compatible through analogy: no one needs to slide their hand down the trunk of a casuarina tree to know that it is *rough*. If in fact we learn the cognitive objects once and, in circumstances analogous to those which we have applied, we then project only the primordial experience, we would have the content to be able to dilute the inside/outside axis. The cognitive objects have an original status, in which the interior and the exterior have been dissolved in favor of a unity, but there are moments in which we recognize facts of the world by imposing

such objects upon them, which are available in our memory.

It is possible that the human cognitive activity is always able to handle new situations that the organism faces through its interaction with the environment, producing (continuously) an emerging sensation that obliterates the distinction between inside/outside. The doubt that we point out for this concept is the extension to which a hypothesis of this nature should assume, considering the diversity of the cognitive activity. Thus, the *whiteness* of the wall characterizes, according to our understanding, a different situation than *roughness*: we cannot project through this *whiteness* that other walls on the left side of the classroom will be *white*. The effect of the *whiteness* (and of another other color) will always be computed by the organism through the stimulus of chromatic waves, associated with cortical networks; it will always be an *online* process; it depends on its own irradiation, which is unique to each object, in terms of a circumstantial electromagnetic qualification.

All of this, in general, differs from the *roughness* which, after a primordial experience, can become an analogous process in many circumstances: I do not need to have a direct experience with certain surfaces to deduce that they are *rough*; I can project upon them the feature of *roughness* through a visual perception (even if there is a possibility of being wrong). On the other hand, we can predict a chromatic cultural array for many objects of the world – *taxi*: white vehicle; *fight*: black clothes (or other color for any object within another culture), or even predict natural patterns, which are relatively universal, for other objects – *milk*: white; *leaf*: green. Hence, it is possible that each of these pairs has been a cognitive object of an organism at a given moment in history, but that we project it every time that we see each of these

objects, beyond the direct experience with these. In the end, it is our hypothesis that, even under these circumstances, at certain moments, the interior/exterior relation disappears in order to produce such objects, but in other moments of projection, the relation with exteriority remains, and we only make projections upon the world.

The erasure of this dichotomy can, deep down, be essential to cognition: inside and outside can be two sides necessarily involved in actions of the organism upon the environment. We are conscious of the *whiteness* of the wall, but we are not conscious of the processes involved in the irradiation of the chromatic waves of this wall, nor of the routes and mapping of the stimulus captured by the brain. The outer portion of the irradiation and the inner portion of the brain circuits are interwoven into a single object of our cognitive activity; we are conscious of the objects and of the actions that we engender in these conditions, but the irradiation and the circuits are non-conscious. In the next sections, we will apply this discussion to some points treated here, especially to consciousness.

3 Controversies: consciousness and cognition

The inside/outside hypothesis, which has been guided by authors in the field of cognition, still implies difficulties and even controversies – some that have been pointed out in the previous section – not only due to the diverse content of the human experience driven by five sensors and faced with the objects of the world, but also because of the relative patterns of cognition that are not uniform. Although there may be a certain consensus – not equivalence – in the sense of the organism interacting with

the environment, we would like to raise the possibility of this consensus also extending to levels of consciousness that would be part of our daily experiences. We understand here the level of consciousness as a conscious, non-conscious, and automatized activity; in this text, we will not discuss the 'unconscious'.

The conscious states, or simply the consciousness, tend to be opposed to both the unconscious as well as the non-conscious and, in some circumstances, to automatism. All of these possibilities may well be present in many of the actions that we carry out on a day-to-day basis. Nevertheless, working on the assumption that the majority of our actions are carried out in conscious states, there is no explicit criterion that allows us to isolate actions that would have a non-conscious content, although some approaches entail guidance through some type of category that supports the consciousness. On the other hand, we are capable of identifying non-conscious actions, such as part of our eye movements. Are any of us conscious of how many times we blink in a minute?

The correlation between actions and movements may well lead us to an initial criterion of the contrast between the conscious and the non-conscious (or even automatism). There are authors that mark this distinction, considering: (a) *etiological movements* – those understood as integrated to the nature of the parts of an organism, or that refer to the functional nature of an organism: the opening and closing of one's eyes, the opening and closing of one's hands, etc. and (b) *intentional actions* – those that seek any target beyond the primary extension of the organism – lock a window; turn on a computer – or even in the extension of the organism – scratch one's head, wash one's hands, etc. In the first case, we would be faced with non-conscious events – but it is

clear that every non-conscious event can become conscious, while in the second case, when faced with conscious events. For example, the action of locking the window is an action that seeks a target, that changes the state in which this object is found; the act of washing one's hands implies the elimination of impurities.

