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Phenomenological analysis of the emotional life and a note on its neurobiological correlation

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Abstract. The neurobiology of affection is becoming established as a new sub-discipline that focuses on the study and understanding of human emotional experience. It is a scientific discipline that has emerged from neurosciences, on the basis that we can now only advance towards a global understanding of human emotions and of their alterations by widening the horizons and methods available to study the emotional life. Here, we present the current contrast between the phenomenological and the neuroscientific analysis of emotions. We propose that it is necessary to maintain an interdisciplinary dialogue between these two approaches and we think that this complementation will be especially beneficial for the field of clinical neuroscience and anthropology.

Keywords: feelings; pleasure; values; neurobiology of emotion.

Introduction

Emotional experiences, both emotions and feelings, have attracted the attention of some of greatest thinkers and philosophers since ancient times. Indeed, it can be considered that they hold the key to understanding the meaning of human life itself. However, many different points of view have been adopted when considering these experiences, often provoking more discussion than agreement. Thus, while at times they have been considered to be specific aspects of intellectual experience, a kind of confuse judgement, on other occasions they are considered to be irrational passions or blind moods[1]. Similarly, emotional experiences have too often been interpreted on the basis of a predetermined and presupposed theory of the human being, usually extremely difficult to demonstrate, which has the inherent risk of distorting the original nature of these experiences.

In the early 20th century, a philosophical school emerged in Germany that aims to avoid the dangers associated with such interpretations. This school was that of phenomenology, founded by Franz Brentano (Brentano 1995) and Edmund Husserl (Husserl 1999) and it has since become increasingly influential. The key to this way of thinking is its method: it carefully describes the experience as a whole whilst avoiding all theories prior to the description of experience phenomena. Herein we shall consider what is known as plain phenomenology (first-person perspective) rather than hetero-phenomenology (third-person perspective) (Siewert 2007; Drummond 2007; 2008). Max Scheler was the phenomenologist who paid most attention to the field of emotions. Indeed, Scheler is known above all for his defence of the existence of the unusual emotional objects known as values. However, the richness of his descriptions of emotional life should not just be simply reduced to this thesis, as they are far richer. Scheler is indeed responsible for proposing the most complete classification and description of emotional experiences

[1] For the specific meaning of *feeling*, *affection*, *emotion*, *passion* and *mood*, see (Lombo and Giménez-Amaya 2013, 100–102). It is also very interesting to note the neurobiological meaning of *feeling of emotion* (Damasio 2011).

to date (Scheler 1973). A sign of this richness is the influence of Scheler's analyses on other thinkers of that time: from psychiatrists such as Kurt Schneider (Schneider 2007; Glazinski 2001; Krahl and Schifferdecker 1998) to psychologists such as Felix Krüger (Krüger 1918; 1928), Philipp Lersch (Lersch 1938) or Ludwig Klages (Klages 1936). Therefore, we will take Scheler as a model philosophical approach, in this case phenomenological, to the world of emotions.

According to Scheler, emotional life is a different sphere to intellectual life (representation, judgement, reason) and it prompts cognitive or tendential life (ranging from spontaneous to voluntary movements) (Sánchez-Migallón 2005). However, the greatest problem concerns the criteria to classify and describe the experiences in this sphere. In agreement with the inspiration behind phenomenology as a whole, Scheler believed that the main criterion to distinguish certain emotional experiences from others, which naturally does not exclude any later criteria, is the property known as intentionality: in other words whether or not these experiences refer to a content and if they do, how (Goldie 2002). We will see that this criterion actually permitted him to discover two very productive classification methods (Figure 1). The fact that some or all emotional experiences have bodily manifestations is a secondary, and indeed accidental, criterion for Scheler, which is why he does not distinguish between emotions and feelings. In this respect, he diverges from the tradition of following the etymological origin of these two terms, although his approach is closer to common usage. The key for a phenomenologist is that emotional experiences are just that, in other words that they are experienced consciously: without awareness we cannot talk of experience and with it, although it may only be that experienced in dreams, it is fundamental to describe the content experienced. The concept of experience used by Scheler is phenomenological, which means experience in its broadest sense and not simply empirical (Frings 1997).

