E. Barile

MINDING DAMASIO

Deux ou trois choses que je sais de lui

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In kind remembrance of P. Goldie,
as kind as he was

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Acknowledgements

The Italian language employs the word '*opera*' as a synonym for 'book' as well as other artworks. '*Opera*' (from the latin '*opus, operis*') is an etymologically *plural* word, and indeed, a book is often the outcome of a collective work, even when it carries a single person's signature. That's why I wish to thank several people here: the numerous anonymous editors who helped me in discussing, correcting and editing the final texts, particularly Vito, but also A. Cazzaniga, C. Crevenna, M. Pigazzini, I. Vassena, G. Versace, who I'm especially indebted to, and also my parents, my sister Giusi and Alessio, Daniela, Maurizio, my friends, for supporting me, particularly during this period of my life. This research also received financial support from the Italian Education Institution.

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Foreword

The collected essays presented here have already been published at different times, in several scientific journals, as individual papers. Aside from some necessary linguistic revisions, their content remains almost unchanged. I republish these papers starting from the most recent, and I ask the reader to consider any repetition or elaboration on the key topics in them as they are organized in this collection.

Introduction

The next challenge for humankind, as is often said, is the exploration of the last frontier of the universe; our human brain and its intimate relationship with ourselves. This exploration leads to the confrontation of two worlds, believed to be completely separate. In Galileo's time, it was assumed that there were two worlds: a sublunary world, transient and material, and an ethereal world of perfect celestial bodies. They were regarded as totally different. First Galileo and then Newton unified the cosmos under the same physics. Nowadays, we face a similar challenge, attempting to unify two worlds thus far separated by an abyss, considered equally unbridgeable: the internal, 'subjective' world (the '*res cogitans*') and the external, 'objective' world (the '*res extensa*' of Descartes). Moving beyond the gap between the sentient and thinking matter and the matter of the simple inert bodies has been unnecessarily delayed by the reluctance of scientists and philosophers to accept the obvious differences between a stone and a sentient brain, as well as by their relative ignorance of the neuroscience relevant to the mind-body problem.

Since the mid-nineteenth century, the chapter of Electromagnetism (electrochemistry included) was added to the chapter of the physics of Mechanics. Electrochemistry is clearly the right chapter of physics to describe brain mechanisms, including those associated with consciousness. We are still waiting for a Galileo of the physics of the mind. However, over the past decades several neuroscientists have started to fill this gap and regard consciousness as a scientific problem. Until then, consciousness was an object of research only for philosophers and a plethora of psychologists from several different

schools, never unified under a consistent theory of mind. Among the neuroscientists dealing with consciousness we encounter Antonio Damasio: his writings, based on clinical and experimental studies, are valuable in dealing with issues previously exclusive to the domain of philosophy or of different psychological theories, while exploring fertile fields within the modern scientific culture. However, his work was not always sufficiently rigorous from the point of view of philosophers. He failed to convince them of his theoretical proposals, which aimed to reinterpret from a biological perspective concepts and themes with millennia of philosophical tradition behind them. Thus the gap between the brain as a thinking machine, entity of the rational intelligence, and the brain as simple biological machine connected to a body remained unbridged.

In recent decades, the idea of a 'bodily' brain – as an extension of the self, 'embodied' rather than split and regarded simply as pure intellect – began to take shape. Damasio and others started to suggest that between brain and body, apparently infinitely distant, there are intermediate brain processes, such as *feeling*. 'Background emotions', as Damasio and others theorize, can be easily incorporated within modern neuroscience, because of their physiological and even bodily traits. *Feelings*, on the other hand, are not so easily recognizable in neuroscience, since they have often been interpreted primarily as 'non-bodily' phenomena. Damasio discusses these issues, but he often puzzles his readers. As often happens to some scientists attempting to bridge different disciplines with their proposals, he lacks some clarity according to readers and researchers coming from a philosophical perspective, accustomed to be always careful in defining terms and concepts. That's why we (often) need researchers that help readers and other researchers to simplify and understand how and where 'transcultural' authors such as Damasio play an important role in modern thought.

For a young philosopher, coming from a broader research field of the cognitive sciences, entering the world of neuroscience is a courageous choice. Considering the many books on mind and brain or on mind and body already published, adding a collection of essays on one of their authors would appear hazardous. E. Barile, however, had no hesitation from the very beginning. Her passion for neuroscience and her deep knowledge of the associated theoretical problems,

makes her the ideal candidate to be our interpreter of the complex and sometimes vague thinking of a contemporary neuroscientist, a neuroscientist with philosophical ambitions but sometimes lacking in the necessary philosophical depth. Barile not only clarifies much of Damasio's work and proposals. She also raises independently very up-to-date issues, obliging the reader to go back over his own steps in order to clarify concepts and ideas far too easily accepted. Her strategy to undertake first a linguistic analysis, in the tradition of neopositivism, seems to me a first-rate approach in a research field where the clarity of language must precede any new theoretical proposal.

In the essay *What does it mean to* 'feel' *something?,* E. Barile confronts the problem of «attempting a *taxonomy of the affective life* (…) through a systematic criticism of the current neuroscience language». The distinction that she makes between 'public' and 'private' reveals a clear gap, which often appears in the literature as an insurmountable distinction between 'subjective' and 'public'. In fact, one can regard this gap as the result of privileging the 'afferent' side, which is internal and *private*, rather than the 'efferent', i.e. the motor side, realized «*through posture and facial expression*» – therefore, *public*. The idea of the nervous system as a physical system based on electrochemistry, connected to the kinetic world in order to build a functional sensory-motor 'ring', can help the readers to recognize aspects that are seemingly opposite. Barile describes convincingly the development of *feelings* at different levels, by means of the art representation of many painters, who are easily able to capture moods. To the «*dominant logocentric view*» she opposes the often-ignored bodily features of emotions and *feelings*. In my view, her question «*can we consider 'feeling' a 'high' level state only?*» implies another concept: that of the different levels of neural rings that compose our nervous system. In particular I refer to those higher 'rings' which underlie our subjective experiences, rings which are further away from the external world and thus from efferent (motor) public responses, although still connected to the world by afferent and efferent pathways.

All of this raises the question as to «whether a neocortical basis is really warranted to 'feel' something or whether 'feeling' is rooted in the body more than we suspected». Of course, the problem Barile

sets as to whether «states such as 'background feelings' 'emerge' from all bodily feedbacks received» remains unresolved, because it is not really clear yet whether patients who do not receive such feedback, because of sensory injuries, have fewer 'background feelings'. Barile gets to the bottom of the matter, recalling previous authors who have recognized the many levels at which different experiences develop, from the primordial biological "proto-self" to the higher levels of self-awareness and awareness of the world, that is our 'being-in-the-world'. In her essays, she then continues to explore the 'phenomenological' dimension of feelings, which she describes as founded on corporeity rather than on emotion or intentionality, following Damasio rather than Gallagher. Perhaps we will get a clarification of these problems when the attentive readers of these collected essays also wish to reconsider the traditional classification of 'esteroception', 'proprioception' and 'interoception': these concepts, as a matter of fact, are still grounded mostly on anatomy, and not yet fully supported by appropriate neuroscientific experiments.

Hence, when asked: «*what does it mean, in general, 'feeling' anything?*», we can now answer with Barile that we need a deeper commitment to conceptual clarity and acknowledgment from modern neuroscience of «*the common bodily root of the 'felt' states*».

She herself started this process with us in the following essays.

Marcello Costa

Matthew Flinders Distinguished Professor and
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Odi et amo. Damasio and philosophy

During one of the banquets that frequently enliven some philosophers' evenings, being as they are convinced singers of the «*praise of the aware hangover*»[1], one of the more curious diners asked me why, in the end, I was so critical towards Damasio. Even as a philosopher, in fact, he found the neuroscientist's topics intriguing, his writing lovely, his ability to engage the reader in his personal research path intact, where there is no gap between research and life, but everything is a kind of discovery and research itself *is* life, the absence of which is an irrepressible regret for those who must work for a living instead.

After more than twelve years as an assiduous follower of his researches, I realize that my relationship with Damasio and those "two or three things I know about him" is, in effect, a love/hate relationship. It's like a 'crubber' wife: after several years spent together, she becomes hyper-critical towards her husband, not because she isn't still in love with him, but because watching him so closely she has come to know his faults intimately and, in the end, to love them too. That's why, before proposing to the usual *twenty-five readers*[2] a carousel of essays often showing little lenience towards Damasio, I'll allow myself to make an open avowal of love: my wish is to inspire

[1] This is the English translation of the title of a quite famous Italian book, recently published, entitled *Elogio della sbronza consapevole*, by Remmert - Ragagnin, Marsilio 2012.

[2] This expression is very popular in Italy, since it refers to famous novelist A. Manzoni's phrase in *The Bethroded.* It means literally 'to few readers', but it is used ironically, since the readers are supposed to be not so few.

you to read his *Self comes to Mind*, especially if you missed his previous books and if you haven't been a fan of Damasio since the very beginning with his *Descartes' Error*.

After more than thirty years of study and clinical activity in the field of mind and consciousness – years of Pirandellian experience with brain-injured patients – Damasio confesses to the reader from the very beginning that he has written a new book because he wants to «start over». He is simply «dissatisfied» with the theoretical explanations he has provided over these last decades. With intellectual honesty, above all with himself, he has realized this little by little, by deepening more and more his key topics: emotions and their relationship with 'reason', the kinds of mind*s* and the *multiple layers* of 'consciousness' (all grounded in the body), the decision-making process and the role of the 'somatic marker', the critiques against classic cognitivism and the mind/computer analogy, the option for an irreducibly biological modeling of the 'mental', the emergence of mind and 'self', the reinterpretation of fundamental European philosophers' concepts and questions, reconsidered in the light of the current neurophysiological knowledge, the *j'accuse* – a bit *naïve*, perhaps, because historically decontextualized – regarding Descartes' so-called '*error*'; the list could go on and on.

Despite unanimous recognition in the field of neuroscience, where the name of Damasio is inextricably linked to the discovery of the "somatic marker" – an acquisition, nowadays, in the neurophysiology of decisions – Antonio didn't achieve the same success with the public of philosophers, though he loved and hated some of them in particular. Giants, on whose shoulders he knew he had to stand in order to look beyond the disciplinary boundaries, that are always too strict for every kind of research, but even more so for the research on the mystery of the sentient and thinking body we ourselves are. Driven by the neophyte's enthusiasm, he even betrayed his Hannah, companion in research and in life, in order to enjoy a senile love for Sophia, with all the passion and the awkwardness of the case. For each new publication of his, going beyond the specialism necessary for any serious disciplinary field that might achieve progresses, Damasio invoked his tutelary deities among philosophers, so rousing conflicting reactions: enthusiastic receptions, at first, and increasingly perplexed ones, later on.

First of all, Descartes: against him, this David dared to cast the stone of scandal for the fatal 'mistake' of dualism. You have to be very brave in order to challenge somebody like Descartes: you must have breathed for decades the hospitable air of a young enough culture and you must be equipped, let's say it openly, with a certain personal deal of foolhardiness. On their side, the Vestals of the Cartesian orthodoxy responded to his challenge, railing against Damasio's *own* mistakes: they complained, with a bit of haughtiness and some irritation for this rash juvenile assault, weaved to profane the cathedrals of European philosophy. Other critics, more kindly, made him aware that, *malgré lui*, Damasio was even an unaware epigone of the 'not very beautiful' René[3]: the philosopher, in fact, seems to have made fun of him too a few centuries in advance, by means of the dissimulating art of 'writing with masks'. It seems that Descartes himself, in fact, already recognized the *sentient* nature of thought and the originary intertwining between *emotion* and '*reason*'.

After this first hand-to-hand tussle with philosophy, Damasio has been inspired by another philosopher, a Portuguese like him, this time, B. Spinoza – who was just in 'transit' in Portugal: the philosopher's concept of «*affectus*», in fact, seemed to have such resemblence to his «*feeling*», a concept puzzling Damasio's translators so much. In the Italian language, for example, it is hard to accurately translate this term as 'sentiment' [sentimento]. 'Sentiment', in fact, is a too 'high' level state: it cannot comprise in itself the whole spectrum of 'feeling' (in Italian, I would rather translate it as '*sentire*'), so to include both the lowest regulatory mechanisms of the body – such as pain, itches, hunger or desires – and something apparently so different as knowledge, but which is, in the end, a kind of desire, hunger, itching, pain itself.

In Spinoza's «*conatus*» Damasio seemed to grasp the intuition of that instinct to survive 'driving' all biological beings to struggle for life with no holds barred. Moreover, Spinoza's «*laetitia*» and «*tristitia*» seemed the possible translation in the current language of neuroscience of nothing but the basic states of pleasure and pain at the up-

[3] The 'beautiful René' [*il bel Renè*] refers to Renato Vallanzasca, the notorious Italian mobster from Milan who was a powerful figure in the Milanese underworld during the 1970s.

per levels of complexity. Pain and pleasure, in fact, are the fundamental 'values' by which, in the end, each being condemned to survive makes his 'choices'.

In this *ex post* confrontation with the European *maître à penser*, Damasio always started with the lesser philosopher, C. Darwin. He is, in fact, in good company: in order to attempt an explanation of the 'mental' dimension in terms of the general theory of evolution, other neuroscientists, such as G.M. Edelman, J.P. Changeux and J. LeDoux, for example, have endorsed the same Neo-Darwinian perspective. All of them are strong supporters of an irreducibly biological model, against any – more or less 'strong' – AI model of the mind.

Among all of the titans Damasio has confronted, another tutelary deity of his stands solitary: the inexhaustible W. James, the 'borderline' between pragmatism and biological functionalism. His operational definition of mind as a «process» and not as a «substance», the now standard theory of emotion, parallel to Lange's, according to which we still feel as counter-intuitive the idea that 'we do not cry because we are sad, but we are sad because we cry', has convinced more than one overseas neuroscientist to follow in James' footsteps, in order to continue on his research path.

Even in his latest book Damasio again fascinates his readers, leading them by the hand and explaining how the language of neurophysiology can now begin to propose a translation, even if an approximate one, of what we all experience as a friendship, a painting, a melody, a face, an interjection. As philosophers well know, the most important parts of a text are usually in the footnotes: to his most curious readers, following Damasio's reasoning up to the side of the text, the neuroscientist offers amusing anecdotes and enlightening quotes, like that of S. Sutherland, a caustic British psychologist famous for his brilliant descriptions. From Sutherland's *International Dictionary of Psychology*, for example, Damasio directs the attention of the reader to the witty definition: «a form of mental illness not yet recognized by any of the standard diagnostic manuals». The entry is: «love».

This is what 'I know about him', he who has the charm of a storyteller even with his unbearable faults, and this and something else Damasio gives to the reader dissatisfied by the philosophical or the available psychological theories' explanations. He who allows him-

self to be lead by the hand by a neurophysiologist, who is also as good a writer as a novelist, discovers the gracefulness with which you can penetrate even the labyrinth, a little less mysterious today, of our brain: another neuroscientist-poet defined it as the «enchanted loom». With no less surprise, along the way, we will run into the traps induced by another, no less detrimental, *dualism*: the neuroscientific dualism between *body* and *brain*, another of the *-isms* Damasio, with no less daring, contributed to refute, challenging also many colleagues, supporters of a real contemporary 'mystique of the brain'.

1. Damasio today[1]

1.1. Starting over

The more pretentious philosophers generally consider 'changing one's own mind' to be a weakness – or, at the very least, an indicator of insufficient accuracy in the original formulation of one's ideas. H. Putnam[2] knows it very well, with the haughtier of his colleagues using him as a not exactly flattering example of this 'defect'. In response, and as the foremost critic of himself, Putnam has claimed, instead, 'changing his own mind' as a right: he sees it not as a weakness of thought, but as an indication of intellectual honesty with both himself and his readers. He believes, in fact, that it is necessary for the progress of knowledge, even to the detriment of his 'reputation' amongst his peers. With much less regard, A. Damasio defends this right of 'changing his own mind', and he openly confesses to the reader, from the very beginning of his *Self Comes to Mind*, that he has revised the already advanced explanations for some of his core topics, namely, the plural definition of 'consciousness', the classification of emotional states (mainly in bodily terms), the 'feeling' and so on.