Much like intentional actions, they are structured, minimally, through a corporeal narrative so that they can be carried out: the agent needs to move from where he/she is in the direction of the window in question; press the window pane against the window frame; grab the latch; move it in the appropriate direction. It is possible that there is no intentional action that is devoid of a corporeal narrative: we do not perform isolated actions, but rather actions that are integrated into a group of other subsidiary and ordered actions. It is also possible that, within the groups of actions that make up such a narrative, there may well be some that have the non-conscious content or that result from pre-structured automatism in the organism, especially when referring to actions that are repeated in our day-to-day lives. Let us begin with a quote from Sheets-Johnstone (2016, p. 21):

> Our dishwashing and climbing are dynamic patterns that were once learned and are now ingrained in kinesthetic memory on the basis of their familiarity. They run off, as it were, by themselves. Yet any time we care to attend focally to the ongoing kinesthetic experience of washing or climbing, there it is: a particular qualitative dynamic.

This author's commentary is mostly linked to the discussion of the preceding paragraphs about the nature of human actions. She highlights two routine actions – *washing dishes and climbing [stairs]* – considering that these are common domains of organisms (adults). As we claimed above, these are two target actions (intentional), involved in narratives with a group of

subsidiary actions (or postures), not mentioned, but implicit, and resulting from corporeal adjustments. Although recognizing that each of these action patterns already is "ingrained in kinesthetic memory", they would have the character of automatism, or even, according to the author, because they "run off by themselves".

However, no matter how automatic our actions may be, they do not repeat *ipsis litteris*, there is always a "qualitative dynamic", because we do not climb stairs with the same muscle strength in all situations, nor do we wash dishes with the same physical intensity that we wash glasses. If the action of washing dishes, in its totality, is reproduced in the day-to-day life as automatism, we are conscious that we do not wash plates and cups in the same way that we wash different types of glasses. The consciousness that we have of a certain differential fragility of these dishes leads us to the consciousness of a different application of force when washing them.

There are many formulations about consciousness and its correlates that draw from the focus of attention as a subsidiary criterion of decision-making. GREENWALD (1992, p. 767) presents two criteria to intermediate the conscious and non-conscious relation (in the formulation of the unconscious author), based on the attention process. Let us take a look at the first quote from this author:

> *Sense* ***1:*** *Outside of attention.* If consciousness is interpreted as the selective aspect of attention (Kahneman, 1973; Posner & Boies, 197 l), then one is unconscious or unaware of stimuli that impinge on receptors but fall outside the metaphorical spotlight of selective attention. This sense of the conscious-unconscious distinction is supported both by nearly 40 years of modern research on selective attention and by a long tradition in which attention has been a central topic of psychology (e.g., James, 1890; Pillsbury, 1908).

> *Sense 2: Lack or failure of introspection.* If consciousness is interpreted as the ability to report experience validly, then one is unconscious or unaware of the occurrence, causes, or other attributes of attended objects, events, or actions when one cannot report those properties validly. Unlike the attentionless sense, this one presumes (a) a language-using organism, (b) a reflexive (self-describing) cognitive ability, and (c) the existence of a valid reference description of one's experience.

The two senses proposed by the author, as we can see, revolve around the attention: being unaware, in this first case, indicates that you are outside of the focus of attention. For example, the selective attention for someone who is inside of a soccer stadium with the game in progress, the focus should be geared toward following the movement of the ball, but it is possible that a fan may miss important moments of the match because he/she is outside of his/her attention focus. Thus, being outside of the focus on the ball is equal to being in an non-conscious state for this specific situation, according to sense 1.