By contrast, from a neuroscientific point of view the distinction between emotions (the physical changes experienced due to an internal or external stimulus) and feelings (the conscious experience of an emotional

state, which is therefore subsequent) predominates (Tsuchiya and Adolphs 2007; Damasio 1999). This situation would appear to be based on the significant progress made towards understanding the concomitant neurobiological processes that form the basis of emotions. However, does neuroscience have a model that explains what we really experience, as suggested by phenomenology? Can we draw parallels between emotional experiences and neurobiological processes? Or is complementarity between different approaches and methods more necessary than ever?

Let us consider first of all how we can establish a system to study emotional life from a phenomenological perspective, in this case that proposed by Scheler.

1. Phenomenological classification of emotional experiences according to Scheler

We saw above that intentionality is the basic phenomenological criterion for experiences. On this basis, Scheler makes a distinction between those emotional experiences that are not at all, or not directly, intentional, in other words those which do not internally and consciously directly refer to any specific content, and those experiences that are (Figure 1, I). He refers to the former as "feeling-states" (A) and to the latter as "intentional feelings" (B). Thus, Scheler's theory cannot simply be considered to be a cognitive theory. However, Scheler also recognises that at times we simultaneously experience mutually incompatible feeling-states and intentional feelings (for example physical pain and emotional happiness). This leads Scheler to establish a new classification based on the psychological property known as "depth" (II), which can be differentiated into four strata (a-d).

Thus, Scheler's concept results in two parallel and interconnected classifications (Figure 1), whereby both non-intentional and intentional emotions can exist in different depth strata.

Let us consider the classification by intentionality first of all. Scheler proposes different types of emotions or feelings within classes A and B, indicating their main traits and providing examples.

Figure 1

Emotional experiences according to Scheler	
I. According to the intentionality	(A) Feeling-states (not directly intentional: Figure 2) (B) Intentional feelings (Figure 3)
II. According to the psychological depth (Figure 4)	(a) Sensible feelings (b) Feelings of the living body (as states) & of life (as functions) (c) Pure emotional feelings (pure feelings of the *ego*) (d) Spiritual feelings (feelings of the personality)

Class (A) concerns feeling-states and it contemplates three different states according to the type and degree of the possible indirect intentionality (Figure 2). The first of these contains the "pure states" (a), a set of totally non-intentional experiences with absolutely no conscious content of reference. These are the sensations and states in which we feel ourselves to be emotionally qualified to some degree and which may range from any pain or pleasure that can be sensed to an overall mood. In these cases we experience and therefore, we are aware of an emotion within ourselves (in one part of our body or in our body as a whole) without noticing anything different within ourselves. We know that these states have been caused by an external or internal stimulus and we may even know what that object is, although our awareness of this object is not included in the emotional experience. As such, we can experience the emotion without knowing what the object is and if it is known, it can be disregarded and the emotion will remain.

Secondly, we have the affections or passions (b), highly dynamic emotions that can nevertheless be experienced passively. These experiences are felt within a person but to some extent they have their own life and dynamism. Emotions of this type include anger or fear. As before, attention in these states is also directed towards the person emotionally affected to

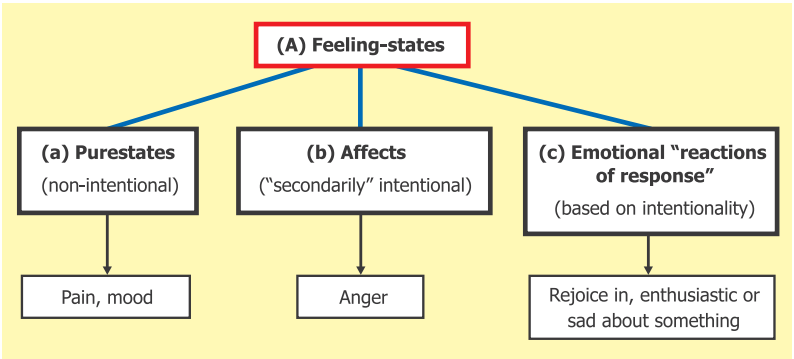
a certain degree. In contrast, the dynamic nature of these emotions means that they are directed towards the object that caused them. This means that attention can be paid to the object, perhaps in order to act against it in some way. However, the object is not captured by anger as anger itself cannot capture or perceive anything but rather, it arises in the face of another type of representation and feeling (intentional). Proof of this is that anger or fear, as affections, can separate themselves from their original causative object and direct them towards another object (fact or person) whilst remaining as identical emotions. For this reason they can be characterised as "secondary intentions".