«Starting over» is Damasio's programmatic intent, because, he

[1] Already published as *Damasio oggi*, in E. Barile, *Pensare Damasio. Due o tre cose che so di lui*, FrancoAngeli, Milano 2013.

[2] As is well known in philosophy of mind circles, Putnam has radically changed his view several times, particularly on functionalism. He can be considered one of the greatest theorists in this field, with the formulation of the so-called principle of 'multiple realizations'. After repeatedly revising his view of this, Putnam finally managed to radically change his position.

claims, «I have grown dissatisfied with my account of the problem»[3]. 'Changing one's own mind' is, in fact, quite essential to scientific thought, burdening itself with the 'effort' of the trial. Moreover, this approach follows the pace of increasingly pressing daily advances in neuroscientific findings. The increasingly refined techniques of *imaging*, helping to make these discoveries possible, allow us to view and localize in 'technicolor' what happens in the «gray and soggy» mass of our brain: fascinating images, that might otherwise remain mute or, philosophically, 'blind', without concepts[4].

With particular regards to the definition of the galaxy 'consciousness', in recent decades neuroscientists have learned (from more frequent and less disdainful reference to the philosophers) to sharpen their sensitivity – or simply to adopt a more wisely cautious habit – regarding terminology issues. Damasio too is fully aware that words like "mind" or "consciousness" refer only apparently to 'obviousnesses', given by the immediate experience everybody has through himself and which is mostly mediated through others. Upon closer inspection, indeed, you realize that you need to handle these terms with extreme caution, if you do not want to let them implode into a conceptual obscurity.

(…) I realize that the study of consciousness has expanded so much that it is no longer possible to do justice to all contributions being made to it. That, along with issues of terminology and perspective, make current work on consciousness resemble a walk through a minefield.

(…) The goal of this book is to reflect on the conjectures and discuss a framework of hypotheses. The focus is on how the human brain needs to be structured and how it needs to operate in order for conscious minds to emerge[5].

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[3] A. Damasio, *Self comes to Mind. Constructing the conscious brain*, Pantheon Books, New York 2010, p. 6.

[4] Among the other critical papers about the explanative claims on neuroimaging-based approaches, cfr. D.P. McCabe - A.D. Castel, *Seeing is believing: The effect of brain images on judgments of scientific reasoning*, in «Cognition», 107 (2008), pp. 343-352, and D.S. Weisberg, F.C., Keil, J. Goodstein, E. Rawson, J.R. Gray, *The seductive allure of neuroscience explanations*, in «Journal of Cognitive Neuroscience», 2008, pp. 470-477; D.P. McCabe, A.D. Castel, M.G. Rhodes, *The influence of fMRI lie detection evidence on juror decision making*, in «Behav. Sci. Law», 29 (2011), pp. 566-577.

[5] A.R. Damasio, *Op. cit*., p. 6.

So, Damasio does not directly provide another definition of consciousness. Instead, he tries to rebuild the existing definition, always in James's terms of «process» and «function». Without following a 'misterianist' position, the neuroscientist approaches the 'mystery' of our existence with more optimism; he hopes this mystery will begin, at least, to unravel through the separation of the *multiple levels of organization* of the "matter of the mind" it emerges from. In his latest book, Damasio particularly focuses on the impersonal diction 'self', as opposed to 'I'[6] – philosophically more compromising – as a way of 'saying' consciousness (at least for the most basic levels). However, the diction 'self' retains the same *unifying* function: a structure remaining *stable* and *identical* in *time*, despite the changes. At a higher complexity level, this is what we refer to when we think of *personal identity*, in its uniqueness. However, personal identity too consists of many levels, matching the many facets of 'consciousness'. The 'self' is the most fundamental and foundational level, rooted in biology and engaged in the constant tightrope walk of the homeostatic balance allowing life.

The title, *Self Comes to Mind*, programmatically introduces a separation between 'self' and 'mind', in the footsteps of the anticartesianism implicit in the divorce between 'mind' and 'consciousness': compared to the existing material organization frame identified as 'mind', in fact, the structure he calls 'self', at different levels of organization and thus of complexity, comes to *knowledge* only later on. Damasio tries to describe the evolutionary steps, through the organizations in the later levels, so that, starting from the appearance of a first organizational structure with the typical unifying function of 'self', we finally reach the capacity to 'think' about it through a 'mind': thanks to the mind, the 'self' becomes an object for knowledge, allowing the deployment of full consciousness and of selfconsciousness: «conscious minds begin when self comes to mind,

[6] Damasio does not embrace even the extreme, originarily Humean position, completely denying the existence of a unifying dimension, as in T. Metzinger, *The Ego Tunnel. The science of the mind and the myth of the self*, Basic Books, New York 2009 and Id., *Being No One. The self-model theory of subjectivity*, The MIT Press, Cambridge (MA) 2003. Following the Jamesian tradition, Damasio considers the 'self' as a *process*, at different degrees, starting from a neural, biological structure, and not as a '*quid*' or a substance.

when brains add a self process to the mind mix, modestly at first but quite robustly later. The self is built in distinct steps grounded on the *protoself*»[7].

The neuroscientist often lingers on emphasizing the inescapable 'plural' use of the term 'consciousness' or 'self', and not on account of a purely nominalist mannerism. We should always be more accustomed to speak, in fact, of *levels* or *plural states* of 'consciousness': from the essential biological configuration he calls 'self' – distinguishable, on its side, in "protoself" and "core self" (which will be discussed more extensively in the following paragraph) – to the different kinds of '*awareness*', or '*consciousness*' *stricto sensu*. N. Block had canonically distinguished consciousness by then as «access consciousness» – the *contents* of consciousness – and «phenomenal consciousness»[8] – including the personal perspective and the «what it is like…» of the Nagelian bat, nowadays almost as famous among philosophers as the more established *Noctua*. In considering the bodily and action dimensions of consciousness, it is also possible to distinguish between *agency*[9] – the bodily awareness of being the *author* of a motor act – and *ownership*[10] – the awareness of being the *owner* of the body, on which a movement *independent* from one's will might be exercised, a movement he is not himself the *author* of. Furthermore, we might understand consciousness as 'wakefulness', or the «minimal conscious state»[11], as in vegetative state patients able to access the full light of consciousness. Indeed, the list of possible levels of complexity states of consciousness could be continued, without ever being considered exhaustive or definitive.

«*Is it reasonable to devote a book to the question of how brains*

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[7] A.R. Damasio, *Self Comes to Mind*, cit., p. 22.

[8] N. Block, *Begging the question against phenomenal consciousness*, in *The Nature of Consciousness*, ed. by N. Block *et al.*, The MIT Press, Cambridge (MA) 1997, pp. 175-180.

[9] See M. Tsakiris, S. Schütz-Bosbach & S. Gallagher, *On agency and body-ownership: Phenomenological and neurocognitive reflections,* in «Consciousness & Cognition», 16, 3 (2007), pp. 645-660.

[10] See S. Gallagher - D. Zahavi, *The Phenomenological Mind,* Routledge, London-New York 2008.

[11] J.T. Giacino, S. Ashwal, N. Childs *et al.*, *The minimally conscious state: Definition and diagnostic criteria*, in «Neurology», 58 (2002), pp. 349-353.

make conscious minds?»[12] Given the state of research even on the multiple definitions of 'consciousness', Damasio himself is asking this question, awaiting the arrows of his critics and swelling their ranks as his investigations get deeper.

Why a new book, then? In order to introduce *new* facts and considerations: from his previous theoretical path, the neuroscientist preserves the inheritance of the search for a neural basis that, however, turns out to be not only the brain, but the entire *encephalon*. The main novelty justifying a further book concerns the recent recognition of the fundamental role of the *brain stem*, a brain structure that is not part of the more 'noble' neocortex, the youngest flower of evolution, that neuroscientific research mostly focuses on nowadays. A transit area for all signals, coming from and going to *the rest of the body*, the *medulla* is a primitive structure – the brain stem at the base of the skull – responsible for the regulation of vegetative states and governing survival. Therefore, Damasio does not consider the cortex or the brain on their own, but the entire *encephalon*, particularly the most primitive structures, shared by less evolved species, with all the anti-anthropocentric and the anti-logocentric consequences which this position entails. Far from supporting a real 'mystique of the brain', a position that informs much of the contemporary research in neuroscience, Damasio follows other paths, leading more directly to the roots of the *living* body, always searching for "the matter of the mind".

Our inability to read other people's thoughts, the vexation of 'mind reading', makes us look at mind as made of qualitatively 'different' matter. The privileged access to one's own mind in 'first person', the structural personal point of view of conscious experience, at least for living beings, makes the process of 'objectification' difficult – or, more realistically, the intersubjective crosscheck – typically required by the 'third person' perspective that is structural to 'science'. Nowadays, as G. Edelman points out, the problem is not whether mind comes from matter, but *how it does so*. Furthermore, what kind of 'matter'? The brain? The whole *encephalon*? The rest of the body connected to the brain? Which anatomical and functional structures match the identification of different levels of 'consciousness' that we

[12] A. Damasio, *Op. cit*., p. 28.

have pointed out, in a summary that is so certainly incomplete?

Though in the vein of the biology of consciousness, Damasio is philosophically opposed to a simplistic eliminative materialism that considers mind and consciousness as if they have never existed and underestimates the fact that they appeared at some point in evolution, as 'new' properties, emerging from the organization of the same material structure of the living being. Damasio always noted that the anti-Cartesian move of separating 'consciousness' and 'mind' leaves scope for the claims of the more or less 'strong' Artificial Intelligence explanatory programs, and for implementations that share little with biological effort, totally dedicated to survival and therefore under the general laws of the theory of evolution by natural selection. The ingredient we cannot do without – but that a classic cognitive modeling *lacks* – is, in fact, the *affective* feature, which is always a prior perspective to the 'mental' dimension: this view is against the logocentric and equivocally 'rationalist' perspective on thinking, still dominant nowadays.

Even on this issue, Damasio provides an important update, further enriching the already problematic taxonomy of affective states. This includes emotions, essential components of what we call 'reason'. From here, he introduces a *new* theoretical level in the taxonomy of the affective states, the «primordial feeling». This is just the latest of his coinages of definitions and concepts; driven by the passion for the search of the roots of the conscious being and the affective-emotional dimension, he tries to find the biological basis in structures deputed to homeostasis and contributing, therefore, to the maintenance of life. After the introduction of the problematic concept of «background emotions»[13] and of «background feeling»[14], Damasio adds another layer, directly emerging from the processes regulating the body's vital states. In the wake of the concept of «early feelings», already introduced by his colleague and fellow J. Panksepp[15], in his latest book Damasio proposes a level of affective stratification named «primordial feeling»:

[13] Introduced by A.R. Damasio already in [1994] *Descartes' Error*, cit.

[14] Mainly developed in Id. [1999], *The Feeling of What Happens*, cit.

[15] J. Panksepp, *Affective Neuroscience, The foundation of human and animal emotions*, Oxford University Press, New York 1998.

this fundamental feeling, which I had not deemed necessary to note in earlier approaches to this problem, I now introduce as a critical element of the self process. I call it primordial feeling, and I note that it has a definite quality, a valence, somewhere along the pleasure-to-pain range. It is the primitive behind all feelings of emotion and therefore is the basis of all feelings caused by interactions between objects and organism. As we shall see, primordial feelings are produced by the protoself[16].

This affective dimension, intrinsically linked to the development of the basic homeostatic processes making life possible, allows the perception of a ground state of stability and continuity that is primarily biological: all the states of awareness and the further levels of affective stratification follow from this. Compared to the conceptualization of the feeling dimension as distinguished from the emotions developed in his previous works (cfr. Damasio 1994), and the definition of feeling like «*the feeling of what happens*», understood as a structural relationship between the organism and the objects of the world (Damasio 1999), the neuroscientist delves even deeper here. He traces in the *proto-self*, where primordial feeling comes from, the core of the affective dimension, *preceding* the same relationship with the world, and which is based on the maintenance of the basic homeostatic parameters. I refer the reader to paragraph 1.3 for an analytical treatment of this conceptual innovation, developed from J. Panksepp's theory although differing from it in a number of important ways.

Last but not least, Damasio reports the first results of his research program of the past few years, conducted in collaboration with M. Solms, known as *neuropsychoanalysis*[17]. This movement or research

[16] A.R. Damasio, *Self Comes to Mind,* cit., p. 185.

[17] Created in 1993/99 at the Psychoanalytic Institute of New York under the direction of M. Solms, the outcomes of this research program are attested to by publications such as K. Kaplan-Solms - M. Solms, *Clinical Studies in Neuro-Psychoanalysis*, Karnac Karnac, London 2002. The 2010 edition is actually the *11th international Congress of neuropsychoanalysis*, held at the University of Washington and, always in the same year, the conference *Psychoanalysis and neuroscience ten years later*, held at 'The Philoctetes Centre for the multidisciplinary study on the imagination', dated on 2nd October 2010 (see: http://philoctetes.org/past_programs/psychoanalysis_and_neuroscience_ten_years_later (28 april 2013), among whose participants were Cristina Alberini, Heather

line – first founded by M. Solms and J. Panksepp – aims to continue one of the *suspicious masters*' starting research programs. From his early years as a neurologist, S. Freud conceived of a project for providing a neurophysiological description of mental phenomena; disappointed in this attempt, he invented psychoanalysis. In an attempt to identify the neural basis of psychoanalytic constructs, in particular of the *Es*, Damasio engages in this research program in Part II, '*The unconscious*', referring especially to the structure called *proto-self*, in order to anchor a possible neurophysiological description of Freudian topics.

The 'neuropsychoanalysis' general research program still investigates the relationship between neuroscience and psychoanalysis today, addressing issues such as the nature of unconscious mental processes, psychic causality and the relationship with psychopathology, the role of early experiences (e.g. 'attachment') as predisposing factors to mental illness, the correlation between preconscious/unconscious and the prefrontal cortex, sexual orientation, psychotherapy and structural changes in the brain, the role of psychopharmacology as a complement to psychoanalysis, and so on. Regarding the inverse relationship between psychoanalysis and neuroscience, neuropsychoanalysis focuses on areas such as the modifications at the level of neural configurations produced by the analysis, through the behavioural changes induced by the awareness gained from the analysis itself[18]. This research program, with its subsequently harsh critiques – including Semenza's[19] "justificationism" and the now canonical "neuro-mania"[20] – and Damasio's part in it are themes too large for this essay and require an additional paper. Here I want

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Berlin, Vittorio Gallese, Donald Pfaff, Mark Solms, Robert Mitchels.

[18] See M. Mancia, *Psicoanalisi e neuroscienze,* Springer-Verlag Italia, Milano 2007; S. Merciai, *Psicoanalisi nelle terre di confine,* R. Cortina, Milano 2009; G. Moccia – L. Solano Eds., *Psicoanalisi e neuroscienzeRisonanze interdisciplinari*, FrancoAngeli, Milano 2009.

[19] See C. Semenza, M.V. Costantini, F. Mariani, *Memorie, cognitivismo e psicoanalisi*, in «Psiche», 7 (2000), pp. 209-20 and C. Semenza, *Neuropsicoanalisi. Il sogno di Freud fatto realtà?* in «Giornale italiano di psicologia», 1 (2010), pp. 19-30.

[20] See also P. Legrenzi – C. Umiltà, *Neuro-mania. Il cervello non spiega chi siamo,* Il Mulino, Bologna 2009.

only to indicate the generally accepted contemporary consensus Damasio starts from in order to propose his neurophysiological description, in particular, of what is meant by "*Es*" or "Unconscious", however it has been understood by the different psychoanalytical theories, since the original Freudian formulation.

In the following paragraphs we will focus more on the other main theoretical innovations introduced in *Self Comes to Mind*: particularly, the reclassification of the levels of consciousness, starting from 'self', and the introduction of the problematic and unorthodox concept of "primordial feeling" in the grounding affective dimension mind is constantly marked by, in particular the *conscious* mind, when «*self comes to mind*».