In the second sense, the author mentions *lack* and *failure of introspection*, but in a more detailed manner than merely being outside of the focus of attention. Here, the subject is incapable of recovering a network of causalities, properties, and characteristics of an action, of an event, of an object in a relevant form. This is one feature of the non-conscious cognition, involving failures to remember well-known events which are present in the current event. In the example mentioned above, the observer may have watched a goal being scored, but is incapable of remembering its origin: a corner kick from the left corner, the goalie's defense of the corner kick, and the calling of a foul. The fan may even "find out" that is was a goal, but he/she is incapable of reconstructing the stages that resulted in this final action.

Greenwald emphasizes three conditions for the functioning of a conscious state (there may well be others). The first, which refers to language, is an exclusionary formulation, because it restricts conscious activity to humans, as well as a generic formulation, as it mentions the use of language with no specification. It is not important to discuss the merit of the details involving this formulation, but we can assume that this use can be translated, according to other authors, by the linguistic capacity to report the stages that integrate a specific event. We are conscious if we are capable of doing so.

The second condition, paired with the first, emphasizes the self-reflexive capacity of the organism in relation to an experienced event in the world, for example, one's capacity to recognize details of the stages that converged into the perception of the event in question. This evaluative capacity may include not only the effective memory of the relations involved in the event, but also the possibility of its linguistic description. The third condition points to our capacity to understand part of the experience lived by the other: I am conscious when I am capable of making valid references to the other's experience.

The information contained in the two paragraphs from Greenwald are important indicators, but they are far from being criteria capable of justifying the distinction between conscious and non-conscious. The approaches about consciousness have, in fact, been marked by the recurrence of subsidiary categories for its grounds. Here, the author resorts to attention and language, and therefore to memory: there are others that have also been the basis for the grounds of conscious and non-conscious processes, which we will treat below in an epidermal manner, such as the extension and complexity that their discussion encompasses.

Here, we add a short commentary about qualia and intentionality.

In a recent text, Frederic Peters (Peters, 2014) discusses the relations among conscious, non-conscious, and qualia. According to the author, the discussion about consciousness endured for a some time in an attempt to distinguish states of consciousness from states of non-consciousness and, for many scholars, the demarcation of this territory had, as a core element, the qualia. Below is an initial quote form the author (Peters, 2014, p. 63):

> There is, however a double problem with the identification of consciousness with the qualia: first, the sensory, conceptual, and emotional content that provides the distinct quality of the experience is available both in the unconscious and conscious states; second, the perception of the qualitative experience that comprehends the state of common consciousness can, in unexceptional circumstances, come undone, revealing a clear distinction between perception and qualitative content.

Peters highlights two problems involved in this attempt to relate the qualia to consciousness. The first refers to the fact that the patterns of content – sensory, emotional, conceptual – do not have an exclusive separation, be they conscious states of the individual who experiences, be they non-conscious states. Our activity of experiencing the world implies a mixture of all of these contents, without a mapping of exclusive territories in its separation. The fact that we can still find current reflections that intend to offer an attribution to the field of non-conscious activities may well show that this objection made by the author is not something consensual.

The second seems to be an even more of delicate problem. In all of our experiences there is a qualitative state, conducted

consciously: to peel an orange, a conscious qualitative trait involves the handling of a blade, the careful sliding of the blade over the peel so as not to harm the pulp, among other qualitative dimensions involved in the motor activity of the fingers of our hands. All of these procedures that lead us to peel an orange are conscious, but they are qualitatively different from that which perceives this action, which could be aware of other facts, for example, if the knife is being used safely. For the author, consciousness is not involved in the dominion of a perceptive content, but rather in the *noesis* of the perception, that is, in the instantaneous act of perception. In this condition, the perceptive contents, in a noetic perspective, are no longer a condition for consciousness, perhaps because they already have a mnemonic dimension. Let us analyze at the complementary citation of the author in relation to the qualia (Peters, 2014, p. 64):

> Consciousness is better understood in the context, as an element of a state of vigilance in which a significant part of the cognitive process occurs unconsciously. But are the conscious and unconscious processings combined in the state of vigilance, what distinguishes the first from the second? For many philosophers, psychologists, and neuroscientists, the answer is the *qualia* (plural form of the term *quale*), the qualitative character of the cognitive experience. *Qualia* is what makes the consciousness conscious.