The third type of feeling-state (c) concerns what Scheler refers to as emotional "reactions of response", such as happiness, sadness or enthusiasm. This is a type of non-intentional emotion as there is no association or mention of any objective quality. In these emotions we primarily and directly experience ourselves, although they are still states. However, in these emotions a relationship and direction towards an object also arises. This is not just a coincidental relationship that may eventually change but rather a meaningful relationship. The happiness felt about something means that we have captured or felt the sense that this something is something worthy of happiness. This is why these reactions, although still pure reactions, are based on an intentional feeling.

Clearly, in our emotional life we frequently move from one of these three types of emotions to another.

Class (B) concerns the intentional feelings and it also contains three types (Figure 3), although this time based on the type of intentional object or content to which they refer. They all possess a direct reference to the content rather than to the emotion itself: they are a "feel something", similar to judging or believing in something (Cairns 2000). First of all we have here the "feelings of the feeling-states" (a), where we experience all types of feeling-states as objective according to their emotional quality, for example our feeling of pain. The same pain can be felt intentionally in many ways, for example suffering it calmly or angrily. It is therefore a different and secondary feeling to the actual state felt. Furthermore, we can

Figure 2



feel both our own feeling-states and those of other people. The latter are feelings of sympathy that Scheler discusses extensively elsewhere (Scheler 1970). Scheler characterises this emotional intentionality as original as it immediately determines the internal state of the person.

The second type of emotion, the so-called feelings of objective emotional characteristics of the atmosphere (b), is as curious as it is real. In this type of emotion, what is felt or experienced is clearly an objective emotional characteristic. However, this quality is not experienced as residing within the person (either ourselves or others), but rather in natural objects within the environment. The examples given by Scheler are highly suggestive: the restfulness of a river, serenity of the skies, and sadness of a landscape. It is clear that restfulness, serenity or sadness cannot reside in inanimate objects. What actually occurs is that not only do we feel our mood upon capturing these objects but also, we experience these emotional characteristics in these objects and proceeding from them.

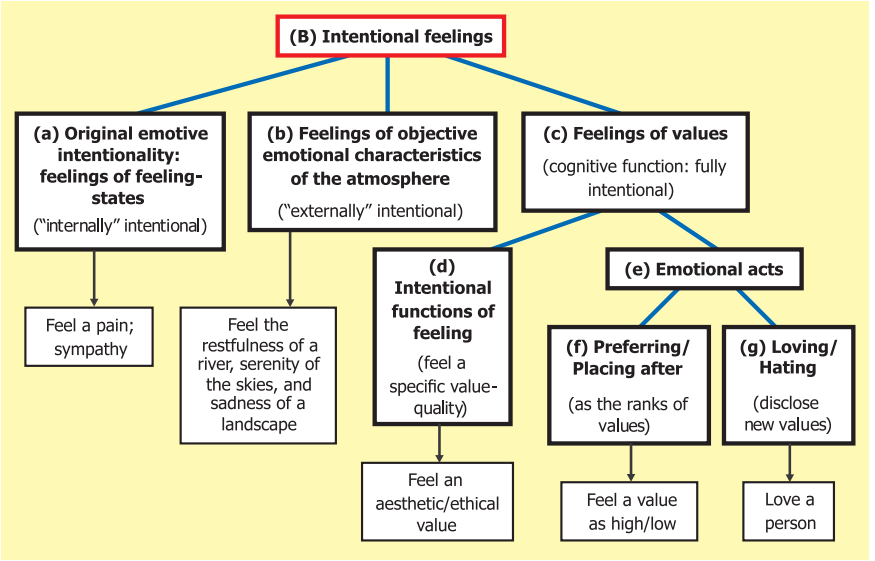
Finally, we have the feelings of values (c). According to Scheler, in these emotions we experience genuine emotional qualities, which he calls value qualities. This type of feeling is fully directed towards these qualities. Indeed, it can also be accompanied by a corresponding feeling-state, although this state is somewhat different and not necessary (for example,

I can capture the value of something without feeling attracted to it, or I can feel unworthy of something of whose value I am aware). For this reason these feelings possess traits that make them cognitive: their complete intentionality, their occasional or one-off character, the capacity to be realised or not (and to further feel their valuable quality) and their capacity to be understood according to the sense of a valued object rather than simply being explicable by its cause.

