# PHILOSOPHICAL REMARKS CONCERNING UPWARD AND DOWNWARD CAUSATION IN THE REALM OF THE TURN TO AFFECT.

COMENTARIOS FILOSÓFICOS SOBRE LA CAUSALIDAD HACIA ARRIBA Y HACIA ABAJO EN EL REINO DEL GIRO HACIA LA AFECTIVIDAD.

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#### RESUMEN

Numerosos programas de investigación referidos a la filosofía de la mente han intentado superar en las últimas décadas el sesgo intelectualista que caracterizó los primeros desarrollos del Cognitivismo. En el marco de lo que se ha dado en llamar el "Giro hacia la afectividad", los avances relacionados con la tradición neurocientífica han enfatizado la influencia de la causalidad "de abajo hacia arriba", mientras que otros, mayormente relacionados con la tradición fenomenológica, han resaltado la incidencia de la causalidad "de arriba hacia abajo". Sin embargo, las nuevas conceptualizaciones han aliviado esta tension mediante una comprensión renovada sobre la naturaleza de la causalidad bi-direccional que existe entre los afectos vinculados a lo somático y los sentimientos intencionales.

Palabras Clave: Afectividad, causalidad, intencionalidad, mente, cerebro.

#### ABSTRACT

Several philosophical research programs developed within the Philosophy of Mind in recent decades have tried to overcome the intellectualist bias that underpinned early findings of the Cognitivist program. In the realm of what has been called the "Turn to Affect", philosophical developments related to the neuroscientific tradition have emphasized the influence of upward causality, while others, related to the phenomenological tradition have favoured the incidence of downward causality. However, recent discussions have brought to light new conceptualizations that may help to relieve this tension through a renewed understanding of bi-directional causal relations between bodily affects and intentional feelings.

Key Words: Affective, causality, intentionality, mind, brain.

#### Introduction

The intellectualist bias of the first stage of cognitivism has been widely recognized even by its own adherents (Guidano, 1994). This bias has also underpinned the early debates of the philosophy of mind that started to flourish

while cognitivism and neuroscience spread their influence in a mutual interaction characterized by great benefits and unclear boundaries. For the last decades, cognitive psychology running both in the neuroscientific trend and the socio-constructivist trend (Fernández-Álvarez, 1992), has been developing vast research programs in order to cope

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with this deficit. However, there is much to do in order to overcome the tension that still exists between philosophical explanations inspired in neuroscientific findings and socio-constructivist reflections closer to the phenomenological approach and ensuing therapeutic research.

Philosophical explanations inspired in cognitive-neuroscientific findings tend to highlight the incidence of neurophysiological causes that trigger emotional and cognitive events. They emphasize, then, bottom-up explanations. This trend considers intentional states –those in which we find a relation to an object outside the subject (Sorabji, 1991)— as an evolutionary outcome of primitive non-intentional processes. In this context, affects may be seen as primitive bodily related events, and the intentional condition may be attributed to cognitive events or to certain higher feelings alone.

Phenomenological explanations, more related to cognitive socio-constructivist approaches, tend to enquire about social practices and normative guidelines and the way they shape individual beliefs, motivations and actions. They emphasize, in turn, top-down explanations, as they explain how internal representations about the world and the Self are formed and how they encourage certain responses. In this philosophical tradition, intentional contents (both cognitive and affective) are even more determining to explain human behaviour than bodily states.

This situation may be understood as the natural consequence of performing two legitimate methods in the analysis of human behaviour: the empirical sciences' method (exploring mechanical causality to describe facts) and that of social sciences (exploring intentionality in order to understand conduct). But this interpretation, though not entirely wrong, cannot fully explain the nature and persistence of this tension. There are, as well, other possible explanations:

a.— The persistence of dualist imaginaries which fail to fully understand the way human experience blends the experience of the world with the experience of the Self and the body.

b.— A poor understanding of the concept of intentionality and its specific form of causality, which not only acknowledges other forms of causality, but also admits conscious and nonconscious character and can be applied both to affect and cognition.