Peters assumes that a major part of the cognitive processing is done in a non-conscious manner. This seems to be a counter-intuitive collocation, since the harmonious relations between a set of support-actions is a target-action that leads us to think the contrary. The way in which we organize the relations of causality between support-actions and a target-action and the success achieved in the carrying out of an event affected by these actions

leads us to admit a refining in its structuring, a product of our consciousness.

For example, the actions of *drinking a cup of coffee* represents a target-action of an extensive narrative which makes us follow a series of support-actions – getting the cup, placing the coffee in it, taking it to our mouth, testing the temperature of the coffee, pouring it into our mouth, etc. This process is valid for any type of action that we perform: there is always a target-action and support-actions, ordered by the relations of causality. What can be made controversial with this example is if, within the actions that are supported, there are non-conscious actions, or if some are only actions based on automatism, in already acquired pragmatic habits.

Could it be that to drink coffee we are not conscious of the nature of the utensil, of its size, the type, etc. of that which I am going to use in this scenario? It is possible that many of our support-actions can represent automatisms, but we would need to be clear about their difference with non-conscious actions. Perhaps the sequence itself of a group of support-actions – a network of causalities – cannot make use of any of these a non-conscious action, because they are minimally part of an ordered sequence, and this requires consciousness. Be it related to target-actions or to support-actions, we are always under a state of vigilance, as the author claims.

Another point that the author highlights in his quote is that the qualia would be the essential mark of the conscious activity, possibly considering that only the person who experiences is capable of detecting, because it is a primitive, unique, and subjective trait of one's experience. Peters transfers the questions to some cited authors, as will be discussed in three aspects, but

it is difficult to presume that our conscious activity is merely summarized in detecting qualia. Much to the contrary, perhaps we can admit that most of our experiences in the world are marked by a search for an objectivity as a more fundamental trait of our consciousness. Nothing hinders a fraction of our experiences from being accommodated within the affirmation of the author that the "Qualia is what makes the consciousness conscious."

Peters' text includes many other aspects about the relation between consciousness and qualia, but the space here does not allow for a more profound discussion on the all of these aspects. Let us pass on, then, to a commentary on the text written by Menary (2009), which treats the relation between consciousness and intentionality.

The processual activity of an organism involves a more extensive group of facts; in general, there are three dimensions that are highlighted: the source from which the stimuli comes to one of the sensors (eye, ear, mouth, nose…); the data captured and generated by these stimuli (chromatic waves, sounds, aromatic gases, stupefying substances…); the transduction of stimuli in cortical networks (visual, auditory, temporal, motor networks…). Although there is an enormous progress in the comprehension of these facts, some dimensions more than others, which is the processing in each of these instances, is still far from a clear understanding, especially since in this processing there are categories that intervene, such as consciousness, intentionality, attention, memory, etc.

The consciousness and the intentionality intertwine all of this set of actions that an organism performs, but they are not linked to any of these actions in particular. The eye is not

intentional and not everything that is sees is done consciously; it sees all that is within its view; but a *voyeur* can take advantage of the eye intentionally; the driver needs to be conscious of everything he/she sees on the highway. None of these organs operate only consciously or intentionally, but they can be guided toward this qualification by the organism.

Let us take a look at the quote from Menary (2009, p. 417):

> One way to think about the relation between consciousness and intentionality is that all of the conscious states are also intentional. When I am conscious of a sensation (a sound), then this phenomenon is certainly phenomenal; but the experience is also intentional – because the sensation (the sound) is the object or content of my consciousness.

Many authors who worked on the relation between these two categories admit that each intentional state is necessarily conscious, that is, it does not seem reasonable that we intentionally guide ourselves to an action X and that we have no consciousness of this guidance. For example, would it be possible to guide ourselves to a trip X and not be conscious of the protocols of this trip? Nevertheless, what still seems unclear is the inverse situation: would all of the unintentional actions be non-conscious?

We bring up this question in order to take advantage of the expression 'non-conscious' with a link to automatism. It is possible that many of our actions result from habit, whose automatism is already integrated within us and that, therefore, would have a non-conscious appeal. For example, when we walk, one of our feet stays in the air; this has possibly been, at no moment, a conscious act that became a habit. Most likely, there are many organic functions that have an etiological content:

breathing, sneezing, napping, coughing, itching; however, they can become conscious at some time. For example, in the home treatments for respiratory issues, it was possible to sniff snuff in order to sneeze and clean the airways; in the use of silverware, the etiquette of picking up the fork with the left hand and the knife with the right hand may have been a conscious act in the beginning and later become a habit, at least for those who follow this etiquette.