Value qualities, however, have two different structural properties: their own particular quality and their range or standing with respect to other values. On the basis of these qualities, there are also various, essentially different, feelings of values. The specific emotions in which we experience the particular quality of each value (for example, aesthetic values as opposed to ethical ones, or subtle variations within each group) are the so-called intentional functions of feeling (d). By contrast, those feelings that refer to the range of value qualities form their own type: the so-called emotional acts (e). According to Scheler, these constitute a stratum of emotional life that lies above functions. The range of values can be referred to in two ways. Firstly, by preferring or postponing (f), in other words capturing the values according to their hierarchical range, either higher or lower, and secondly, by loving or hating (g). Love and hate form the highest stratum in emotional life. They are feelings that fill our self emotionally, so to speak, although their active and intentional character distinguishes them from feelings states (even though the latter accompany love and hate). Love and hate are fully directed towards their object, usually other people, and we can only talk of the ensuing subjective state in another sense and only secondarily. One sign of this active and intentional character of love and hate is that both feelings reveal new higher or lower values in their object. Furthermore, according to Scheler these feelings are the condition and driving force of all human emotions and tendencies, and even of all cognitive interests. Scheler even goes so far as to define a human person as essentially a loving being.

Now let us consider the classification according to depth strata (Figure 4). As we have seen, Scheler noted that we sometimes experience both

Figure 3



feeling-states and intentional feelings together, which are nevertheless mutually and qualitatively incompatible (positive and negative, for example). This simultaneity is not a problem for feelings or sensible emotions (a), in other words those located bodily, which can be experienced in various parts of the body. The problem arises when feelings appear simultaneously that can either affect and that refer directly to the organism as a whole (b), or that do not refer to the organism and only affect it secondarily, which can be experienced as states (c) or as active feelings alone (d). For example, a person may be happy and yet also suffer physical pain, they may feel sensible pleasure when desperate, or they can also be calm and serene in the middle of a serious misfortune (such as an important loss of good fortune), even though it is impossible to be happy in this case. They might even drink a glass of good wine and appreciate its aroma whilst feeling unhappy.

Therefore, in order to discuss simultaneous existence, exactly as it is experienced, Scheler proposes extending the emotional life into the inte-

Figure 4

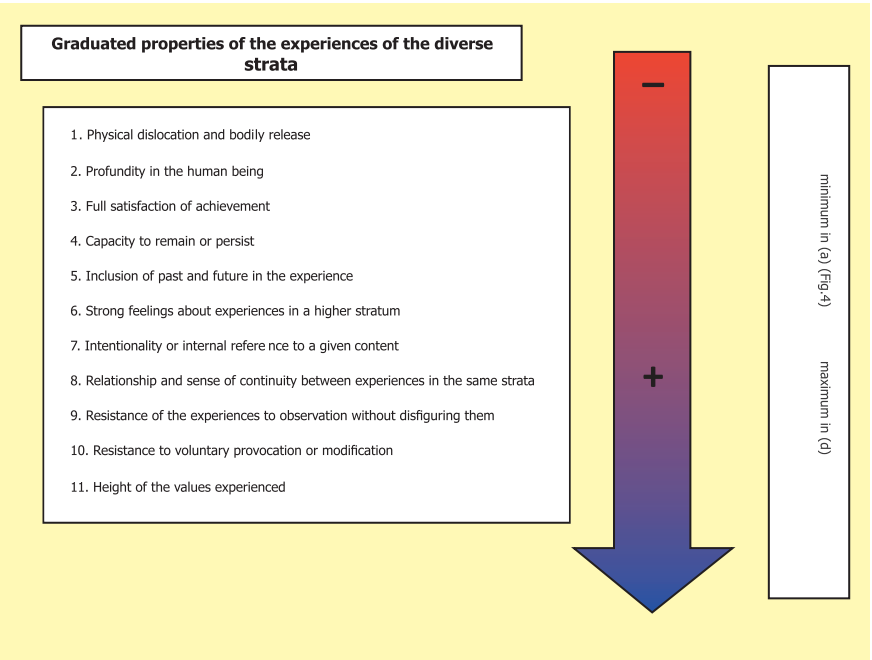
The Stratification of the Emotional Life