While exploring these two arguments, this paper will describe recent developments in the Cognitive Turn to Affect that have settled a renewed understanding of bi-directional causal relations between bodily affects and intentional feelings. In order to do so, in the first place it will recall some major philosophical developments regarding cognitive-neuroscientific approach to affect, confronting them, secondly, with some findings of the phenomenological approach to the subject. In the third part of this paper, some new conceptualizations will be offered that discard the validity of upward as well as downward causation within the realm of the Cognitive Turn to Affect. Finally, some philosophical conclusive arguments will argue in favour of a renewed understanding of intentionality and its specific nature and role in affective events.

# Philosophical Explanations of Affect within Cognitive-Neuroscientific Tradition.

Aware of their own intellectualist bias, but still depending on dualist images, many neuroscientists in the 90's made considerable progress in the description of the neurobiological basis of emotion (Lane & Nadel, 2002). LeDeux's contributions (1996), for example, made explicit the extent to which the generation and execution of emotional responses take place outside of conscious perception.

In the context of these efforts, a new philosophical program was developed within cognitive psychology. While coping with the strong specialization and epistemological diversification involved in the analysis of its specific object, Davidson and Sutton (1995) as well as Panksepp (1998) attempted to provide a differentiated status to this new neuroscientific exploration:

The various cognitive sciences are beginning to address the complexity of the human mind, but until recently they chose to ignore evolutionary antecedents, such as the neural systems for the passions, upon which our vast cortical potentials are built and to which those potentials may still be subservient. Something is lacking. I would suggest that a missing piece that could bring all these disciplines together is a neurological understanding of the basic emotional systems of the mammalian brain and the various conscious and unconscious internal states they generate.

This new perspective, which I have chosen to call affective neuroscience, may be of some assistance to the growing movement in philosophy to bring neurological issues to bear on the grand old questions regarding the nature of the human mind. (Panksepp, 1998, p. 5).

This new research program gave birth to the so called *Basic Emotions Paradigm* (BEP). Tomkins, one of its main supporters, distinguishes between different types of affective movements (Tomkins, 2008): by the terms *affect* or *innate affect* he references a group of highly unmodulated specific physiological reactions present from birth. This group configures real "affect programs" which are subcortically located in the brain and defined in evolutionary terms as universal and pan-cultural categories. Affect programs operate in the first stage of emotional life in individuals, and allow feelings and emotions to emerge:

We use the term feeling to describe our awareness that an affect has been triggered. The formal term emotion describes the combination of whatever affect has just been triggered as it is co-assembled with our memory of previous experiences of that affect. Tomkins eventually dropped the term emotion in favour of the much larger category of these co-assemblies that he called scripts. A good way to conceptualize this system of nine quite different alerting mechanisms is to view them as a bank of spotlights, each of a different colour, each flicked on by its own quite individual switch, each illuminating whatever triggered it in a way highly specific to that light. We don't "see" any stimulus unless and until it is brought into our field of awareness as coloured by affect. (Nathanson, 2008, p. xiv).

According to Tomkins, affect serves to *amplify* a certain bodily state which triggers it, a state which, when amplified, serves to satisfy a certain urgent need. "The primary function of affect—says Tomkins—is urgency via analogic and profile amplification to make one care by feeling" (Tomkins, 2008, p. 659). There is no need to be conscious about this feeling in order to capture or make capture this feeling. This is the case of a neonate who cries loud because of hunger, not even "knowing" what it is to be done. But, as attention

derives from affect, consciousness usually derives from attention. And with consciousness comes meaning and volition. Nevertheless, it must be stated that in this development "affects are completely free of inherent meaning or association to their triggering source" (Nathanson, 1992, p. 66).

According to this paradigm, then, intentionality is attributed only to conscious cognitive events, and occurs after bodily processes and even after affect takes place. In Tomkins' words:

I have sharply contrasted the coincidental role of cognition in the evocation of affect as an amplifier, and its more central and causal role in the magnification of affect. Psychological magnification necessarily presupposes affective amplification, but amplification does not necessarily lead to magnification. Because affect is inherently brief, it requires the conjunction of other mechanisms to connect affective movements with each other and thereby increase the duration, coherence and continuity of affective experience. Cognition plays a major role in this magnification. (Tomkins, 2008, p. 663).

This evolutionary perspective underlying the Basic Affect Program has been and is still very influential in Psychology (Massumi, 2002; Tooby & Cosmides, 2008). It involves a dualist account between body and mind, and between affect and cognition. This dualist account tends in turn to impoverish the notion of intentionality, which remains closely related cognitive or affective higher processes, identifying intentional causality with consciousness and even deliberate intention within human behaviour.