The relation between conscious states, non-conscious states, and automatisms has not always been so evident, because there is no set 'rule" to show when we must validate a specific event, qualifying it as a conscious state or not as an automatism, since we can be conscious of what the majority of automatisms are. For example, we turn a key in a lock to the right to lock it and to the left to unlock it; it is possible that at some moment we learned this mechanism consciously. Most of the automatisms would have an origin in the conscious state; they have become a habit due to their repetition (rational) in many of the day-to-day activities. Moreover, the subsidiary categories that we use to justify the consciousness do not seem to be in dissonance with the explanation of automatisms: are they not intentional, do they not depend on memory, do they not function with an attentional focus? Only the qualia, as far as we know, would run contrary to an automatism.

By contrast, the opposition that we admit between the conscious and the non-conscious may well be evident for pure etiological movements, but when we treat a group of actions, it is difficult to select those that would have the non-conscious feature. Beyond etiology, however, there must be actions that have a non-conscious content, especially those that we confirm

together with our interlocutors as "not on purpose". An apology in these terms would show that the action that led to the request had been non-conscious, disregarding any form of pretense.

4 Open controversies

In the previous sections of this text, we pointed out some controversies on the theme of consciousness with the option of having searched for some type of evidence of its correlation with other categories. We have especially highlighted the cognitive processes of an organism as the basic guidance for our reflection, less than the conceptual apparatus that tends to be implemented by many theories that treat consciousness and it correlates. The conceptual dimension was inserted in the text only as a support to the discussion of some specific situations. The discussion of many examples clarified the difficulties faced when dealing with our day-to-day activities, be they conscious, non-conscious, or automatisms.

The studies of consciousness show that it is an essentially complex object if we adopt the concept of complexity, according to that defined by Edelman and Tononi (2000, p. 135):

> Only something that appears to be both orderly and disorderly, regular and irregular, variant and invariant, constant and changing, stable and unstable deserves to be called complex. Biological systems, from cells to brains, to organisms to societies, are therefore paradigmatic examples of complex organizations.

This collocation by the authors reflects, to a great extent, what was the underlying character of our discussion in the previous sections. When we come closer to the consciousness

of the inside/outside axis, we can note just how unstable the attribution of conscious and non-conscious really is. When we project these parameters, together with automatisms, upon our actions, we understand the consciousness (invariant, stable) that dominates a target-action, as well as the variance, of the instable, which intertwines with the support-actions.

In the present edition, the reader of *Scripta* is invited to evaluate a set of reflections that stem from the idea of consciousness as a *leitmotiv*, but that have traversed quite different paths, be it in the approaches and categories that affect the wide range of human knowledge, be it in the most empirical content through which they sought the underlying reason for their concerns in the forms of life, and revealed the implications of consciousness with reflections that crop out fictional facts as problems relative to the literature.

References

EDELMAN, G. M.; TONONI, G. Consciousness and complexity. In: *Universe of Consciousness. How matter becomes imagination*. Nova York: Basic Books, 2000.

GREENWALD, A. G. Unconscious cognition reclaimed. In: **American Psychologist**, p. 766-779, 1992.

MENARY, Richard. Intentionality and consciousness. In: BANKS, William P. (ed.). **Encyclopedia of Consciousness**. Volume 1. Oxford: Elsevier, 2009. p. 417-429.

PETERS, Frederic. Consciousness should not be confused with qualia. In: **Logos & Episteme**, v. 1, p. 63-91, 2014.

RAMACHANDRAN, V. S.; HIRSTEIN, William. Three laws of qualia. What neurology tells us about the biological functions

of consciousness, qualia and the self. **Journal of Consciousness Studies**, v. 4, n. 5-6, , p. 429-458, 1997.

SHEETS-JOHNSTONE, M. **Insides and outsides. An interdisciplinary perspectives on animate nature**. Imprint Academic, PO Box 200, Exeter EX5 5YX, UK, 2016

VELMANS, M.; SCHNEIDER, S. (ed.). **The blackwell companion to consciousness.** Oxford: Blackwell, 2007.