EMOTIONAL STRATA	
OBJECTIVE POLE: **rank of value**	SUBJECTIVE POLE: **structure of the human existence**
(FEELINGS)	
(a) sensible feelings	
values of the agreeable and disagreeable	a delineated part of the lived body
(sensitive pain and pleasure, sensualism)	
(b) feelings of the lived body (as states) & feelings of life (as functions)	
life-values or vital values	lived-body-*ego*
(fear, expectation, tiredness, freshness, daze, consternation, aversion and sympathy, like and dislike, appetite, vigour, oppression, angst, shame, lust, sexual attraction)	
(c) pure psychic feelings (pure feelings of the *ego*)	
spiritual values	psychic *ego*, without mediation of the lived-body
(sadness, enjoyment, melancholy, be content, be fortunate or unfortunate)	
(d) spiritual feelings (feelings of the personality)	
spiritual values	being and self-value of the (spiritual) person himself
(blessedness, desperation, calmness, peace of mind, serenity)	

rior of the human being, so to speak (Sánchez-Migallón 2010). He calls this extension "depth" and assigns it four different strata. As shown in Figure 4, each stratum is a plane of emotional life where we experience various feelings for which Scheler gives clear examples. It is also of interest that as objective poles, the feelings in the various strata experience different values depending on their range, and that as a subjective pole, the subject feels himself in different levels of the structure of human existence.

Scheler differentiates these emotional strata according to several properties that gradually develop between them (Box 1). The properties mentioned (1–11) arise minimally or not at all in the stratum of sensible emotions, and maximally in the spiritual stratum of the emotional life.

Box 1



The most important property, and that which has attracted most attention from psychologists and psychiatrists, is without a doubt the ability of the feelings in the deeper strata to produce a meaning in the upper strata, rather than the other way around. Thus, a sensible pain, for example, can be experienced (Figure 3 (a)) differently according to the background of a deeper feeling: we can accept it serenely, rebel against it, suffer it with others, etc. (Scheler 1992). The idea of feeling therefore acquires an inescapable role in the description of emotional life, as manifested clearly in emotional pathologies.

2. The neurobiology of emotion

Let us now take a brief look at the findings of emotion-related neurobiological research (McGovern 2007). Three different levels intervene in the neurobiology of emotions: the reptile brain, the mammal brain or limbic system, and the primate brain or neocortex. The reptile brain is the most primitive and it regulates the more mechanical and repetitive instinctive behaviours, barely intervening in what we call emotions. The limbic system (the amygdala and its connections) is responsible for feeling the worth of something, either positively or negatively, as well as the outstanding features of images and thoughts. This system facilitates the development of activities that are important for survival, such as spotting signs of danger, the need to reproduce, feed and seek cover, although the limbic system still responds involuntarily and with poor resolution of details. However, the connection with the neocortex (especially the ventromedial region and the prefrontal cortex) allows more complex and differentiated emotional responses. Most complex activities are elaborated in the cortex, such as socialisation, control or clarification of the emotions in the limbic system, such that human emotional responses depend on the responses to pleasant and painful stimuli mediated by the subcortical systems and the cognitive evaluations mediated by the neocortex (Benninghoff and Drenckhahn 2004; Purves et al. 2004; Nieuwenhuys et al. 2009).

However, it should be noted that neuroscientists have used animal models to guide their studies and that research with humans is limited to observation using neuroimaging techniques, and to the effects of disease and brain damage. Experimentation beyond this is unviable when the stimuli are too invasive or intensive. This means that this type of research acquires a fundamentally externally observational perspective, which has conditioned the type of emotions that neuroscience of the emotional life can study. What is accepted and studied nowadays are the various cerebral networks that act in observable emotions in all mammals (fear, seeking, etc.), but there is no work on, and at times even no interest in, the range of emotional experiences felt by human beings. As it has been rightly said: "Neuroscientists have paid most attention to the classical conditioning studies conducted with animal models. Almost no attention has been given to the possibility of multiple emotional systems in the brain. To date, the origins of fear in the amygdala have received attention as the dopamine-based 'reward system'. But interest in the explanation of neural bases of the wide variety of distinctly felt emotional experiences is lacking." (Baars and Gage 2010, 423).