1.2. The body and its 'selves'

In the light of new discoveries, new facts and scientific observations that have renewed his research program, in his latest book Damasio applies himself to a real rethinking of the taxonomy, proposed in previous works, of the multiple levels of consciousness, characterized mainly in terms of «*core self*» and «*extended self*». That distinction echoed more directly the subdivision between «*primary consciousness*» and «*higher order consciousness*» by G.M. Edelman[21], Damasio's companion in the attempt to distinguish the different states of consciousness on an irreducibly *biological* basis. This time, Damasio goes deeper into the minefield of the definition of consciousness, but not by engaging in combat with the giants of European philosophy, nor focusing on the emotional and affective dimension in general. He starts from the stratification of the 'self', that is nothing but one of the ways to 'say' consciousness, in its many forms. The neuroscientist prefers the impersonal term 'self', biologically founded, and even in this choice he seems to be following, more or less knowingly, the "self/non-self" distinction proposed by Edelman[22]. According to this model, the body uses a mechanism

[21] G.M. Edelman, *The Remembered Present*, Basic Books, New York 1989.

[22] Id., *Bright Air, Brilliant Fire. On the matter of the mind*, Basic Books, New York 1992.

of "recognition" that, from the immune system level (based on the selective recognition self/antigen), works more or less in the same way at different degrees, from the basic homeostatic states up to the higher states of consciousness.

Therefore, starting from an irreducibly biological, bodily basis, increasingly organized anatomical and functional structures gradually emerge; the resulting image of the 'mental' is multi-layered and the following organization of 'self' has the same 'laminated' structure:

> the self is built in distinct steps grounded on the protoself. The first step is the generation of primordial feelings, the elementary feelings of existence that spring spontaneously from the protoself. Next is the core self. The core self is about action – specifically, about a relationship between the organism and the object. The core self unfolds in a sequence of images that describe an object engaging the protoself and modifying that protoself (…) (including its primordial feelings). Finally, there is the autobiographical self. This self is defined in terms of biographical knowledge pertaining to the past as well as the anticipated future. The multiple images whose ensemble defines a biography generate pulses of core self whose aggregate constitutes an autobiographical self[23].

We usually consider *personal identity* – understood as having moral as well as legal responsibility – the exemplary of the definition of 'self': on the contrary, personal identity is neither the principal nor the first organizational level, in the time sequence of biological evolution, either phylogenetically or ontogenetically. According to the taxonomy proposed by Damasio, this level corresponds to the «*autobiographical self*», also named «extended consciousness» in his previous works[24]: its functioning requires a capacity for memory, for projecting into the future and into the past, starting from the present, within a social and linguistic context. The *autobiographical self* is a complex neural configuration, anatomically based on the bark integrating neural signals. This level of 'self' is typically *human*, because it requires a language and the exercise of memory, in order to be re-

[23] A.R. Damasio, *Self Comes to Mind*, cit., pp. 22- 23.

[24] Id. [1999], *The Feeling of What Happens: Body and emotion in the making of consciousness,* Harvest edition, New York 2000.

membered. It is also the only level so far able to 'witness' the neural processes themselves, since it is endowed with self-reference, the ability to 'think about itself' thematically. This functionality makes the further level of consciousness known as *self*-consciousness – the consciousness of being conscious – possible. At a complexity level immediately below, there is, instead, the *core consciousness*, or 'core self', the preverbal core: its neural basis is in the subcortical nuclei of the *thalamus*, and it is neurally configured as a *transient* coherent construction of a pattern, formed following the onset of any *relationship between the body and an object/event of the world*[25]. Therefore, it is connected to *action* structurally.

The so-called *proto-self*, meanwhile, is the structure at the deepest level of stratification, at the base of all subsequent constructions. Forerunner of all the higher organizational levels of complexity, both phylogenetically and ontogenetically, «the proto-self is the stepping-stone required for the construction of the *core self*. It is an integrated collection of separate neural patterns mapping, moment by moment, the most stable aspects of the organism's physical structure»[26]. Damasio recognizes the proto-self as the core that the more complex states of consciousness are built around. It is based on the neural structure of *medulla oblongata*: the role of this structure – more primitive than the cortex (which contemporary research in neuroscience mostly focuses on) – for the development of 'self' at a fundamental level is increasingly defined by Damasio's researches. The brain stem, in fact, seems to possess the 'minimum requirements' of the definition of 'self': it is a solid core, with a unifying function, integrating the various signals in transit to and from the body, remaining stable and identical in time, despite the countless changes contributing to the often unstable homeostatic balance life is marked by.

The reclassification of the multiple and stratified levels of what we mean collectively by the single lemma 'consciousness' does not satisfy a purely nominalist habit, but it is the necessary consequence of the acquisition of new scientific facts. Among these, the fundamental progressive delimitation of the material structure at the base of the mind has an important and fundamental role in the construc-

[25] See G.M. Edelman, *The Remembered Present*, cit.
[26] A.R. Damasio, *Self Comes to Mind*, cit., p. 190.

tion of the 'self'. For more than three decades, Damasio has proposed models of mind and consciousness that reassess their unavoidably bodily root, along an irreducibly biological option. In his approach, *the rest of the body* also has a central theoretical role: bodily signals are certainly mediated by the brain, but, on account of explanatory convenience, the body has been gradually expunged from the empirical survey of the mind – it has been put in 'brackets', if not considered as a mere 'container' of the brain itself. In his latest book, he establishes a perspective that, opposing this time the *new dualism* between body and brain – a dualism entirely within the neurosciences – calls into question the whole neuroscientific model, a model that is still, ultimately, anthropocentric. Wrong-footing most people, Damasio does not focus on the noble gray matter of the neocortex but confines his interest to a much more primitive structure, the *medulla oblongata* [brain stem].

The 'matter of the mind', as well as that of the conscious mind, seems then to be based on an anatomical structure other than the bark, set at the base of the skull, called the 'brain stem'. This is in charge of monitoring reflexes and many *viscera*, and it includes the centers regulating breathing, bodily temperature, blood circulation, the sleep/wake cycle and all vegetative states. The brain stem allows, therefore, the unfolding of those chemical and biological processes indispensable to the maintenance of homeostatic parameters: only within these parameters may the process we call 'life' be pursued. Against the new neuroscientific body/brain dualism, Damasio tries to recover the sense of the integration between the brain and the body, through a connecting transit structure of all the bodily signals: the *medulla oblongata*. This dualism, troubling contemporary neuroscience, gives rise to a real 'mystique of the brain', that reveals its perniciousness especially when it rebounds on applicative areas such as medical ethics, including often dramatic pathological situations.

In his latest book, Damasio enters explicitly into the merits of the practical implications, in particular in ethics, of descriptions apparently 'neutral' from the scientific point of view. The role of the brain stem, central to the foundation of conscious states at all levels, directly involves the clinical condition known as 'vegetative state' or PVS. In this case, the brain stem remains mostly active, so that it allows the smooth unfolding of the sleep/wake cycle and the autonomous

development of the vegetative functions. Incidentally, this characteristic macroscopically distinguishes this state from that of *coma* or from '*brain* death' – 'vegetative state', in fact, is often considered erroneously similar to 'brain death' since it is also known by the ambiguous name of '*cortical* death'[27]. The neuroscientist shows that *not only the cortex*, but also the brain stem has a crucial role in the building up of conscious states, at different levels, especially in the fundamental state of *proto-self* and the following affective dimension (the *primordial feelings*).

Notwithstanding the significance of the cortical component of this system, I see the brain-stem component as foundational for the self process. It can provide an operational protoself as specified in the hypothesis, even when the cortical component is extensively compromised[28].

Cases of coma and of vegetative state due to brain-stem damage compromise both the core self and the autobiographical self. In essence, the main protoself structures are either destroyed or severely damaged, and neither primordial feelings nor "feelings of what happens" can be generated[29].

Given the vastness and complexity of this subject, lending itself to a discussion at several levels – epistemological, theoretical-neuroscientific, ethical and legal, to name but a few – I refer the reader to another essay of mine, *Dell'incertezza*[30], included in the original Italian version only of these collected papers, and to the final editorial note.

In this essay, I proposed an examination of the ethical implications that may result from apparently 'neutral' neuroscientific definitions, particularly those acquired by Damasio's research in recent decades.

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[27] See the essay '*Dell'incertezza*', in E. Barile, *Pensare Damasio. Due o tre cosec he so di lui*, FrancoAngeli, Milano 2013.

[28] A.R. Damasio, *Self Comes to Mind*, cit., p. 195.

[29] Ivi, p. 237.

[30] See E. Barile, '*Dell'incertezza'*, in *Pensare Damasio. Due o tre cosec he so di lui*, FrancoAngeli, Milano 2013, pp. 92 - 112.

1.3. Feeling 'alive': *proto-self* and *primordial feelings*

People would have to write a new book in order to give a picture of contemporary advances in research on an issue that has been increasingly analyzed, until coming to a reconsideration of the same problem in different terms, in the light of new facts or further considerations. Indeed, the identification of a deeper level of stratification of 'consciousness' in the guise of 'self', particularly the *proto-self*, forced Damasio to update its original bipartition into *core consciousness* and *extended consciousness*. However, this is not the only theoretical innovation presented in his *Self comes to Mind*: the neural structure called '*proto-self*', the biological hard core, which all the subsequent – in organization and complexity – levels of 'consciousness' are based on, expresses itself, as the neuroscientist has repeatedly stressed, at the *affective* level. This is, in fact, a connoting trait of the mind of living beings, since it is only by 'evaluating' (positively, negatively or an alternation of the two poles) that the same mind is also able to 'choose', oriented – but only *a posteriori* – towards the organism's survival in a given environment. Damasio starts a deep reconsideration of his previous issues: among these, the affective dimension, particularly the *feeling* dimension, that is essential to defining mind and consciousness in bodily terms. Therefore, the body investigated is always a *sentient* body: this qualification defies it being modeled using cognitive approaches. Even the most up to date cognitive approaches, positing a body as well, do not consider the feeling dimension structural to a *biological* body.

So, the pre-verbal core of one's own identity reveals itself first and foremost in what we '*feel*' rather than in what we '*think*', or, even less, in what we 'say', at the level of the so-called «*primordial feelings*». Damasio further enriches his own taxonomy of affective states, looking for deeper and deeper basic levels, in the emotional and the affective experience in general, proceeding directly from the *proto-self*. That's why he even coins new terms in order to indicate affective states that researchers have always concentrated their attention on very little, but that are always present in everybody's fundamental experience.

I hypothesize that the first and most elementary product of the *protoself* is *primordial feelings*, which occur spontaneously and continuously whenever one is awake. They provide a direct experience of one's own living body, wordless, unadorned, and connected to nothing but sheer existence. These *primordial feelings* reflect the current state of the body (….) and they originate at the level of the *brain stem* rather than the cerebral cortex[31].

On a continuous scale along physiology, psychology and phenomenology, proceeding without break from the basic homeostatic states regulating life to the phenomenology in technicolor of the subjective experience, the neuroscientist has so far identified and named no 'orthodox' states in the past, as the so called «background emotions», «background feelings» or, last coined, «primordial feelings». Primordial feelings, in particular, have an immediate relation with the level of background feelings: « (...) the resulting background feelings are just a small step up from primordial feelings»[32].

For the reader unacquainted with Damasio's classifications, including "background" states already identified by the neuroscientist at any one time, I summarize here their main features:

a. *primordial feelings*: states of '*feeling'*, providing the 'sense of being alive', the sense of being a biological individuality, rising spontaneously from the organization identified as *proto-self*; These kinds of feelings proceeds from automatic, unaware bodily states, providing the maintenance of vital fundamental parameters;

b. *background feelings*: discriminative states of 'basic feelings', at a conscious level (e.g. '*feeling* tense', '*feeling* relaxed', etc.), emerging from the collection of the changes of the body, conceived as *a whole*;

c. *background emotions*: the *unaware* level of the same 'background *feelings*', when they are outside the focus of attention, but they are already 'there', as *complex collections* of automatic bodily states ('tension', 'relaxation', 'malaise', 'wellness', etc.).

In order to grasp the scope of the new concept introduced by the most recently coined definition of "*primordial feeling*", briefly reviewing the classification just proposed might be useful. This will be

[31] A.R. Damasio, *Self Comes to Mind*, cit., p. 21 [*my emphasis*].
[32] Ivi, p. 125.

elaborated on in the following articles, in particular *Are background feelings intentional feelings?*, for a definition of background *feelings*, and *What does it mean to* 'feel' *something?*, in order to understand background *emotions*.

As is well known, Damasio proposed his own taxonomy of emotions, recovering their essential bodily root. This classification was widely criticized[33], mainly because, according to it, emotions would be lacking intentionality, and because it seemed to further complicate an already problematic definition and classification of emotions, rather than simplifying it, against any Ockham's razor. Damasio's theoretical aim, however, is not so much to behave as a champion of a solution to the real *impasse* the debate on emotions seems to have arrived at[34], but to regain continuity across all the regulatory states of the organism, the emotions being just one of the several organizational levels. In addition to the classification of emotions as «secondary» emotions (jealousy, contempt, envy, and so on) and «primary» emotions (happiness, sadness, fear, anger, surprise, disgust), therefore, Damasio has, already in *Descartes' Error*, introduced the further level of «*background*» emotions, that are emotions, or, rather, proto-emotions, preceding all the others, phylogenetically and ontogenetically. Moreover, they do not necessarily require language to be expressed or identified[35]. *Background emotions* are states such as 'malaise', 'wellness', 'tension', 'edginess', etc., that are complex collections of bodily states (grounded in the basic states of pleasure and pain[36]), unspecific states, preceding emotions proper (from the primary emotions onwards). They emerge from the *'on-line' state of the body as a whole*, feeding back the condition of one's body, con-

[33] See, for example, W. Lenzen, *Damasios Theorie der Emotionen*, in «Facta Philosophica», 6 (2004), pp. 269 - 309.

[34] The umpteenth attempt at breaking this theoric deadlock is in the up-to-date book J. Deonna – F. Teroni, *The Emotions: A philosophical introduction*, Routledge 2012.

[35] A.R. Damasio [1999], *The Feeling of What Happens*, cit., p. 52.

[36] « (…) I began seeing background emotions as the consequences of deploying certain combinations of the simpler regulatory reactions (e. g. basic homeostatic processes, pain and pleasure behaviours, and appetites (…)). Background emotions are composite expressions of those regulatory actions as they unfold and intersect moment by moment in our lives», Ivi, p. 44.

sidered not in a specific part thereof, but as a whole, at a given moment. When you are 'relaxed' or 'tense', in fact, it is not a specific part of the body that is relaxed or tense: background emotions 'emerge' from all the received bodily feedback, considered *as a whole*[37].

Damasio uses the qualification "background" in an outstanding way, distinguishing these states from other states they could be confused with: the adjective "background", in fact, refers to the characteristic of these processes occuring at body level, even when we are not aware of them – when they do not fall in the focus of *attention*. So, background state are not "unconscious" processes (in the Freudian sense) because they can *become* aware *whenever* we focus our attention on them. "Background" states also have the peculiar characteristic that they concern the state of the body *as a whole* and that they are unspecific or objectless[38]. When states like 'malaise', 'tension', 'edginess' etc. fall in the attention cone, at a reflective level, they become background '*feelings*': these particular kinds of bodily feelings do not proceed from emotions, but from that cauldron of changes occurring at the body level, renamed "background emotions" – they are not 'emotions' proper. At a higher level there are the so-called "primordial feelings":

> there is some deeper feeling to be guessed and then found in the depths of the conscious mind. It is the feeling that my own body exists, and it is present, independently of any object with which it interacts, as a rock-solid, wordless affirmation that I am alive[39].

Damasio recognizes that, in essence, his definition of 'primordial feeling' can be traced back to J. Panksepp[40], in particular to his no-

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[37] In order to provide a more detailed analysis regarding this, I return the reader to the following essay *Are background feelings intentional feelings?* [*NoA*].

[38] 'Background feelings' might seem similar to 'moods' on account of these shared features: indeed, moods and background feelings are closely connected, but there are also important differences: I refer the reader to the following essay for a further discussion about this [*NoA*].