However, this impoverished notion remains unnoticed even by some of BEP critics. This is the case of Leys, who raised her arguments against the "anti-intentionalist" premises of Tomkins' and Evans' work without providing a clear conceptualization of the word "intentionality" (Leys, 2011), as Connolly rightly points out (Connolly, 2011).

#### Affect and Intentionality in Phenomenology.

In the Phenomenological tradition, intentionality is conceived in the mainframe of a broadened conceptualization of the notion of "reason" (Vigo, 2005), which helps overcome the false opposition between rationality and affectivity that many neuroscientists still uphold, while they are still

held captive in a poor and schematic definition of "rationality" (Wittgenstein, 1953/1986).

It is common knowledge that the theory of Intentionality was restored in contemporary philosophy by Husserl, by means of Brentano's work. Husserl's phenomenology has highlighted the fact that every mental state refers to an intentional object, which is different from the mind itself. In this context, even the mental pre-reflective or automatic is considered to be intentional. This is the case of affect, which is considered to be prior to "intentional objectification", acting as its foundation (Husserl, 1948). That is, things become thematic objects of our reflective consciousness given that they have previously called our attention on a more basic level of consciousness, in which affectivity and cognition converge.

Note the similarity and difference between this opinion, and, for example, Tomkins'. This is not to admit that affectivity necessarily stems from a neurophysiological process and then becomes intentional object from an amplification process and magnification. Rather, in Husserl, affect itself involves a non-reflexive affective-cognitive intentional presence of the object. But in order to fully recognize this fact, a more complex and diverse concept of intentional causation must be accepted: one which considers a pre-reflexive and affective intentional apprehension of objects.

Husserl's theory identifies two basic modes of apprehending the world. The first one, earlier and more usual, comprises an approach to things arising from need, desire or interest, and it is action-oriented rather than speculative. It usually occurs in a pre-reflective way and it is expressed in a particular emotional state. The second one, more closely linked to the intellectual and objectifying perception, is an instance derived from the first moment. We should not identify this binary view with that of Nobel Prize winner Daniel Kahneman's (Kahneman, 2011). In his *Think Fast*, *Think* Slow, the author conveys Stanovich's distinction between System 1 and System 2 (which the latter has recently reformulated as *Type 1* and *Type 2*) (Stanovich & West, 2000; Evans, 2008; Evans & Stanovich, 2013). Even though these theories may be considered complementary to Husserl's, there are differences that cannot be fully depicted in this paper.

Charles Taylor offers an interesting anthropological translation of this view as he states that

all affective movement (grouping under this name affections, emotions and feelings) involves in itself one specific meaning, which may be conscious or unconscious, articulated or not articulated (Taylor, 1993).

Let us consider, for example, the case of a young girl who experiences disappointment and anger when her WhatsApp message is not responded despite being seen by its addressee and despite having asked for an urgent response. The situation takes on a very specific meaning: for the disappointed subject, the lack of response "means" something, hence her annoyance. And the experience of this particular meaning motivates her feeling with the neurophysiological correlate that goes with it. Without the experience of that meaning, neither would the consequent affective state awake nor would the concomitant neurophysiological processes be launched. Another example: a very small child wakes up suddenly and feels ashamed after having urinated involuntarily in bed. Obviously he has "noticed" several things. First, that he has urinated. Secondly, that he has urinated in the wrong place, being old enough to be expected not to do so.

The feeling reveals a certain level of consciousness, a certain "awareness" of at least these elements, in a more or less articulated way. So there is reasonable ground for shame. Even though we may sometimes experience a certain feeling as not rational (in the sense of "reasonable") but rather questionable, the feeling will rest on reasons, on assumptions that explain this mood. Even the most irrational impulsive acts have their intrinsic rationality. And there is no need to be fully aware of these reasons in order to consider them rational.

It is important to emphasize this point. So conceived, affect, feelings and emotions constitute expressions of meanings that are intentional as they reveal the world sometimes even better than conscious rationality. Furthermore, they tend to trigger superior reflective processes. At this point, Taylor's position matches Tomkins', as the former recognizes the priority of affect over reflection. But it differs when he recognizes a pre-reflective rational stance inherent to affection. Intentional downward causation, therefore, takes place in this pre-reflective level and plays a decisive role in the explanation of human behaviour.