Panksepp (Panksepp 1998) classified the variety of basic emotional systems and networks into four categories: seeking, fear, rage and panic. Three other general emotional systems are usually added to these four for special purposes at the different stages of mammalian development: lust, care and play. These systems are neither associated conscious feelings nor simply independent brain locations but rather, they are specific connections. "Fear" and "seeking" are the emotions whose systems have been studied in greatest detail due to their strong influence on, and relationship with, cognitive processes, and their ease of study in mammals. Nevertheless, while these circuits are maintained in all mammals studied and most researchers believe that the results can be extrapolated to humans, this remains to be confirmed.

The most interesting research findings concerning "fear" in the context of this paper are as follows. First of all, there are two routes of neuronal transmission in this system (LeDoux 1996): a "low road", which transmits

the signals received in the thalamus to the amygdala directly; and a "high road" between the thalamus and the amygdala which passes through the cortex. The "low road" permits fast, unconscious yet crude emotional responses (including "blind" responses, such as in "affective blindsight"). The "high road" permits responses through conscious and complex emotions, and with the intervention of cognitive content of a social, cultural, personal nature. The second area of interesting research findings (this time from human beings) concerns the latter, in other words the intervention or interaction between emotions and cognitive content or processes (Phelps and LeDoux 2005). This interaction has been studied with some success in five areas: the interaction of emotions with learning and memory modelling (especially between the amygdala and the hippocampus); perception (especially between the amygdala and the visual cortex); social behaviour (especially between the amygdala and the process of recognising emotional characteristics in faces); and manipulating emotions. The area of manipulating emotions is the most complex and yet the most promising. It covers the range from fear-extinction processes (regulating the receptors in the amygdala), to the possible reversion of emotional conditioning responsible for traumas of irrational fears, the reconsolidation of memories (inhibiting the synthesis of certain proteins) and even the cognitive re-assessment and reinterpretation of emotions (where the influence of the cortex is greater, altering both the subjective experience and the amygdala physiological response).

"Seeking" is the appetitive system which makes mammals curious and provokes in them behaviour required to achieve an objective. This is why "seeking" has also been called the reward mechanism. It contains three interlinked but subjectively and neurologically distinct elements: the hedonic sensation of "liking"; the learning of rewards; and the "wanting" directed towards the main incentive. The latter is a genuine tendency and depends fundamentally on the mesolimbic dopamine system rather than on the amygdala. Increasing dopamine by any method, as can be achieved with drugs, can modify this tendential mechanism. Thus, as before, the interaction of this subcortical process with cognitive cortical processes is

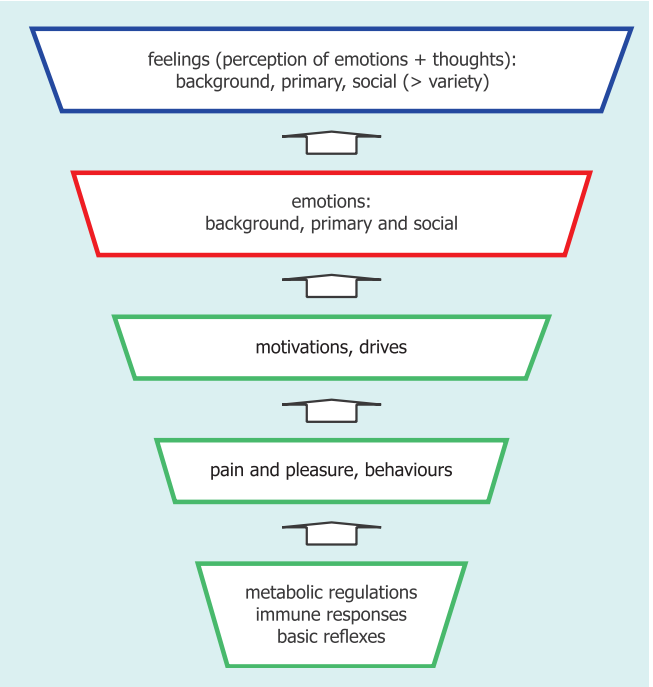
also possible. Hence, the perception of signs that predict the activity of drugs stimulates the dopamine system, which in turn affects the attention to those stimuli most related to the drug.