[39] A.R. Damasio, *Self Comes to Mind*, cit., p. 185 [*my emphasis*].

[40] J. Panksepp, *Affective Neuroscience. The foundation of human and animal emotions*, Oxford University Press, Oxford - New York 1998.

tion of «*early feelings*», though there are some differences (see the following essay); both feelings, in fact, share the characteristic of *preceding* any interaction with the world, or any feeling arising from the emotions. The neuroscientist also analyzes the relationship between primordial feelings and background feelings: the «feeling of being alive», the «feeling of existence» primordial feeling feeds back as the «sense of the body», originates, in fact, from a number of different feedbacks, such as interoceptive and proprioceptive maps of the body as a whole. Background feelings, then, unfold at a reflective level, feeding back the online representation of the state of the body, updated online[41].

Given these general guidelines, having the only purpose of plotting the coordinates within which the conceptual and theoretical innovations introduced in *Self Comes to Mind* might be framed, I now return the reader to the more specific essays proposed below, concerning more specific aspects of Damasio's neurobiological modeling, that we have tried not only to assemble but also to systematize in these collected papers.

[41] For a deeper analysis of *primordial feeling* and their place in the taxonomy of the affective states, related to the multilayered states of consciousness, I once again return the reader to the following essay of these collected papers, *Are background feelings intentional feelings?*

2. Are background feelings intentional feelings?

2.1. Introduction

To this day we do not have a shared taxonomy nor a definition of *feeling*, agreed upon either among or within the various disciplines contributing to the so-called "affective science". *Each* approach even employs the *same* term "feeling" in order to refer to very *different* phenomena. It may be too much to expect the various disciplines contributing to an affective "science" (by the meaning of "rigorous analysis"), such as psychology, neuroscience, philosophy, comparative literature, cultural anthropology, sociology, and history to agree on jointly accepted definitions. Worse, however, is that even *within* neuroscience, within psychology, and within philosophy etc., there is no general agreement on how to classify and define feelings, emotions or other related affective phenomena. We encounter as many classifications and definitions of "feeling" or of "emotion" as theoretical perspectives. In order to bypass this difficulty, claiming *explicitly* what is understood as "feeling" or "emotion" on a case by case basis is necessarily required, but even this move should not be enough.

In literature, the label "feeling" is mostly connected to *emotions*. It may be useful, rather, to acknowledge that "feeling" has a wider scope: we can *feel* a broader collection of states such as pains, itches, needs, desires and motivations. Moreover, in philosophical texts – especially in the English language – the words "emotion" and "feeling" are even usually used as synonyms, which is misleading, because not every *felt* state arises from an emotion. De Sousa, for example, recognizes not only similarities between emotions and feel-

ings, but also important differences. In particular, he considers the case of the so-called «epistemic feelings» – feelings involved in inquiry, knowledge and metacognition: these feelings can also be attributed to *sub-personal* levels (while emotions occur at a personal level) and they are usually less complex than "full-fledged" emotions[1]. The term "feeling" thus includes a broader array of possible *felt* states: emotion is only *one* of them, and not even the most interesting one, in my opinion. Even if in a commonsensical and somehow metaphorical way, in everyday language too "feeling" is in fact used in a broader manner: above all in the English language, people frequently say "I feel good" with reference to *health*, or they can say "I feel that" when someone *touches* them, or when they have a *pain*. Sometimes people also say "my *feeling* is that *p*" to mean "my *opinion* is that *p*". Even by a superficial, previous linguistic analysis, then, we should understand something remarkable about feeling. We might ask, for instance, why we usually *report* "feeling" only certain kinds of states, but not others. In a meaningful analysis of the case of *needs* as "felt" states, Castelfranchi has rightly pointed out that we usually say, for example: «I feel the *need* for…», «I feel the *desire* to…» or «I feel the *motivation* to…», but we don't say «I feel the *intention* of…" or «I feel the *belief* of…»[2]. What do states we report *feeling* really have in common? According to him, we do not report feeling (and probably can't feel at all) those states exhibiting a stronger cognitive structure – such as intentions or beliefs: they all show no manifest *perceptual, sensori-motoric* components. "Feeling", however, only seems to subsume the kinds of states connected to the *body* in a more intimate and direct way.

Really, *feeling* is a misty, or at least a polysemic, word: that's why I suggest using here the word *feeling* in order to refer to the *entire array* of possible felt states, including emotions, of course, but also to many other phenomena, e.g. pains, itches, needs, motivations, desires. My general questions, thus, are: what does it mean, in general,

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[1] R. De Sousa, [2008] *Epistemic feelings*, in «Mind and Matter», 7, 2 (2009), p. 140.

[2] C. Castelfranchi, *To believe and to feel: The case of "needs",* in D. Canamero, *Emotional and Intelligent: The tangled knot of cognition*, Papers from the 1998 AAAI Fall Symposium, AAAI Press, Menlo Park (CA) 1998, pp. 56 - 57.

feeling anything? What is required for certain states or processes to be "felt" and others not? In order to answer these questions, we will for the most part take into account Damasio's approach because he offers a neuroscientifical description of both emotions and feelings, providing interesting remarks on the fundamental *role of the body*. He particularly stresses the role of the so-called "*background* feelings" – kinds of feelings clearly revealing an *immediate*, intimate connection to the body. We are not usually able to recognize such an evident relation to our own body in feelings of intentional states like emotions, for example: these feelings always refer to some *object* or event – specific or aspecific – in the world they are mostly focused on. In feeling arising from emotions, in fact, the body remains "unattended", both psychologically and, so to speak, theoretically. On the contrary, background feelings – such us "tension" or "malaise", for example – or other *aspecific* processes such as "moods" (from which background feelings differ, even if they are connected to each other in a very intimate way) reveal an *immediate*, *unique* relation to our own body. We usually can't qualify this immediate access to the body other than metaphorically or in negative terms (as "non-linguistic", "non-propositional") or using "proto" adjectives, such as "pre-reflective", "pre-conscious" and so on. The general aim of this paper to contributing to paving the way towards a possible definition also in *positive* terms about the relation to our own body that feelings – above all background feelings – reveal: the strategy adopted here is to consider questionable the main view on feeling, which is generally oriented in recognizing its *intentional* feature. My intuition is that if we consider feeling *always* and *only* as connected to emotions and also as being an *intentional* state itself (as emotions are mainly supposed to be), we will hardly be able to understand what this kind of "immediate" access to our own body is, that feelings – especially background feelings – nevertheless reveal.

2.2. Mirroring background emotions

Damasio introduces the concept of "background feeling" in *Descartes' Error*. By this notion, he wants to stress the intrinsic *bodily* nature of this specific kind of feeling: «I am postulating another vari-

ety of feeling which I suspect preceded the others in evolution. I call it *background feeling* because it originates in 'background' body states rather than in emotional states»[3]. Background feelings do not develop from proper[4] emotions but from basic *body states*, from those collections of bodily changes Damasio christens "background emotions". In this respect, it might be helpful to see background emotions and feelings in a mirror relationship to each other. The neurobiologist even uses more or less the same vocabulary in order to define both emotions and feelings at the *background* level: «when we sense that a person is "tense" or "edgy", "discouraged" or "enthusiastic", "down" or "cheerful", without a single word having been spoken to translate any of those possible states, we are detecting *background emotions*»[5]. Furthermore, so he defines background *feelings*:

> prominent *background feelings* include: fatigue; energy; excitement; wellness; sickness; tension; relaxation; surging; dragging; stability; balance; imbalance; harmony; discord. The relation between background feelings and moods is intimate: drives express themselves directly in background emotions and we eventually become aware of their existence by means of background feelings[6] (*my emphasis*).

Background feelings/emotions are not ordinary notions we share in our conceptual armoire: on account of background feelings that arise from the *awareness* of the correspondent "background emotions", a preliminary clarification of these concepts and of the related taxonomy is here required, without aiming to provide an exhaustive overview of the endless emotion- debate still going on nowadays[7]. The classification of emotions proposed by Damasio, in fact, is only one among several: each taxonomy implies a different interpretation

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[3] A.R. Damasio, [1994] *Descartes' Error. Emotion, reason and the human brain*, Quill, New York 2000, p. 150.

[4] What Damasio calls «primary» or «secondary» emotions.

[5] A.R. Damasio, [1999] *The Feeling of What Happens: Body and emotion in the making of consciousness*, Harvest edition, New York 2000, p. 52 [*my emphasis*].

[6] Ivi, p. 286.

[7] I already proposed a more detailed reconstruction of this debate in 2010. Regarding this, see also Deonna & Teroni, *The Emotions: A philosophical introduction,* Routledge 2012.

of what we mean by "emotion" or, rather, how we understand *each* distinct emotion. Strictly speaking, in fact, we would have to deal with every single emotion in a different way because, also from a neurophysiological point of view, *each* emotion involves *different* neural patterns: research on the so-called "basic" emotions[8], for example, shows that at least fear and disgust are realized by different neural pathways[9]. Nevertheless, summarizing, we might say that neurobiological literature[10]usually backdates the emergence and the existence of emotions to less evolved beings, while cognitive theories[11] support a more anthropocentric view. The different approaches to emotion mainly debate the particular relevance of both the *bodily* and the *cognitive* dimension, and their mutual relationship.

Opposed to the dominant cognitive paradigm, Damasio regards emotions, especially at the most basic level, essentially as collections of *bodily* rather than cognitive states. In this respect, he follows the steps of the James-Lange theory of emotions[12]. Damasio thus distinguishes three levels of emotional processes, according to their degree of complexity and evolutionary heritage: the so-called "*background* emotions" – complex collections of bodily changes, basic homeostatic processes, pain and pleasure behaviours; "*primary*" or (supposed) universal "emotions" – joy, sorrow, fear, anger, disgust, surprise; and, eventually, "*secondary*" or *social* "emotions": compassion, shame, guilt, pride, jealousy, envy, gratitude, admiration, contempt, etc. We can generally differentiate emotions by their increasing degree of complexity: the emotions of higher complexity (e.g. second-

[8] P. Ekman, *Emotion Revealed*, Weidenfeld & Nicolson, London 2003.

[9] See J. Panksepp, *Affective Neuroscience*. *The foundation of human and animal emotions*, Oxford University Press, Oxford - New York 1998.

[10] See J.E. LeDoux, *The Emotional Brain. The mysterious underpinnings of emotional life*, Simon and Schuster, New York 1996; A.R. Damasio, [1999] *The Feeling of What Happens: Body and emotion in the making of consciousness*, Harvest edition, New York 2000, and Idem, *Self Comes to Mind. Constructing the conscious brain*, Pantheon Books, New York 2010.

[11] See M. Nussbaum, *Upheavals of Thought: The intelligence of emotions*, Cambridge University Press, Cambridge 2001; Ortony - Clore - Collins, *The Cognitive Structure of Emotions*, Cambridge University Press, Cambridge (MA) 1988; N.H. Frijda, *The Emotions*, Cambridge University Press, Cambridge 1986.

[12] W. James, *What is an emotion?*, in «Mind», 9 (1884), pp. 188- 205 and C.G. Lange, *The Emotions*, William & Wilkins, Baltimora 1885.

ary emotions) are installed on the previous ones (e.g. primary emotions), thereby integrating and increasing lower level capacities, by using their neural pathways and anatomical components. *Secondary* emotions are shaped more by cognitive aspects: their expression and communication depend more on social and cultural influences than those of *primary* emotions, which are shared by different cultures and even species[13]. Additionally, the brain systems as well as the other bodily systems underpinning different kinds of emotions are incorporated, both ontogenetically and phylogenetically.

Whereas many other approaches to affective phenomena might converge on the distinction between what Damasio calls «primary» and «secondary» emotions, «*background*» emotions are less recognized thus far. Background emotions subsume states such as enthusiasm, wellness, malaise, excitement, tension, edginess, relaxation, tranquility, etc.

> When I developed this notion[14], I began seeing background emotions as the consequence of deploying certain combinations of the simpler regulatory reactions (e.g. basic homeostatic processes, pain and pleasure behaviors, and appetites), according to the nesting principle noted earlier. Background emotions are composite expressions of those regulatory actions as they unfold and intersect moment by moment in our lives. […]
>
> These include metabolic adjustments associated with whatever internal need is arising or has just been satisfied; and with whatever external situation is now being appraised and handled by other emotions, appetites, or intellectual calculation. The ever-changing result of this cauldron of interactions is our "state of being", good, bad, or somewhere in-between. When asked "how we feel", we consult this "state of being" and answer accordingly[15].

Damasio regards all three kinds of emotions as *indexes* of regulatory mechanisms, but with different triggers and targets: background emotions are more complex processes than drives, biological motivations and other bodily changes, but less complex than proper emo-

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[13] C. Darwin, *The Expression of Emotions in Man and Animals,* Murray, London 1872 and P. Ekman, *op. cit*.

[14] Here Damasio refers to his *Descartes' Error* (1994) [*NoA*].

[15] A.R. Damasio, *Looking for Spinoza. Joy, sorrow, and the feeling brain*, Harcourt, Orlando 2003, p. 44.

tions. He offers the following taxonomy of mechanisms involved in regulating life, ordered by their degree of complexity:

a. secondary or social emotions;
b. primary emotions;
c. *background emotions*;
d. drives and biological motivations;
e. pain/pleasure behaviours (withdrawal/approach);
f. immune responses;
g. basic reflexes;
h. metabolic regulation[16].

Therefore, background emotions are understood as *combinations* of simpler regulatory reactions (bodily changes) such as homeostatic processes, pain/pleasure behaviours, etc., with drives, motivations, pain and pleasure as their triggers or constituents – but they are *more complex* than these processes, which all contribute to regulating life.

In order to understand the distinctive features of background emotions we might distinguish them from the other *non*-emotional regulatory responses. If it suffices to define background emotions in particular as nothing but complex collections of bodily changes, we might ask in what sense they differ, for instance, from other metabolic regulation processes or immune responses. Damasio invokes the background emotions' higher degree of *complexity*, without providing any further detail. But this move is not very convincing because, by his own criteria, immune responses should also be considered as kinds of *proto*-emotional states: immune responses too, in fact, are "more complex" than, for example, metabolic regulation processes. At first, background emotions might look the same as *moods*, and their connection, indeed, is intimate: background emotions contribute to build up the (neural and behavioural) configurations identified with "moods" at a reflective level. But moods and background emotions differ, for example, in that background emotions reveal the *temporary*, "on-line" inner situation of the organism –, while moods are *long term* processes – and in the sharper identification of the stimulus[17]. We can get up in the morning, for instance, feeling in "a

[16] Ivi, pp. 31 - 34.

[17] A.R. Damasio, *Self Comes to Mind. Constructing the conscious brain*, Pantheon Books, New York 2010, p. 125.

very good mood", lasting the whole day, but this does not mean that we could not also have rather bad background emotions such as "tension" or "malaise" for short periods of time during the same day. If we are not affected by mood disorders, we usually don't change a "good mood" immediately due to minor disturbances such as a short tension or malaise, provided of course that the duration of these background emotions is short enough and they do not occur too often.

Furthermore, in qualifying these kinds of "emotions"[18] as "*background* emotions", Damasio stresses particular features: first of all, "background" means that the involved processes occur in our body, even when we are not *aware* of them and when they are not in the focus of our *attention*. Secondly, background emotions are distinguishable from "unconscious" – repressed – states (in a Freudian sense) since we can become aware of them *whenever* we direct our attention towards them. Thirdly, "background" means *aspecific* or *objectless*, a shared feature with states like moods, but a distinguishable feature from "proper" emotions, which usually concern *specific* objects or situations. When compared to proper emotions, further differences are that the "source" of background emotions is rather *internal* than external, and that they are less expressed by facial expressions and action tendencies than "conventional" emotions are[19]. By the way, as I already reported[20], this concept of Damasio's is not completely original defined this way: in fact, "background emotions" – above all at the corresponding reflective level of background *feelings* – are similar to «vitality affects», already proposed by Stern[21] and renamed as «forms of vitality» in 2010[22]. As Damasio himself recognizes, background feelings were identified even earlier by

[18] I would rather say "proto-emotions" since they might lack intentionality, as I will try to show later on in the paper.