Summing up, according to this phenomenological approach, in all emotional responses we

find the presence of articulated or non-articulated intentional meaning, which performs downward influence and explains the emergency of a certain affective event. Meaning is not a "plus" added to the feeling. It is part of it, it defines it as such and constitutes it.

However, according to Taylor, feeling does not usually emerge before facts, but before interpretation of certain facts<sup>1</sup>. In other words, it arises before interpreted facts in the context of a particular intentional context. In our example, disappointment is not explained only by the lack of response but from the factual verification of the "double blue ticks" on her cell-phone screen. They indicate that the message has been opened. Hence, this verification is not in itself indicative of deliberate lack of response. In fact, there are other possible explanations for this same situation: perhaps the addressee inadvertently opened the incoming message and never really read it. Maybe he saw the message and answered it, but she has not yet received the answer due to technical problems. Perhaps it was someone else who saw the message, and not the original addressee.

The fact that the situation has been decoded as "deliberate lack of response" and not as "delay due to technical reasons", reveals that feeling involves an act of interpretation that somehow transcends the factual event in question, and it is maybe related to past events or other circumstances. In this act of interpretation, disclosure or reality appears to be combined with subjective projection (Bellomo, 2014). It has already been said that, when declaring that affection results from an act of interpretation, we should not conclude that all affection derives from a conscious interpretive exercise. Most of our affective states respond to an inarticulate interpretation or "proto-interpretation", as Taylor calls it (Taylor, 2005), which is revealed in and through feeling. Feelings are therefore more primitive than conscious reasoning, but assume an unexpressed reason that is somehow more primitive than the same affection, to the extent that it becomes its structuring cause, as we shall see later.

Evidently, this type of phenomenological approach tends to empathize the action of downward intentional causality to such an extent that the appraisal causation of neurophysiological basic programs weakens and loses its specific incidence in the explanation of affectivity (Rorty, 1990). It also fails to grasp all that is implied in

the relationship between bodily affect and intentionality. As we shall see in the next paragraphs, certain cognitive psychology findings help to clarify these two remaining problems.

### Emotional Schemes: ups and downs in human behaviour.

Cognitive Psychology has emphasized the fact that most of our feelings do not arise *ex nihilo* but somehow reveal our history. Everyone has a series of automatisms that combine interpretation-feeling-action. Having emerged at a certain moment of each individual's personal history, they tend to be activated recursively before new situations. Thus, in various circumstances the same interpretive-emotional circuits are replicated and therefore the same behavioural patterns take place, defining our personality.

In a famous paper that became a pioneer of the cognitive tradition, Ronald Forgus and Bernard Schulman (1979) designed these basic patterns as "core rubric". Greenberg & Paivio refer to these psychological units as "emotional schemes". They involve a "complex synthesis of affection, cognition, motivation and action, which gives each person an integrated sense of the self and of the world, as well as a subjectively meaningful sense" (Greenberg & Paivio, 2000, p. 43). From a psychoanalytical perspective, enriched with cognitive outcomes, Bleichmar refers to these schemes as "matrix beliefs" (Bleichmar, 1998).

As we can see, emotional schemes are automatic cognitive-affective belief units, acting at a pre-reflective level (Greenberg & Paivio, 2000). They tend to be relatively stable, neurologically grounded and to trigger the projections with which a subject endows a particular object or situation. Although automatic and neurologically grounded, they should not be identified with basic Affect Programs, as they rather constitute a development linked to individual history and environment than a pan-cultural neurophysiological heritage. That is to say that these schemes favour or limit the emergence of certain emotions and feelings due to previous experiences. Take the case of a subject that, in a situation of work overload, and having developed a scheme that feeds victimization, defines this new situation as "exploitation". Consequently he will experience specific emotions that respond to this situation so characterized.

As we can see, findings on Cognitive Psychology tend to recognize specific downward causation by stressing the importance of interpretative downward processes. They recognize, as well, that some of these interpretations may be pre-reflective in nature and grounded on neurophysiological processes that derive from emotional schemes profoundly rooted in our personality. Consequently, they can exert, in a way, upward causation.