3. Neurobiological and phenomenological perspective

As indicated above, the neurobiological description tends to adopt a perspective of external observation that is scientifically more verifiable than the subjective experience (internal perception in phenomenological terms). However, the subjective experience is also real. Damasio attempted to describe subjective experiences such as perception or awareness of emotional physiological responses scientifically (Damasio 2003). For this, he has drawn up neural maps to represent the brain areas that are active during different emotional states [it is debatable whether these maps, and therefore these feelings, are exclusive to humans or if they are also shared by other mammals (Panksepp 2005)]. The maps would therefore represent the correlates of different emotional feelings (Damasio et al. 2000). Influenced by the neurobiological method, Damasio tends to restrict the field of subjective sentimental experiences such that they find a neurological origin and correlate (Figure 5). Thus, he talks of three types of emotions arising from physiological needs (primary or basic emotions, background emotions and social emotions). These emotions are the neuronal result of these physiological processes. The feelings are the awareness or "perception of a certain state of the body along with the perception of a certain mode of thinking and of thoughts with certain themes" (Damasio 2003). The variety of methods of thinking and themes explains the variety of feelings (maintaining the three main classes of emotions), although they are subsequent to, and always dependent on, emotions as a neuronal output aimed at a physiological balance.

By contrast, and as discussed above, the phenomenological perspective allows Scheler to distinguish the classes of emotions or feelings (although it makes little sense to differentiate them here). These distinctions, both those guided by the intentionality and those that reveal the deep psychic

Figure 5



strata, are intrinsic and do not depend on the physiological state of the body, and they only become evident by considering the subjective emotional experience. This mode of experience is no less real but rather, only these distinctions allow us to understand psychiatric disorders (Harrison and Critchley 2007).

Furthermore, these contrasting methodological perspectives not only affect the respective classification and understanding of the emotional experiences but also, the interactive processes between the emotional and cognitive components. In other words, the different perspectives reveal the nature of this interaction in a different manner. This can be illustrated by the following example. Neuroscience explains how pain or fear can be inhibited, for example by distraction or hypnosis, or how an emotion can be

reinterpreted and reassessed cognitively (Price et al. 2006). In these cases, the awareness or meaning experienced mentally disappears or replaces a prior subjective state. In contrast, when phenomenology describes reinterpretations or reassessments it indicates that some (deeper) feelings give sense or meaning to others (less deep). This is why the same pain can be experienced in many different ways. However, one feeling does not replace another here —both are maintained— but one intentionally influences the other. The phenomenological difference of depth strata and meaning does not strictly speaking possess a biological correlate. These experiences can only be captured from the paradigm of intentional meaning, and only phenomenology is capable of adopting this perspective.

Conclusion

Neuroscience of the emotional life is developing with the aim of offering a broad framework that goes beyond the limits of the specific disciplines established to date. It is vital that this field develops with sufficient breadth to cover all the information concerning human emotional life, including subjective experiences. As such, neuroscience of the emotional life should overcome the classical paradigm of the neurobiology of emotion by taking on board other disciplines and viewpoints, especially phenomenology.

Current neurobiological and phenomenological research paradigms are in some ways still quite irreconcilable (Damasio 2004; Gazzaniga 2011; Lombo and Giménez-Amaya 2013, 117–118). In other words we still do not have a parallelism between both research methodologies or their paradigms and correlative frameworks. This makes dialogue difficult, although it should nevertheless be attempted. However, if neuroscience of the emotional life wants to be true to its study object, namely human emotional life, it cannot concentrate solely on the biological expression of the nervous system (Murillo 2011). Similarly, phenomenology, which aims to give a true description of reality, should also take into account the ever-increasing amount of data from neuroscience. This mutual enrichment appears especially promising for psychiatry for both understanding its object and

its therapeutic methods (Spiegelberg 1972; Potter 1997; Giménez-Amaya and Sánchez-Migallón 2010).

Specifically, the fact not only of the different types of emotions and feelings, and especially the unique relationships between them (the interaction between emotional states and intentional emotions, and the foundation of meaning between feelings from strata of various depths), requires and offers fertile ground for collaboration between neuroscientists, psychologists, psychiatrists and philosophers. Neuroscience of the emotional life should therefore seek collaborations with other branches of science and other viewpoints (Fuchs 2004), specifically between neuroscientific and phenomenological points of view, in order not to forget that we are treating people and not just brains, as can clearly be seen in the field of psychiatry (Fuchs 2006).

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