[19] A.R. Damasio, [1999] *The Feeling of What Happens: Body and emotion in the making of consciousness*, Harvest edition, New York 2000, pp. 53, 342.

[20] E. Barile, *Che cosa vuol dire 'sentire', 'provare' qualcosa? Per un lessico della vita affettiva fra fenomenologia e neuroscienze,* Atti del convegno della Fondazione A. von Humboldt – Italia, in «SLIFO», 8, 2 (2010).

[21] D. Stern, *The Interpersonal World of the Infant: A view from psychoanalysis and developmental psychology*, Basic Books, New York 1985.

[22] Idem, *Forms of Vitality*, Oxford University Press, New York 2010.

Langer[23], one of Whitehead's disciples[24]. Additionally, something similar to the concept of "background emotion" in the stratification of affective states was already attested to in Scheler[25], particularly at the level of *Lebensgefuehlen*[26].

Prima facie, the "extra" level of the so-called background emotions – which we should distinguish both from emotions proper and from non-emotional, mere regulatory processes – seems to overcomplicate a possible taxonomy of emotions rather than simplifying it. This taxonomy is already rich and problematic enough: Ockham's razor might easily shave off this further level of "background" emotions. Nevertheless, the background dimension of these "*emotions*" is very useful in order to understand what background *feelings* are. Background feelings are a concept as unrecognized as background emotions: these feelings do not arise from *proper* emotions as all the other feelings do, but they follow directly those complex collections of bodily changes Damasio christens "background emotions". Background feelings, in fact, are just *felt* – aware – background emotions[27]. These "proto-emotions" cannot be considered emotions proper: rather, "the background feeling is our image of the body landscape when it is *not* shaken by *emotion*"[28] (*my emphasis*).

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[23] S. Langer, *Philosophy in a New Key: A study in the symbolism of reasons, rite and art,* Harvard University Press, Cambridge (MA) 1942.

[24] Damasio didn't realize this fact in the first book (1994) where he introduced the concept of background emotion, but only later in his [1999] *The Feeling of What Happens: Body and emotion in the making of consciousness*, Harvest edition, New York 2000, p. 287.

[25] M. Scheler, [1913, 1916] *Der Formalismus in der Ethik und die material Wertethik. Neuer Versuch der Grundlegung eines ethischen Personalismus*, Francke Verlag, Bern 1980.

[26] Thanks to De Monticelli and Caminada's suggestions, I already underlined this parallel in lexicon and in concepts in Barile 2010.

[27] A.R. Damasio, [1999] *The Feeling of What Happens: Body and emotion in the making of consciousness*, Harvest edition, New York 2000, p. 286.

[28] Idem, [1994] *Descartes' Error. Emotion, reason and the human brain*, Quill, New York 2000, pp. 150 - 151.

2.3. "Background feelings": a definition

Damasio introduces the further level of "background" feelings in order to stress the role of lower background *bodily* states (from which these feelings in particular arise). This view is completely different from the denotation of feelings as "high order" mental states[29]. Traditionally, in fact, we understand feelings as subjective, inner experiences (*phenomenal*) and, more recently[30], as *intentional* states too, above all those feelings following *emotions*. Opposing this view, Damasio stresses the fundamental role of the *bodily* dimension that is evident especially in feelings *not* originating in proper emotion, such as background feelings.

Background feelings indicate the temporary inner "temperature" of the organism. What we feel are not discrete bodily changes as such, but more complex states, such as "wellness", "relaxation" or "tension": these are indexes of the condition of the body as a whole, perceptions, resulting at a reflective level from the awareness of the complex collection of bodily changes[31] (the so-called "background emotions").

It is probably correct to say that background feelings are a faithful index of momentary parameters of inner organism state. The core ingredients of that index are: 1) the temporal and spatial shape of the operations of the smooth musculature in blood vessels and varied organs, and the striated muscle of heart and chest; 2) the chemical profile of the milieu close to all these muscles fibers; and 3) the presence or absence of a chemical profile signifying either a threat to the integrity of living tissues or conditions of optimal homeostasis[32].

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[29] "Feeling" has been used in Western philosophy in order to refer to mental states that, contrary to thoughts, have a rather vague content (see the entry "Gefühl" in the *Historisches Wörterbuch der Philosophie*).

[30] I refer here to the contemporary debate on intentionality of bodily feelings I'm dealing with in the next paragraph.

[31] Experimental evidences of the existence of this kind of feelings are shown in such cases as asomatognosia and phantom limbs: sufferers, in fact, exhibit an inhability to reach those very background states via "on-line" informations about the present state of the body (see also A.R. Damasio, *Looking for Spinoza. Joy, sorrow, and the feeling brain*, Harcourt, Orlando 2003, pp. 192-193).

[32] A.R. Damasio, [1999] *The Feeling of What Happens: Body and emotion in*

The role of the body is hence fundamental: the representation of the body[33] is *always* there, even if *out of the attentional focus* or *unaware* – which is, by the way, one of the meanings of "background". This representation of the *present*, "on-line" state of the body, as it changes at any given time, originates in cortical sites (sensory-motor cortical maps, topographically organized by signals coming from muscles) and on non-mapped sub-cortical sites, receiving signals from the *viscera*. The representation of the "potential" state of the body, however, results from *proprioception* and *interoception*[34]. I use here "proprioception" in the narrow sense, as the perception of muscles and skeletal structure, feeding back the sense of the position of the body in the environment, whereas interoception is the perception of the internal *milieu* and signals coming from *viscera*, concerning the sense of the homeostatic balance of the organism[35]. The result

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the making of consciousness, Harvest edition, New York 2000, pp. 286 - 87.

[33] In Damasio the concept of "representation" is very equivocal: it is sometimes even used in a very commonsensical way, as I already pointed out in a previous paper in 2009. In neuroscience, the expression "*neural* representation", for example, usually refers to a complex *neural* pattern with a *specific content*: but this expression is *oxymoronic* in that the concept of "representation", at least in the standard meaning, historically has been introduced so to indicate a theoretical entity *other* or *more* than the *underlying* neural pattern. Different from neural configurations, in fact, we can't observe representations themselves, but we have to *suppose* their existence in order to explain (supposed irreducible) "*mental*" states, that cannot be simply described in terms of "*neural* patterns"; in standard cognitive approaches neural patterns are simply considered "not enough" (see J.R. Anderson, *Cognitive Psychology and its Implications*, W.H. Freeman, San Francisco 1980, and RTM models).

[34] O.G. Cameron *et al*., *Visceral Sensory Neuroscience: Interoception*, Oxford University Press, New York - Oxford 2002.

[35] In literature, interoception and proprioception are almost considered as the same phenomenon also because they can be separated just in a theoretical analysis, but they usually – that is, in non-psychotic cases – occur together: in particular, the role of *interoception* proper is mainly neglected. As many others (see, for example, M. Tsakiris, *The Self-Other Distinction: Insights from self-recognition experiments,* in Morganti, Carassa, Riva (Eds.), *Enacting Intersubjectivity: A cognitive and social perspective to the study of interactions,* IOP Press, Amsterdam 2008; M. Tsakiris, S. Schütz-Bosbach & S. Gallagher, *On agency and body-ownership:Phenomenological and neurocognitive reflections,* in «Consciousness & Cognition», 16, 3 (2007), pp. 645 - 660), even S. Gallagher, in his seminal book *How the Body Shapes the Mind* (2005), has mainly considered *proprioception*,

of all of these bodily feedbacks is the sense of the body as *a whole*, which is always present, at least in the background, until we focus our *attention* on it.

Years ago I called attention to one of these groups and gave it a name: background emotions. Examples include enthusiasm and discouragement, two [background] emotions that can be prompted by a variety of factual circumstances in one's life but also brought on by internal states such as disease and fatigue. Even more than with other emotions, the emotionally competent stimulus of background emotions may operate covertly, triggering an emotion without one's being aware of its presence. Reflection on a situation that has already happened, or consideration of a situation that is a mere possibility, can trigger such emotions. The resulting background feelings are just a small step up from primordial feelings[36].

Feelings usually involve some *feedbacks from the body*: they are somehow connected to bodily changes such as homeostatic processes, simple reflexes, physiological reactions, autonomic responses, or hormonal changes. Even in the case of feelings that seem quite far from a characterization in bodily terms, such as the so-called «*epistemic* feelings» analyzed by De Sousa[37] – i.e. the «feeling of knowing», the «feeling of rightness», the «feeling of doubt», etc. – an influence of bodily modifications is recognized at the neurotransmitters level. The effect of acetylcholine and norepinephrine on the «feeling of uncertainty»[38], of oxytocin on the «feeling of trust»[39], of drugs such as Prozac[40] in regulating the «feeling of certainty» in OCD (Ob-

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while the role of interoception proper has been at least underestimated. Although he discusses several meanings of "body perception" and even if he does not completely ignore other pre-noetic aspects, such as the role of the physiological dimension, nevertheless, most of his analysis in the book deals with proprioception and kinesthesia (see Ch. 6, 149 ff.).

[36] A.R. Damasio, *Self Comes to Mind. Constructing the conscious brain*, Pantheon Books, New York 2010, p. 125. I am dealing with the further level of primordial feelings later on in this paragraph.

[37] R. De Sousa, [2008] *Epistemic feelings*, in «Mind and Matter», 7, 2 (2009).

[38] A.P. Yu - P. Dayan, *Uncertainty, neuromodulation, and attention*, in «Neuron», 46 (2005).

[39] M. Kosfeld, M. Heinrichs, P.J. Zak, U. Fischerbacher, E. Fehr *et al*., *Oxytocin increases trust in humans,* in «Nature», 435 (2005).

[40] P.D. Kramer, *Listening to Prozac. A psychiatrist explores antidepressant*

sessive Compulsive Disorders) have all been attested to. These bodily changes all occur at the *sub-personal*, *implicit* level of feelings, enabling *explicit* inferences or beliefs in the full light of awareness. Even if De Sousa himself recognizes that we must not exaggerate the causal role of neuromodulators[41], nevertheless he maintains: «we seem to see into the very point where physiological process and subjective feelings coincide»[42].

Another possible counter-example of the role of bodily features in feelings might come from accounts concerning feelings of the so-called "secondary emotions", such as the case of the «feeling of *guilt*»[43]. In Gilbert's approach, judgments, beliefs and commitments are *constitutive* features, while «pangs» or «twinges» associated with guilty feelings are *concomitant* states only: that pangs and twinges might be held as necessary conditions of guilty feelings is, for Gilbert, arguable at least. Nevertheless, the argument at issue in his paper is the existence of *collective* guilt feelings as distinguished from mere *membership*'s guilt feelings, interpreted in terms of the collection of their members' individual feelings. According to him, a «collective» is the plural subject of a joint committed action that is judged as "wrong" – in the case of the feeling of guilt – by the members of the group. His theoretical target, thus, is to build up a notion of "collective" as different from the mere sum of the individuals: in true collectives, individuals are *jointly committed*, in the sense that this commitment can't be split as unilaterally as a personal one. The commitment is foundational for the group itself and it gives the authorization for a collective action, even if each member of the group does not directly perform this action. Gilbert, in fact, does not deny that, at an *individual* level, there *are* pangs and twinges, responsible for the phenomenology of personal guilt feelings[44]. His argument is that collective and personal guilt are *indistinguishable* just by means

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drugs and the remaking of the self, Penguin Books, London 1993.

[41] R. De Sousa, [2008] *Epistemic feelings*, in «Mind and Matter», 7, 2 (2009), p. 148 ff.

[42] Ivi, p. 147.

[43] M. Gilbert, *Collective guilt and collective guilt feelings*, in «The Journal of Ethics», 6 (2002), pp. 115 - 143.

[44] Ivi, pp. 141 - 142.

of concomitant pangs and twinges[45]: the distinctive features are, rather, judgments and thoughts. Nevertheless, in my view, the example of collective feeling arising from secondary emotions, such as the "feeling of guilt", is not a counter-example of the constitutive role of the bodily dimension in *individual* feelings too. Gilbert's emphasis about judgments and beliefs as constituents of feelings might be traced back to the same structure of the "secondary emotions" these feelings follow, which are more shaped by cognitive aspects: his view is based on the "plausibility" he concedes to cognitive approaches to emotions[46].

In my view, feelings rather show an immediate and intimate connection to the body that is not so evident in other mental states that are strongly cognitively structured, such as intentions, judgments, beliefs, etc. This does not necessarily imply that there is *no* bodily component involved in the so-called "conceptual thought", but just that this connection to the body is not so manifest: if so, in fact, there would be an inexplicable evolutionary gap that would need more clarification; this, however, is not at issue in this paper[47]. We might say, metaphorically, that some feelings go over the "border", "out" (into the world), and the body is in the background, while others are "inside" – the bodily feelings. We might shift attention from the body to the world and *vice versa*, depending on which kind of feelings we are dealing with. Incidentally, it seems that there are no *emotional* feelings that are not *bodily*. Nevertheless, as Goldie also underlines, feelings are neither simply bodily *changes*, nor *perceptions* of bodily modifications "as such"[48]: we neither perceive homeostatic processes themselves, nor hormonal changes, which are unaware, au-

[45] Ivi, p. 135.

[46] See M. Nussbaum, *Upheavals of Thought: The intelligence of emotions*, Cambridge University Press, Cambridge 2001 and J. Schaffer, *An assessment of emotion*, in «American Philosophical Quarterly», 20, 2 (1983), pp. 161 - 173.

[47] Stocker too speaks out against the so-called "ethical cognitivism" and considers, rather, that «judgements, questions (…) can be taken as essentially involving feelings» (Stocker, 1983: 22), and not the reverse. He deals with specific kinds of feelings such as "care", "interest" and "concern" that are irreducible "psychic" feelings, as opposed to the feelings of emotions. These "psychic" feelings constitute, rather, "modes" of action, desire, reason and so on.

[48] P. Goldie, *Emotions, feelings and intentionality*, in «Phenomenology and the Cognitive Sciences», 1 (2002), pp. 235 - 254 (p. 237, note 7).

tomatic responses. What we perceive, rather – what we are *aware* of – is that "something" is happening with us, i.e. in our body (be it considered *as a whole* or as some specific *part* of it). Nevertheless, bodily changes and bodily feelings are not always connected: bodily changes occur unaware most of the time, but we can just sometimes become aware of the resulting state of the body by means of bodily feelings. Hence, *whenever* we feel something, it refers to something changing in the body – not necessarily something we are aware of, however. Feelings just "happen" to us: that's the *passivity* of feeling experience.

On this point, Gallagher would rather say that what we perceive (what we are aware of) may be *the world*[49], or a math problem, or another person, etc. Adopting a so-called "adverbial theory" of emotions/feelings, he rather maintains that we sad*ly*, joyful*ly*, jealous*ly*, etc. perceive the world, problems, others, etc. We do not perceive the body and then, on that basis, decide how we feel. We may angrily perceive the world without even knowing that we are angry (someone else may point that out to us): incidentally, this is what he understands as "pre-noetic". In Gallagher's view, bodily states or processes condition, or color, or *shape* the way we perceive things, but those states or processes are not *themselves* the objects of our perception. When we do become aware that "something is happening with us" it is usually *after* the fact, in reflective awareness. Nevertheless, as with many other philosophical approaches, Gallagher too considers feeling as "attached" to the *emotions*: I will also analyze the body/world relation here at issue in the next paragraph.

Damasio's background feelings, on the other hand – which do not arise from emotion proper – can also concern the sense of the body as a whole *only*, not of the world[50]: this is much clearer when we consider the more primitive level of the so-called "primordial feeling" he recently introduced[51], from which background feelings are just a small "step up".

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[49] S. Gallagher, *How the Body Shapes the Mind*, Oxford University Press, New York - Oxford 2005.

[50] See the study cases of 'tension'/ 'relaxation' in the last paragraph.

[51] A.R. Damasio, *Self Comes to Mind. Constructing the conscious brain*, Pantheon Books, New York 2010.