This leads to the understanding that there is a circular interaction between downward and upward causation, and it can hardly be stated that one type of causality has genetic prevalence over the other. The emotional schemes have, of course, an organic base on which they settle, which is not to say that they are explained solely by neurophysiological upward causality. Downward causation is influential at their origin. Once established, upward causation operates with notorious impact. Buy even in this case, upward causation by organic disposition helps certain interpretations or proto-interpretations to arise, and interpretations work downwards in the emergence of certain feelings and behaviours.

However, this circular interaction between upward and downward causality takes place in the context of a complex bodily-mind interaction in which intentionality has much to explain. Ratcliffe has demonstrated the extent to which different kinds of emotional states are intentional in nature and capture in a way the relation that the Self holds with the World (Ratcliffe, 2005). His attention is drifted especially to bodily feelings, those characterized the neuroscientific philosophy of mind as expressions or perceptions of bodily states and, hence, considered to be non-intentional. In contrast to these assumptions, Ratcliffe argues that:

- (1) Bodily feelings are part of the structure of intentionality. They contribute to how one's body and/or aspects of the world are experienced.
- (2) There is a distinction between the location of a feeling and what that feeling is of. A feeling can be in the body but of something outside the body. One is not always aware of the body, even though that is where the feeling occurs.
- (3) A bodily feeling need not be an object of consciousness. Feelings are often that through which one is conscious of something else. (Ratcliffe, 2005, p. 46).

This approach is important, given that bodily feelings are often considered the most primitive and evolutionary significant units of affect in the upward perspective. In his view, these premises apply not only to specific bodily feelings caused by the impact of certain stimulus on our body (such as snow on our hands) but to unspecific "existential feelings", such as the feeling of being "complete", "flawed and diminished", "unworthy", "at home", and so on. The feelings that such descriptions express are indeed bodily or at least have bodily feelings at their core. But they are, at the same time, ways in which the world appears or ways in which one relates to the world as a whole (Ratcliffe, 2005). As the existential feelings may carry with them some reflexive judgements and beliefs (as it is in the case of the feeling of "being a true American"), in certain way they can be considered the counterpart of primitive bodily feelings. What both of them have in common is this presumption that they are non-intentional and they constitute (in a very different sense in each case) the grounds on which several other feelings emerge. This presumption is denied by Ratcliffe:

Emotions, for the most part, are ways in which specific objects, events or situations are perceived, evaluated or felt. But all specific intentional states presuppose general structures of intentionality, ways of finding oneself in the world that determine the space of experiential possibilities. These ways of finding oneself in the world are what I call 'existential feelings'. A distinction can be drawn between the location of a feeling and what it is a feeling of. Thus accounts of bodily feeling which assume that what is felt must be the body are mistaken. Existential feelings are bodily feelings that constitute the structure of one's relationship with the world as a whole. (Ratcliffe, 2005, p. 61).

By discussing the structure of intentionality of feelings, Ratcliffe intends to avoid dualist images that emphasize excessively the distance between the inner experience and the experience of the world outside us, as well as the distance between inner experience and neurophysiological mechanisms of the body. Different forms of feelings constitute the expression of different forms of intentionality. In all kind of feelings, subject and object (hence, mind

and world) are not conceived as different stances but as part of a shared mysterious experience.

## Overcoming the downward and upward distinction.

What Ratcliffe's insight suggests, even if it is not stated as such, is that the whole downward-upward causality distinction turns to be inadequate. Actually, in order to sustain it, we must assume that there is such a thing as an "up" and a "down", being the "up" the mind and its intentional conscious states, and the "down", the body and its neurophysiological structures and mechanisms. When applied to theories of affect, this distinction leads us to the choice between explanations that emphasize the role of neurophysiological causal mechanisms or the opposite, those that stress the importance of downward interpretive causation, or even a complex circular combination of both.

But this dualistic image collapses once it is stated that there is intentionality in bodily emotions and even existential feelings of the world, those in which we get a pre-reflective bodily sense of our understanding and our being in the world. Underlying those bodily feelings, says Ratcliffe, we can find a certain non-conscious, non-articulated sense of our environment and of what our place in the environment is. Following the phenomenological insight, we could refer to this sense or awareness as "meaning" only if we avoid interpreting such concept as a cognitive reflexive and conscious awareness.

Feelings are constituted, then, by a certain meaning that can be apprehended reflectively or unreflectively. The phenomenological claim that intentional content is constitutive to feelings is in a way reedited in Radcliffe's view, even though there is recognition that these feelings may be triggered by specific neurophysiological mechanisms. In this context, the upward and downward explanations fail to grasp the complexity of what is involved. And what is involved is an interaction between our mind, our body and the world outside us, the three of them fused in a comprehensive inextricable experience.