There is some deeper feeling to be guessed and then found in the depths of the conscious mind. It is *the feeling that my own body exists, and it is present, independently of any object with which it interacts*, as a rock-solid, wordless affirmation that I am alive. This fundamental feeling, which I had not deemed necessary to note in earlier approaches to this problem, I now introduce as a critical element of the self process. I call it primordial feeling, and I note that it has a definite quality, a valence, somewhere along the pleasure-to-pain range. It is the primitive behind all feelings of emotion and therefore is the basis of all feelings caused by interactions between objects and organism[52] [*my emphases*].

Damasio recognizes that, in essence, his definition of «primordial feelings» can be traced back to Panksepp[53], i.e. to the notion of «early feelings», even with some differences[54]. "Primordial feelings" and "early feelings" share the fact that primordial feelings *precede* any interactions with the world or any feeling arising from emotions[55]. In his *Self Comes to Mind* (2010), Damasio also provides a deeper analysis of the relation between "primordial feelings" and "background

[52] Ivi, p. 185.

[53] J. Panksepp, *Affective Neuroscience. The foundation of human and animal emotions*, Oxford University Press, Oxford - New York 1998.

[54] «Panksepp's views *differ* in the following ways. First, the simple feeling that he posits appears to be necessarily related to *external* events in the world. He describes it as 'that ineffable feeling of experiencing oneself as an active agent in the perceived events of the world'. (…) In theory, primordial feelings occur *regardless of whether the protoselfis is engaged by objects and events external to the brain. They need to be related to the living body and nothing else* (…) Second, Panksepp relates this primary consciousness mainly to *motor activities* in structures of the brain stem (periaqueductal gray, cerebellum, superior colliculi), while I place the emphasis in *sensory* structures such as nucleus tractus solitarius and parabrachial nucleus, albeit in close association with the periaqueductal gray and deep layers of superior colliculi» (A.R. Damasio, *Self Comes to Mind. Constructing the conscious brain*, Pantheon Books, New York 2010, ch. 1, note 17; *my emphases*).

[55] Damasio provides quite incoherent versions of this: he maintains later on in the same book that "as stated in note 17 of Chapter 1, Panksepp also gives emphasis to the notion of early feelings, without which the process of consciousness cannot proceed. The detailed mechanism is not the same, but I believe the essence of the idea is. More often than not, treatments of feeling assume that they arise from interactions with the world (as in James's 'feelings of knowing' or my 'feeling of what happens') or as a result of emotions. But primordial feelings *precede* those situations, and presumably Panksepp's early feelings do too" (Damasio: 2010, ch. 8, note 3).

feelings". The "feeling of existence", the feeling of being "alive" which primordial feelings feed back as the "sense of the body", arises from several different bodily feedbacks – changing all the time – and from more stable interoceptive and proprioceptive maps of the body as a whole. Background feelings occur at a *reflective* level, feeding back the "on-line" representation of the state of the body, updated at any one time. Contrary to Gallagher's view, when asked "how do you feel?" we consult our internal state of the body *as a whole* – which is continuously updated – and answer accordingly[56]. We usually do not focus our attention on it (this is, incidentally, one of the main distinctive features of "background" phenomena) when involved in relations to the objects or other people in the world – as in emotions, for example The 'sense of the body' is a *continuum* whose absence or fragmentation in the several dimensions constituting what is intended as "me"[57] – from the lowest possible biological meaning to the most cognitively elaborate narrative reports – suddenly and dramatically comes into the "foreground" when this sense is disrupted[58]. Both primordial and background feelings are *bodily* feelings that are not "attached" to emotions proper: might we consider these feelings *intentional* too? In what sense, if so?

[56] A.R. Damasio, [1994] *Descartes' Error. Emotion, reason and the human brain*, Quill, New York 2000, pp. 150 - 152.

[57] «The me includes: (1) the perspective in which the objects are being mapped (the fact that my mind has a *standpoint* of viewing, touching, hearing, and so on, and that *the standpoint is my body*); (2) the feeling that the objects are being represented in a mind *belonging to me* and to no one else (*ownership*); (3) the feeling that I have *agency* relative to the objects and that the actions being carried out by my body are commanded by my mind; and (4) *primordial feelings*, which signify the existence of my living body *independently* of how objects engage it or not. The aggregate of elements (1) through (4) constitutes a self in its simple version» (Damasio, 2010: 185; *my emphases*).

[58] See M. Tsakiris, G. Prabhu & P. Haggard, *Having a body versus moving your body: How agency structures body-ownership*, in «Consciousness & Cognition», 15, 2 (2006), pp. 423 432 and O. Sacks, *The Man who Mistook his Wife for a Hat, and other clinical tales,* Harper and Row, New York 1987.

2.4. Feelings and intentionality

I will take into account here Goldie's and Ratcliffe's approach to feeling: both of them, in fact, share the theoretical effort of explaining how the *bodily* feature of feelings can be held together with the *intentionality* of the states feelings concern, such as emotions – which are mostly referred to something in the world. In the last section of the paper, however, I will again take into account Damasio's approach. Different from these and other theorists, in fact, he stresses the role of background feelings: these feelings are specific kinds of (bodily) feelings arising *not from emotions*, but from *bodily* states or, better, from that cauldron of bodily changes he christens «background emotions» – but they are not "emotions" proper. As I will try to show in the following, differently from *emotional* bodily feelings, we can consider background feelings – and, above all, the recently introduced *primordial feelings* they develop from – "border case" feelings, *lacking* intentionality, at least in the sense that they might also lack the intentional reference to anything in *the world*. If so, we might consider these feelings as *counter-examples* of the "supposed" intentionality of bodily feelings: furthermore, this should also let us reconsider the "nature" of feeling itself. At least in Damasio's view, in fact, we can regard background feelings not only as specific kinds of bodily feelings, but also as the evolutive forerunners of all kinds of feelings[59].

Before jumping to these conclusions I will try to reach in the next paragraphs, a previous discussion on intentionality is here required: most of the theoretical problems connected to this issue, in fact, depend on how we understand intentionality at any one time. In the contemporary debate on the intentionality of "bodily" feelings in emotional experience[60], the intentional feature of feeling is under-

[59] A.R. Damasio, [1994] *Descartes' Error. Emotion, reason and the human brain*, Quill, New York 2000, p. 150.

[60] See Slaby & Stephan, *Affective intentionality and the feeling body,* in «Phenomenology and the Cognitive Sciences», 7, 4 (2008), pp. 429 - 444 [online first 2007]; J. Slaby, *How emotional feelings are bodily and intentional at the same time*, in *GAP - 06 - Proceedings,* Mentis, Paderborn 2008; M. Ratcliffe, *The feeling of being*, in «Journal of Consciousness Studies», 12, 8 - 10 (2005), pp. 43 - 60; A. Ben-Ze'ev, *Emotion as a subtle mental state,* in R.C. Solomon (ed.), *Thinking*

stood, in fact, in very different ways. Intentionality is (standardly) conceived as a structural relationship between a mental state or process, on the one hand, and something this state or process is about or refers to, on the other[61]. What mental states or processes are about or refer to often are *specific* objects, properties or events. Nevertheless, as Slaby & Stephan[62] outline, there are also mental states that are not about specific objects, but that we can still consider intentional, though in a *non*-standard way. These kinds of states comprise, for instance, "moods", objectless emotions like "anxiety" and, in general, all *background* feelings. Among them we can recognize, in particular, the so-called *existential feelings* recently conceptualized by Ratcliffe as «background (…) relationship[s] to the world»[63].

Existential feelings have been neglected by research on emotions for a long time: more particularly, they are defined as «ways of finding oneself in a world»[64]. Examples of these kinds of feelings are, e.g. feeling «complete», «flawed and diminished», «unworthy», «humble», «separate and in limitation», «at home», «a fraud»[65]. The most relevant common features of existential feelings – as a specific group of (also "bodily"[66]) feelings – are that they are not only

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about Feeling: Contemporary philosophers on emotions, Oxford University Press, New York 2004, pp. 250 - 268; P. Goldie, *Emotions, feelings and intentionality*, in «Phenomenology and the Cognitive Sciences», 1 (2002), pp. 235 - 254.

[61] See F. Brentano, *Psychologie vom empirischen Standpunkt,* Duncker & Humblot, Leipzig 1874. Here I deal with the so-called "third thesis" by Brentano, considering intentionality as the "hallmark" of the mental, without necessarily being engaged also in the other two theses. Because Brentano's view is very controversial, I consider here just this feature of his analysis that is more connected to the discussion proposed.

[62] See Slaby & Stephan, *Affective intentionality and the feeling body,* in «Phenomenology and the Cognitive Sciences», 7, 4 (2008), pp. 429 - 444 [online first 2007].

[63] M. Ratcliffe, *The feeling of being*, in «Journal of Consciousness Studies», 12, 8 - 10 (2005), p. 45.

[64] Ivi, p. 50.

[65] Ivi, p. 45.

[66] Ratcliffe (2012) clarifies that existential feelings might be considered bodily as far as they comprehend more than just "feelings of the body"; the term "bodily feeling" is insensitive to a distinction between two kinds of bodily experience: the *feeling* body needs to be distinguished from the *felt* body. He considers existential feelings neither noetic nor noematic feelings, but just *way of shaping* the relation to

aspecific, objectless, but also primarily background orientations in shaping our experience of the *world.* According to us, then, following Ratcliffe's own definition, being *objectless* does not mean by itself being *non*-intentional. Of course, states such as moods, objectless emotions, existential feelings and, in general, all *background* feelings are not intentional by the standard meaning, understood as referring to *specific* objects. More precisely, Ratcliffe defines existential feelings (as kinds of background feelings) as «*pre*-intentional» rather than intentional themselves[67], i.e. as conditions of possibility of other intentional states. Nevertheless, in my view, we can still consider existential feelings intentional at least in the sense that they are always related *to the world*, that we experience as a *whole*. The "something" they relate to, in fact, is not a specific, well defined object, but the *whole* situation, environment, or life circumstances: when we are "not in the mood" it is the whole relation to the world – above all to other people, for instance – that is compromised, and the same happens when we feel "unfamiliar" or "not at home". Thus, the core feature of intentionality according to Ratcliffe seems to be not the specificity of particular objects or events, but rather the relationship to *the world* – even if it is the whole world, including myself in my relationships to the other persons or to the environment. The philosopher, in fact, never considers the body as a possible object of perception, but as just that *through which* we perceive objects.

In a similar effort to explain how we can still consider "intentional" *bodily* feelings to be involved in emotions – which cannot be easily said to be *about* something –, Goldie[68] understands bodily feelings as intentional states (as soon as we conceive intentionality in a "broader" sense, namely in the sense of «directedness») – as also being *directed* towards something: in this case, towards a given part of one's own body. This broader sense exceeds the standard meaning of intentionality as «aboutness» (i.e. as being *about* something)[69]. Fur-

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the world.

[67] M. Ratcliffe, *The phenomenology of existential feeling*, in Marienberg. & Fingerhut, *The Feeling of Being Alive*, de Gruyter, Berlin 2012, pp. 23 - 54.

[68] P. Goldie, *Emotions, feelings and intentionality*, in «Phenomenology and the Cognitive Sciences», 1 (2002), pp. 235 - 254.

[69] We might find the same distinction also in J.R. Searle, *Intentionality,* Cambridge University Press, Cambridge (MA) 1983.

thermore, in order to explain *in which way* we can consider "bodily" feelings too as *intentional*, Goldie introduces a distinction between «bodily feelings» and «feelings towards», though in *emotional* experience these two kinds of feeling are always connected. "Bodily feelings" are feelings of the condition of the body, of the bodily changes (triggered from "*inside*"), while "feelings towards" are feelings towards the object of the emotion (triggered from "*outside*"). Following this distinction, we can consider both feelings as *intentional*, though in a different way. *Feelings towards* are intentional both in the sense of *directedness* (they are "directed" towards an object outside the body, in the world) and in the sense of *aboutness* (they are also "about" this object). *Bodily feelings*, however, are intentional in the sense of being *directed* towards the body (inside), but not of *aboutness* – they are not themselves "about" anything *in the world*. The intentional content of *bodily feelings* is rather some part – localized – of the body (by the way, I find this expression misleading: a bodily feeling is rather *localized* in some part of the body and not *directed* towards it)[70]. In Goldie's example of the hairs going up on the back of one's neck in the emotion of fear[71], he considers the *feeling towards* the object of fear properly intentional, because it is *about* the object of the emotion – "the lion", in this case, or something else in the world. However, the *bodily feeling*, that is the feeling of the localized part of the neck where the hairs are going up on account of fear, is intentional in the sense of "directedness" only: this feeling is *directed* to a precise part of the body, that is the neck, but it is not "itself" *about* anything in the world. Bodily feelings show, thus, a kind of «borrowed intentionality»[72]: nevertheless, what they borrow is the *directedness to*, but not the *aboutness* towards the world[73].

In contrast to Goldie, Ratcliffe claims that bodily feelings are also

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[70] Thanks to A. Stephan and the Osnabrueck IKW Ph.D. students group for having noticed this while discussing with me the paper in their journal club meetings.

[71] P. Goldie, *Emotions, feelings and intentionality*, in «Phenomenology and the Cognitive Sciences», 1 (2002), pp. 235 - 254.

[72] Goldie further explained and developed this concept in his *The Emotions. A philosophical exploration,* Clarendon Press, Oxford 2000.

[73] P. Goldie, *Emotions, feelings and intentionality*, in «Phenomenology and the Cognitive Sciences», 1 (2002), p. 247.

feelings towards the world considered as a whole, *by means* of the body[74]. In his phenomenological account, body and world are always intertwined, both inextricably and ontologically. They cannot exist separately: bodily feelings, in fact, are *in* the *body*, while the body itself often remains unattended and unaware – in the background. At the same time, bodily feelings are, "about" the *world* beyond the body, rather than about the body itself. Thus, the body is not the intentional content of bodily feelings, but it is that *through which* we keep the intrinsic relation to the world. According to Ratcliffe, this is clearly revealed by the "model case" of *touch*, in which the relation between bodily feelings and the world is fully intertwined, because «to touch is to experience a relation between one's body and an object it comes into contact with»[75]. In line with Merleau-Ponty's analysis of touching experience[76], Ratcliffe also proposes a detailed description of the phenomenology of feeling in touch. Additionally, he extends this explanation in terms of structural relatedness to the world to *every* kind of feeling experience.

In connecting feeling dimension to *emotions*, both Goldie and Ratcliffe have to face the problem of how we can hold the *bodily* dimension of feelings involved in emotions together with the *intentionality* of the states feelings concern. I follow here a different strategy: taking into account Damasio's background feelings, which are specific kinds of feelings arising *not from emotions* (but from basic bodily states or, better, from that cauldron of bodily changes he christens "background emotions" – which are not emotions proper), I wish to catch the *core* nature of feelings, independently (if possible) from the intentionality of the states feelings are mostly related to. Background feelings (and certainly the primordial feelings they develop from), in fact, seem *to lack* intentionality, at least in the sense that they might also exist *without* intentional reference to anything in *the world*. Background feelings are kinds of feeling in which the bodily dimension and the intentional one (in the sense of "reference to the *world*") are *not necessarily* connected: in my view, this fact

[74] M. Ratcliffe, *The feeling of being*, in «Journal of Consciousness Studies», 12, 8 - 10 (2005), pp. 47 - 48.

[75] Ivi, p. 48.

[76] M. Merleau-Ponty, *Phénoménologie de la Perception,* Gallimard, Paris 1945.

might let us consider questionable that intentionality is part of the core structure of *this* kind of (bodily) feeling, at least. Far from being a critical point in Damasio's account, as many of his detractors have pointed out[77] (which *is* a critical point for the case of *emotions* and other related intentional states only), I rather think that the background dimension of feeling the neuroscientist outlines reveals something that is more fundamental for a better understanding of the core nature of *feeling* in general. As kinds of feelings that may also have *no intentional reference* to the *world*, only background feelings might clearly reveal, so to say, the 'pure' *bodily* nature of feeling, as I will try to show in the last section of the paper.

2.5. Are background feelings intentional too?

In this last section, I want to propose the hypothesis that we might consider background feelings, as defined by Damasio, as *counter-examples* of the more recently claimed intentionality of bodily feelings[78]: background feelings, in fact, seem to *lack* intentionality. In the following, I'll once again take into account Goldie's, Ratcliffe's and others' understanding of intentionality and discuss whether it might be applied to background feelings too – as kinds of *bodily* feelings – as conceptualized by Damasio, in order to exclude any meaning of intentionality (standard or broader) according to which background feelings might be considered intentional states themselves.

Let's be clear, first, about background feelings as understood by Damasio and Ratcliffe, because they agree on this concept only apparently. According to Damasio, the most distinctive meaning of "background" is that feelings of the background type allow us to ex-

[77] In his critique of Damasio's theory of emotions, W. Lenzen, in *Damasios Theorie der Emotionen*, «Facta Philosophica», 6 (2004), pp. 302-307, for example, points out that the neuroscientist does not take into account the *intentional* content of emotions, which is always something in the world, outside the body. Nevertheless, in Damasio's taxonomy of emotions and feelings at least background emotions/feelings really *lack intentionality* in this sense, because they can also be not referred to anything in the world.

[78] Slaby - Stephan, *Affective intentionality and the feeling body,* in «Phenomenology and the Cognitive Sciences», 7, 4 (2008), pp. 429 - 444 [online first 2007].

perience our body in a very particular way, namely *as a whole.* Ratcliffe acknowledges background feelings as neurophysiological evidences for his own hypothesis of existential feelings[79], which he regards as *kinds of* background feelings. He also shares with Damasio the view that background feelings are aspecific and allow us to experience things as "wholes". A closer look, however, reveals significant differences between background and existential feelings. Existential feelings as understood by Ratcliffe concern a relation *to the world* considered as a whole, while Damasio's background feelings might concern a relation *to the body only* as a whole, and not to the world[80] – even if the body is *in* the world anyway, and it does not exist in isolation, of course. This is even more evident at the previous level of "primordial feelings" background feelings develop from.

In order to understand better the difference between Damasio's and Ratcliffe's conception, let's analyze the process by which (firstly *un*felt) background *states* of "relaxation" or "tension", for instance, might develop into background *feelings* of "relaxation" or "tension", where we might distinguish the following features:

a. our body can be in *states* of "tension" or "relaxation" – states of the body as a *whole*, not of particular *parts* of it[81];

b. we can perceive (become *aware* of) these states when we focus our attention on them: we can *feel* tense but, before noticing it, we simply *are* tense, *as a* "*pure*" *bodily state permeating our being*, *our whole organism*. Even when we do not focus our attention on these states, "tension", e.g., is *already* in the background. Damasio would call such a state a "background *emotion*", not a background *feeling* yet;

[79] M. Ratcliffe, *The feeling of being*, in «Journal of Consciousness Studies», 12, 8 - 10 (2005), p. 52.

[80] They might also have no relation at all to any object in the world, as Damasio himself acknowledges in his latest work, *Self Comes to Mind,* when he writes about the previous level of the so called "primordial feelings", from which background feelings are just a small "step up" (Damasio, 2010: 185).

[81] Consider that, even if you might *localize* this feeling in your shoulder, for example, this does not mean that tension is arising from your shoulder or your foot or your hand *only*: the feeling of tension results from the condition of the body as a *whole* either way.

c. when we become *aware* of these complex collections[82] of bodily states, we can sometimes correctly relate them to events in the world ("this tension *is due to* those unresolved conflicts"), and although we sometimes relate them wrongly to events in the world (false rationalizations), at other times *we are simply not able to see any connection* between these collections of bodily states and any object or event – specific or aspecific – in the *world*;

d. in the last case too we can still *feel* "relaxed" or "tense", *as a* "*pure*" *bodily perception arising from the organism as a whole*, even if we have no belief at all, no knowledge – that is, no *intentionally* structured state – about possible connections between the corresponding bodily state and events in the world.

Let's be clearer on this point: saying that "we are sometimes not able to see any connection between these kinds of states and the world" does not mean that background feelings are not *caused* by anything else, but that this "something" is not the *intentional content* of a representational activity connected to or *constituting* the feeling itself. In a more detailed analysis of the difference between "causes" and "reasons" presented in De Monticelli[83], she considers the case of "moods" – which, incidentally, background feelings are deeply related to, though background feelings refer to a different (on-line) temporal window and they have a sharper recognition of the stimulus. Moods usually are "groundless" states, in the sense that they do not have a definite intentional content we can recognize as *part of the structure* of the feeling or mood itself, as in the case of feeling arising from emotions (e.g. feeling the fear "of" the lion). Incidentally, this does not imply that moods – or background feelings[84] – are not connected to any "cause" they depend on.

Assuming for a while that all bodily feelings – background included – do have an intentional structure, nevertheless we would

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[82] The integration into *a whole* is not just a matter of awareness: even at the previous level of "unfelt", "unaware" background emotions we deal not with discrete bodily changes, such as hormonal level variations, for example, but with the *complex collection* of bodily states, namely "wellness" or "enthusiasm".

[83] R. De Monticelli [2003], *L'ordine del cuore. Etica e teoria del sentire*, Garzanti, Milano 2008, ch. 3, §4.

[84] Here De Monticelli provides the same distinction also for Scheler's *Lebensgefuehlen*, which background feelings might be assimilated into.

need a clarification on what their *content* is. One answer might be that it is *the body* itself, rather than the world, in the cases described above: but Ratcliffe, for example, considers this idea misleading. «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»[85] . In his hypothesis of existential feelings as background relationships to the *world* that are *bodily* at their core, Ratcliffe distinguishes between a location *in the body* and what the feeling is related to: the *world*[86]. According to him, then, we cannot consider the body as the *intentional content* of the "bodily" feelings involved in emotions: the intentional content is always the *world* beyond the body. The core difference between existential feelings and background feelings (in Damasio's sense), we may guess, results from Ratcliffe's combination of Damasio's concept of background feeling with a phenomenological account, in which everything is completely intertwined in a structural (ontological) relationship *to the world*.

Accepting Ratcliffe's concept of existential feelings, Slaby & Stephan[87] also provide a detailed taxonomy of these kinds of feelings, comprised of four levels:

a. "pure" (bodily) existential feelings: feeling "alive", "fresh", "tired", feeling "having" or "being a body", etc.;
b. "social" existential feelings: feeling of "familiarity"/"unfamiliarity", feeling of "security", feeling "at home", etc.;
c. more "specific" existential feelings, conceptually more sophisticated and culture-dependent: general "anxiety", feeling "invulnerable", "vulnerable", "lost", "like a stranger", "generally unwelcome", etc.;
d. "emotional" feelings: feeling "flawed" or "diminished", etc.

Following this more analytical taxonomy, Damasio's background feelings would then belong to the first level. According to him, in fact, the sense of *having* or *being* a body arises at the level of the

[85] M. Ratcliffe, *The feeling of being*, in «Journal of Consciousness Studies», 12, 8 - 10 (2005), p. 59.
[86] Ivi, p. 44.
[87] Slaby - Stephan, *Affective intentionality and the feeling body,* in «Phenomenology and the Cognitive Sciences», 7, 4 (2008), pp. 429 - 444 [online first 2007].

"primordial feelings" and of background feelings themselves, by providing the representation of the on-line state of the body. Ratcliffe recognizes that Damasio's background feelings comprise «the feeling of life itself, the sense of being»[88]; but the philosopher associates with Damasio's idea of "the feeling of being" rather "the sense of *being-in-a-world*". According to Ratcliffe, in fact, the "feeling of being" concerns a relation *to the world* conceived as a whole. On the contrary, Damasio's background feelings, and above all the even more primitive level of primordial feelings such as the "feeling of existence", the feeling of being "alive" they develop from, concern the sense of the *body* as a whole *only*, not of the world[89]. In Ratcliffe's view, Damasio is *successful* in both identifying background feelings as ways of structuring our experience of the world and in providing a neurophysiological theory of *how* this is realized, but he is *wrong* in not taking into account the possibility of background feelings having *the world* as their content. If we adopt Ratcliffe's account of intentionality, whose key feature is the structural relationship *to the world*, then, in my opinion, we *cannot* consider background feelings (in Damasio's sense) intentional: if background feelings have an intentional *content*, then this has to be the body itself, rather than the world.

Even adopting a broader account of intentionality for bodily feelings – as background feelings also are – namely that of «*directedness*» proposed by Goldie[90], again Damasio's background feelings turn out to be *not* intentional. According to Goldie, in fact, intentionality of *bodily* feelings involved in emotions can be understood both in the sense of *aboutness* and in the sense of *directedness*, but in a quite different way. If we conceive intentionality of bodily feelings in the sense of their being "directed" to some *parts* in particular (localized) of the body, as Goldie claims, then background feelings – which are kinds of bodily feelings too – *cannot* be considered intentional in this sense. There is, in fact, no defined part, localized in the

[88] M. Ratcliffe, *The feeling of being*, in «Journal of Consciousness Studies», 12, 8 - 10 (2005), p. 52.

[89] A.R. Damasio, *Self Comes to Mind. Constructing the conscious brain*, Pantheon Books, New York 2010, p. 185.

[90] P. Goldie, *Emotions, feelings and intentionality*, in «Phenomenology and the Cognitive Sciences», 1 (2002), pp. 235 - 254.

body, towards which background feelings are directed, but these feelings are bodily in the sense that they result from the sense of the body as a *whole.* Different from what happens in emotional experiences, involving other kinds of more *localized* bodily feelings (e.g. the feeling of the hairs going up "on the neck" for fear), background feelings concern the sense of the body as a whole rather than of a specific part of it. But if we also conceive intentionality along the more standard meaning of "aboutness", then background feelings, with much more evidence, are *not* intentional either, because they can also be *about* anything – specific or aspecific – in the *world* (as I have already shown in the 3rd case of "tension"/"relaxation" example). In Goldie's words, different from bodily feelings arising from emotions, background feelings might also not «borrow» intentionality, even in the broader meaning of *directedness* to the world. Furthermore, if we conceive of intentionality in the narrower sense as "aboutness", then we have to admit that background feelings are mainly "about" *the body* itself, rather, experienced as a whole.

In both Ratcliffe's and Goldie's understanding of intentionality it turns out that background feelings *cannot* be considered intentional or, at least, that their intentional *content* can be also anything at all *in the world*: rather, the intentional content of background feelings, if any, turns out to be the *body* itself, perceived *as a whole*[91]. As kinds of feelings that may also have no intentional reference to the *world*, background feelings clearly reveal their "pure"[92] *bodily* core nature.

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[91] In an email correspondence (dated the 28th April 2008) with the same Damasio about the intentionality of background feelings, he answered my question thus: «*in general I agree with your interpretation. My caution*, *however*, *is that in a very broad sense even those states are intentional* (*in biological and philosophical meanings*) *because they are* '*about*' *the regulation of body states albeit in a messy*, *somewhat inchoate way. As you know*, *I believe that even in single cells*, *without any brain or mind*, '*mean*' *serious business when they regulate life so as to permit survival*». By the way, this is *not* the meaning of intentionality we are discussing here. Between background feelings and the body there is an immediate, implicit, pre-noetic relation since when background feeling occur at the level of the unattended, unaware background-emotions level.

[92] In an email correspondence (dated June 2011) with Gallagher he rejects this conclusion, maintaining that all bodily processes are "impurely" conditioned by the environment, in a theoretical frame considering an integrated brain-body-environment system. I don't believe in disembodied as in disembedded minds ei-

Background feelings are kinds of feeling in which the bodily dimension and the intentional one (at least in the sense of reference to the *world*) are *not* necessarily connected. If we would like to also treat background feelings as intentional states, then we would have to accept the *body* itself, considered as a whole, as their intentional *content* rather than the world.

In my opinion, then, an intentional stance in the sense of world-reference rather *pertains to the intentional states* feelings *concern,* such as emotions, but also needs, motivations, desires, etc. (as *felt* states), but not to feeling "itself", which turns out to be *completely bodily at its core.* One might hypothesize, then, that feelings *become* intentional when dealing with intentional states, but feelings are not intentional *by themselves.* This common feature of feelings might be revealed only by the "border case" of background feelings because, different from other feelings, they neither arise from (proper) emotions nor from any other kind of intentional state (the so-called background "emotions" they follow, in fact, are not intentional either). In these kinds of feelings the relation to the body, which is mostly in the "background" in bodily feelings connected to emotions, comes evidently into the "foreground", in a way we can't realize in other feelings, always focused on an object or event (specific or aspecific) in the world.

Nevertheless, I do not argue that *all* feelings are *only* bodily and that they are not intentional at all: I claim that feelings, as revealed by the "border case" of background feelings, are themselves *bodily* at their core, but they *become* intentional when concerning intentional

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ther, but this is not the point at issue here, as far as I can tell. What I want to underline is that, even in this structurally "intertwined" ontology, there is at least a *boundary* (that is the *cutaneous* surface – standardly considered the reference for the so-called "*personal* space" in the case of our own body, even if this is flexible and can be extended to a certain extent. Regarding this, see Gallese & Sinigaglia, 2011: 130-131) between body and environment, so that we can still *distinguish* our body from others' or from the environment in general-even if they do not exist in isolation, of course. If this were not the case, things would be completely *undistinguishable* from each other and we would live in a kind of "magmatic" reality with no differentiation between the others and us. This happens, in fact, only in the earliest phases of the life of the infant, when he conceives no difference between himself and his mother (see Meltzoff & Moore, 1977), or in severe psychosomatic pathologies (see Ulnik, 2005).

states such as emotions, needs, motivations, etc. In Goldie's words, but in a more radical sense, they "borrow" intentionality *tout court* (not only by the meaning of *directedness* to the world beyond the body) when concerning intentional states such as emotions. Among feelings, only background feelings reveal this *immediate*, intimate connection to the body; we cannot realize it in bodily feelings of intentional states like emotions, that are always referred to something *in the world*, on which emotional bodily feelings are mainly focused.

If we consider feeling always and only connected to the *emotion*-debate and also as being an intentional state itself, we might hardly understand what this kind of "immediate" access is, what this relation to "ourselves" is that feelings nevertheless reveal, which is, in the end, a relation to our own body. We are usually unable to qualify this relation other than metaphorically or in negative forms, such as "*non*-linguistic", "*non*-explicit" or as "*pre*-reflective", "*pre*-noetic"[93] and so on, without any other further possible clarification. In this paper, I hope to contribute in paving the way towards a description of this relation to our body also in "positive" terms. In a nutshell, one might say, for example, that this direct, unique relation to our own body as a whole, this kind of "immediate" access we all experience at different degrees of sensibility is realized by means of the *complex collections* of unaware physiological modifications occurring in our whole body.

At a reflective level, *background feelings* themselves ("on-line", actualized aware perceptions of the state of the body, continuously updated) and more stable neural maps provided by *proprioception* and *interocepion* (maps of the "potential" state of the body) let the condition of the body as a whole – resulting from unaware, automatic bodily changes, occurring in order to get homeostasis and stay "alive" – come to awareness[94]. My intuition is that this intimate rela-

[93] Gallagher - Zahavi, *The Phenomenological Mind,* Routledge, London – New York 2008.

[94] The more primitive level of "primordial feelings" (background feelings themselves develop from), instead, require just *wakefulness* (granted by the brain stem integrity), not necessarily awareness. In line with recent approaches to phenomenal consciousness maintaining a kind of isomorphism in between phenomenality and the physiological dimension (see Marienberg & Fingerhut (Eds.), 2012) Damasio sees in the brain stem systems interconnectivity a very first attempt to ex-

tion to the body – which background feelings reveal more clearly than other feelings – should shed more light on another key feature of feelings, namely their *phenomenality*, more than their "supposed" intentionality. But that's another story.

plain *why* these feelings "feel like" something (Damasio, 2010: 257).