As Sanguineti warns, we must understand this interwoven interaction between mind and body not as an upward and downward relation, but as a sort of "high" and "low" causal interaction (Sanguineti, 2014). High causality is formal rather than mechanical and relies in the way in which parts are

organized by virtue of a certain structuring force. My claim is that intentional content (meaning) in the mind acts as this structuring force, be it articulated or not articulated, neurophysiologically grounded or not, applied to individual objects and events or to the world as a whole.

This statement resembles Dretske's theory of the Structuring and the Triggering Cause, despite its being target of great criticism (Kim, 1996; Seager, 1994; Sandis, 2008; Hofmann & Schulte, 2014). To prevent misunderstanding, we must avoid falling into a simplistic view, as Sanguineti accurately suggests:

Now I would like to note that, in addition to these operating causalities between high and low levels, we can find within each level or even in their mutual dynamic relations, reciprocal influences between the subsystems in each stratum. These influences are sometimes complex given that they consist of the confluence of many factors acting with different pace and intensity over time and can be modified according to contextual variables. Therefore, causality is not ordinarily unidirectional. (Sanguineti, 2014, p. 203).

High causality of the intentional contents of feelings constitutes a philosophical prerogative in order to adequately explain how human experience of the world is organized by means of a mental-intentional apprehension of ourselves (our mind and body) and the world. It does not discard neurophysiological explanations of affect or even its triggering exercise when it is the case. But it constitutes an independent explanation, not reducible to mechanical causation even if certain aspects of its action may be translated in mechanistic empirical language.

The constitutive action of reflective or prereflective meaning relies on its capacity to make converge what is multiple and complex into a current integrated harmonious experience. How this convergence can be explained by neuroscience is still to be found. But the absence of explanatory empirical arguments should not out rule the legitimacy of considering intentional high causation as a specific type of cause in the realm of the *Turn to Affect*, given the philosophical justification provided not only by the phenomenological tradition, but also by some other voices in the very same Cognitive Psychology tradition.

#### Conclusive remarks.

The recent *Turn to affect* has helped to reignite the discussion about downward and upward causation that arose in the early stages of philosophy of mind. The Basic Affect Program has reedited the *emergentist* point of view by conceiving affect as a result of bodily causation, and feelings and reasons as a superseding movement. Intentional content of feelings is, then, taken to be a subsidiary effect of this more primitive upward causality.

On the other hand, the phenomenological tradition has challenged the evolutionist claims providing philosophical arguments in order to recognize the relevance of top-down causation and its irreducible nature as regards bodily causation. In this context, it has also claimed that conscious and unconscious feelings are essentially structured by meaning, and that meaning cannot be explained solely in evolutionary terms.

Based on these assumptions, the arguments stated by recent findings of Cognitive Psychology help to disregard the overall downward-upward distinction by considering a much broader and complex image of the interaction between mind and body, based on a renewed understanding of intentionality in affect. Intentionality is considered to be constitutive of feelings, even in the case of

non-conscious bodily feelings or existential feelings. And the recognition of this intentionality reveals that a mental content (not necessarily considered as a cognitive rational content) is implied in affect. In a way, there is meaning underlying each feeling, regardless whether this feeling has been triggered by conscious interpretative judgements or by non-conscious neurophysiological mechanisms.

Sanguinetti calls for the use of the "high" and "low" causal distinction to explain mind-body interaction, instead of downward and upward causation. Following Dretske's intuitions, I have stated that intentional content of feelings exerts high causality, in the sense that it acts as a structuring uniting force. This structuring causation might or not be preceded by antecedent neurophysiological processes and may as well be followed by the triggering of new structuring mechanical processes. Nevertheless, the structuring intentional causation should not be identified solely with antecedent or subsequent neurophysiological processes related to it, nor understood in terms of upward or downward interaction.

A complex interaction between the intentional and the neurophysiological must be admitted in order to fully understand the specific kind of relation that takes place in affect. Evidently, further research is needed to explain the nature of this structuring force and its specific action over the neural.

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### Notas

This does not apply, as Taylor recognizes, to the case of certain emotional reactions linked to organic, such as pain caused by physical injury.