3. The oxymoronic nature of "neural representations"[1]

3.1. The sensori-motoric roots of the 'mental states'

However understood, the notion of 'representation' is a real theoretical pivot in cognitive psychology: that's why, whenever cognitivism itself is under attack, the legitimacy and the epistemic value of the notion 'representation' also come into question. According to the classic cognitive approach, mental faculties are understood as functional relationships between *representations* and *processes*, rules, whose material substrate, neural or computational, is supposed to be irrelevant. In fact, functionalism puts this feature in 'brackets', as the substrate is not considered as fundamental as the functional role. So, according to this view, mind is conceived of as a symbols processor, whose processes are similar to computations – performed on representations and according to rules – whose description is *irreducible* to other levels, such as the physiological level[2].

Connectionism, instead, has questioned these basic assumptions: this approach, in fact, prefers to refer to kinds of *sub-symbolic* and *distributed* representations. Connectionism gives an explanation in terms of *patterns*, computational configurations of interconnected nodes[3]. This research program takes into greater consideration the

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[1] First published as E. Barile, *L'ossimoro delle rappresentazioni neurali*, in «Episteme», 3 (2009), pp. 29 - 40.

[2] J.R. Anderson, *Cognitive Psychology and its Implications*, W.H. Freeman, San Francisco 1980.

[3] D. Rumelhart - J.E. McClelland, *Parallel Distributed Processing: Explora-*

nature of the *hardware* mental functions are implemented on (considering not only their functional role), striving for a greater *biological plausibility*, adopting parallel computers and not digital, serial computers. However, it is still questionable if this way of understanding representations is a real *alternative* to the *stricto sensu* cognitive understanding: there is always, in fact, a certain kind of symbolism. The nodes or patterns 'stay for' something else (the represented), they constitute representations that in whatever way are based on a kind of symbolism, although in distributed representations the pattern is not an individual symbol, storable as an archive file, but is *re*built every time. Furthermore: *might we really forego the concept of 'mental representation', however understood?*

Compared to the traditional cognitive approaches, studies in robotics address especially the problems arising from managing a *body*[4], embedded in an environment it interacts with. This approach recognizes the need to recover the *sensori-motoric* roots of representations and to reconsider representations themselves following an 'embodied' approach to the mind, that is not conceived of as separate from the environment. However, despite the limitations of representationalism, by considering antirepresentationalist instances to be valid, such as those advanced by the related approaches of the so-called 'distributed knowledge'[5], we can come to 'rash' conclusions. J.J. Gibson, whose ideas many of these positions are based on, established the concept of «affordance», understood as the set of environmental characteristics *pre-arranging* the body to interact with the environment in a given way[6]. This concept, a candidate to replace the theory of "representation" as an *internal*, irreducibly *mental* state, indicates the constitutive link between action (body movement) and perception (sensory) and considers this basic sensori-motoric level more fundamental than the representational one. Gibson argues that the environment has *already* in itself the 'opportunity' for the sub-

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tions in the microstructure of cognition, Bradford Books, The MIT Press, Cambridge (MA) 1988.

[4] See R.A. Brooks - L. Stein, *Building Brain for Bodies*, Memo 1439, Artificial Intelligence Laboratory, The MIT Press, Cambridge (MA) 1993.

[5] E. Hutchins, *Cognition in the Wild*, The MIT Press, Cambridge (MA) 1995.

[6] J.J. Gibson, *The Ecological Approach to Visual Perception*, Huoghton-Mifflin, Boston 1979.

ject's action; according to this view, knowledge is understood not only as 'problem solving', achievable by means of programmed instructions. The environment itself provides the "affordances" to knowledge – structures recognized by the interacting body[7].

Compared to this and other antirepresentationalist instances (understood, therefore, to deny the very existence of representations themselves), A. Clark's position seems more realistic: he recognizes the limits of representationalism, especially in its being able to explain capacities that are mostly *embodied* and *embedded* (such as walking, grasping etc.). Furthermore, Clark proposes a kind of «minimal representationalism»: even for such 'basic' tasks, in fact, a level of representation, however minimal, seems to be ineliminable[8]. After an early career as a connectionist, in fact, Clark provides explanations in terms of *dynamical complex systems*, remarking on the constituent role of the body and of the world for developing cognitive processes. Antirepresentationalist positions show that sensori-motoric tasks, such as walking, grasping etc., appear to contradict the cognitive analogy of mind as a computer provided with instructions as soon as these sensori-motoric capabilities seem to rise, instead, from the continuous interaction between brain, body and environment. Comparing these positions both to approaches of distributed cognition (denying the very existence of something like an 'internal representation') and to problems posed by the developmental theories, Clark considers antirepresentationalist positions certainly exaggerated.

In his view, in fact, a certain level of representation, albeit minimal, seems unavoidable in order to explain many mental states, even elementary ones. Although he considers the antirepresentationalist claims unreasonable, however, Clark recognizes the need to establish a more direct correspondence between actions and the sensori-motoric activities. In his view, such approaches to these kinds of problems, seeming to question computationalism and the very idea of 'internal representation', are not really *alternative* to (classic) cogni-

[7] Concerning the action/perception relationship, see the more updated A. Noë, *Action in Perception,* The MIT Press, Cambridge (MA) 2004.

[8] A. Clark [1996], *Being There. Putting brain, body, and world together again*, The MIT Press, Cambridge (MA) 1997[2].

tivism: rather, they represent a fruitful critique for improving the key concepts of cognitivism itself while making these concepts more plausible at a biological level.

3.2. 'Minimal' representationalism

Rejecting the antirepresentationalist position, Clark argues for a "minimal representationalism", hoping that the cognitive approach welcomes the requests from the 'bottom-up' approaches. In order to support his position Clark needs a 'minimal' definition of 'representation' too. Neither cognitivism nor connectionism, in fact, bring into question the real *existence* of the representations: they just differ in their view (symbolic/sub-symbolic) on mental representations and in the assumptions concerning the nature of the representational system managing representations themselves. According to cognitivism, representations are strings of (explicit) symbols, managed by a processing CPU; connectionism, on the other hand, conceives of representations as being 'distributed', as constituted by complex numeric vectors (connected to recognition and transformation pattern operations).

In Clark's view, the core concepts of cognitivism, such as 'representation', should be not *eliminated* but *reconsidered*; we need rather to develop a 'minimal' meaning of 'representation', a meaning acceptable at several levels of complexity. At this point, it is important to clarify what we mean by the rather abused term 'representation', in order to avoid the risk of naming 'representation' as everything and its opposite. In this regard, Clark provides a very enlightening list (which he derives from J. Haugeland[9]) of the features a system considered 'representational' properly ought to have. Hence, a system is supposed to be using representations when:

a. it fits its behaviour with the environment, whose characteristics are not directly present in the system itself; representations, in fact, 'stay for' something else (*in absentia*);
b. it uses 'something' – representations themselves – 'standing for'

[9] J. Haugeland, *Representational Genera*, in W. Ramsey *et al.*, *Philosophy and Connectionist Theory*, Erlbaum, Hillsdale (NJ) 1991.

the environmental features;

c. this 'something' is part of a broader representational system;

d. the used representations are functional states, carrying information[10].

The first constraint by Haugeland excludes from representational systems those organisms having *direct* contact with the environment and not mediated by 'internal states' (e.g., a plant reacting to the sunlight and oriented towards it). The second criterion states that 'representing' means 'standing for, instead of' something else, but still, this is not enough; in order to be considered representations proper, these states also ought to be part of a representational *system*, encoding representations in the *same way* all the time (for example, as activation structures of a neurons' population). Simpler 'inner states', in fact, are *different* from representations precisely because representations proper belong to a more general representational system. Finally, we cannot consider the simple *correlation* between internal states and environment/body a kind of representational mediation yet. In simpler systems there is an immediate causal relationship between environment and individual, a direct relationship (e.g., a plant reacting to the sunlight), while the adaptation of systems of a higher level of organization needs a more complex correlation. This kind of correlation provides for the existence of *internal states* – that are not representations yet – but that can become representations proper in more complex cognitive systems. Only in these systems, in fact, is there a representational proper *system*, managing internal representation, used *in absentia* of direct environmental stimuli, and is able to encode these internal states, letting representations proper arise, so that other systems can also have access to them.

Antirepresentationalist positions get to the point of claiming that, whatever its nature, 'representation' is an erroneous and misleading concept. More reasonably, Clark's position suggests that it is not necessary and perhaps not even possible to eliminate this concept, and that we always have to presuppose a certain degree of representation at any level, however minimal.

The biggest problem, then, is probably not so much the *reality* (existence) of representations, or a dualistic mold alternative between

[10] A. Clark, *Op. cit.,* p. 62.

the neurophysiological level of bodily description and the irreducibility of mental representations, but what the *nature* of representations themselves is. In particular, what's the most basic kind of representational *format*, best suited to explain *the constitutive link between mind and body*. *Above of all, it remains unclear how, in detail, representations (on which mental states are based) can emerge from the basic bodily states.*

3.3. The represented body

Among the researches in cognitive neuroscience regarding the origin and nature of "mental representations", even neurobiological approaches such as A. Damasio's, emphasizing the role of the *bodily* level, recognize that we get a 'representation' of even the body through *different levels of representations*. According to the 'organismic' view supported by the neurobiologist, the mind is grounded not only in the brain, but also in the *kind* of *body*[11].

Body and brain are inextricably intertwined, they both constitute an *organism*, i.e. an integrated system, acting and reacting to the environment as such, thus generating internal responses, in image format, and external responses (reflexes, actions etc.). Though pursuing a reductionist research program, Damasio has to admit that we need a *set of representations* in order to build up an emotional experience too, even if such an experience is more intimately tied to the basic bodily states. In his view, the emotional experience is privileged in that it is able to grasp the intrinsic connection between mental phenomena and their bodily roots. In order to 'feel' something, for example, an *explicit* representation of what causes the feeling itself, a representation of the *online body state* (via *proprioception* and *interoception*), and a so-called «third-party representations», developing in one of those areas Damasio names «*convergence zones*», are all required. These zones are cortical areas mainly located in *thalamus* and *basal ganglia*, receiving signals from both representations and

[11] A.R. Damasio, *Looking for Spinoza. Joy, sorrow, and the feeling brain*, Harcourt, Orlando 2003 and *Id.* [1999], *The Feeling of What Happens: Body and emotion in the making of consciousness,* Harvest edition, New York 2000.

ordering them in succession, thus allowing everything to happen *synchronously*[12]. *The ability to build up a representation of the body, ultimately, makes the organism able to represent the surrounding environment too.*

We can understand the *primacy of the representation of the body* in more than just phylogenetical terms: according to the neurobiologist, the construction of the body images comes *first* and it is the basis for the construction of the images of the world, also in ordinary thought processes. The representation of the body includes the representation of the biochemical regulation states, the representation of the *viscera* (including the skin that, considered for its 'thickness', is the main *viscus* of the body), named '*interoception'*, and the representation of the musculoskeletal system, '*proprioception*' proper. Compared with the external changes of the environment, this set of representations feeds back a sense of the relative stability and invariance of the organism, originating the sense of identity and of the physical integrity of the body (i.e., the '*self*', understood as a biological entity, not as a social construct[13]).

Therefore, the representation of the body is primordial, but so far as mind evolved, this representation laid outside the focus of attention, in the 'background'. In terms of details, the representation of the body is in *image* format, and it is implemented by another kind of representation that Damasio christens «*dispositional representation*» of the 'self', caught in the change processes the body undergoes while interacting with any object. With their own characteristics, dispositional 'representations' introduced by Damasio himself seem to be the *medium* in between the basic bodily states and the different representative proper levels: these 'representations' (can) constitute the *biological* sense of 'self', the overall representation of the body, that is always 'in the background' until we direct our attention onto it. Given these characteristics, such 'representations' would be better defined as 'proto-representations': dispositional representations are "third-party representations", that is they are built up in "convergence zones" where the representations *of the object* (built up in lower order sensitive barks) and the representations *of the self* (built up

[12] Idem, [1994] *Descartes' Error,* p. 162.
[13] Ivi, cap. 10.

in the sensory and motor associative cortex regions) overlap. Damasio also specifies that *language is not required* for this device.

> What I am calling a dispositional representation is a dormant firing potentiality which comes to life when neurons fire, with a particular pattern, at certain rates, for a certain amount of time, and toward a particular target which happens to be another ensemble of neurons. (…) The firing patterns result from the strengthening or weakening of synapses, and that, in turn, results from functional changes occurring at microscopic level within the fiber branches of neurons (axons and dendrites)[14].

3.4. '*Neural*' representations?

We might understand 'dispositions' as neural patterns, 'featuring', i.e. organizing, other neural schemes, exciting neural activity elsewhere, in linked sites. If activated, these representations can:

a. activate *other* dispositional representations in *other* related sites;
b. feed back and generate topographically organized representations (*images*);
c. activate other dispositional representations in the *same* system they belong to;
d. generate a *movement*, an *action*, by activating the motor cortex[15].

These 'representations' are, rather, *potential patterns*, inactive but activable on request, that may excite other neurons in the set they belong to (in the convergence zones). Dispositions do not in themselves constitute a store of knowledge, in image format: rather, they are *tools* for rebuilding images, by activating *elsewhere* circuits able to do it. The dispositions' role is not comparable to the images' role: images are different because they represent individual, concrete objects. As *schemata*, rather, dispositions are the basic elements for the *construction* of a particular image. Dispositions are *multiple* and *specific* to the different aspects constituting an image (sounds, smells, colors etc.), and *distributed*, since they are not topographically organized nor isomorphic to the represented object.

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[14] A.R. Damasio [1994], *Descartes' Error*, cit., p. 104.
[15] Ivi, p. 105.

The brain works out these *representations*, referred to by Damasio as 'neural' representations – they are not 'mental' representations yet; at the neural level, the neurobiologist describes these representations in terms of biological changes generated in a neuronic circuit of learning, and therefore able to bring forth images, manipulable by thought.

Really, Damasio's supposed explanations use concepts such as 'image' or 'representation', interpreted not by the standard psychological meaning; most of the time, he seems to adopt these concepts quite commonsensically. In cognitive psychology, in fact, 'mental representation' was introduced in order to indicate an *irreducibly* mental level, that is not explainable through solely neurophysiological descriptions. Damasio, instead, tries to reinterpret these psychological concepts in *neural* terms, adopting ambiguous – if not oxymoronic – definitions, like that of «*neural* representation». Moreover, we have to recognize that Damasio is pretty obscure in these descriptions, probably because (as, in fact, he himself admits) we *do not know* how this level works. Therefore, as soon as he can't provide detailed, and especially definitive explanations in neurophysiological terms only, Damasio *has to* recognize an obvious *explanatory gap* between the 'mental' level of images, of representations – we have to assume – and their *neural* correlates.

Really, we have to admit that there is no model of how, in terms of details, we can get a 'mind' from a 'body', the mental dimension from the organic world. Although providing helpful comments and apt criticisms to cognitivism, Damasio himself, in his turn, seems unable to provide any consistent alternative, able to give better explanations. Failing that, his call to the theoretical centrality of the *body* seems simply to beg the question; His call is legitimate but insufficient by itself to provide explanations preferable to those we currently have. *However, interestingly, if considered by their nature and the functions performed, the "dispositional representations" he introduced may constitute that very link between the basic bodily states and the representative proper levels whose absence, at a theoretical level, we complain of.*

3.5. *The Body in the Mind*

Damasio's concept of «dispositional representation» seems to resemble the «scheme», as understood by M. Johnson[16], a philosopher of mind the neurobiologist refers to, continuously and explicitly, regarding his conception of the mind/body relationship. In line with the criticism by F. Varela *et al*.[17] of the 'disembodied' approach to mind, typical of the standard cognitivism, Johnson is one of the few philosophers proposing a real *model*, however questionable, in order to try to explain the *real ways* we get apparently more 'abstract' mental states from the 'bodily' level.

Johnson finds that «image schemata» and «metaphors», understood as cognitive structures – just preceding 'metaphors' intended as linguistic structures, that are derived from the former – constitute the imaginative structures allowing the thought to directly arise from bodily experience. By *image schemata* he means « (...) a recurring, dynamic pattern of our perceptual internal and motor programs that gives coherence and structure to our experience»[18], while he reinterprets *metaphor* as a real *cognitive* structure rather than a mere linguistic form (derived only), indeed, the main structure mediating the relationship between the bodily dimension and the so-called 'abstract' concepts.

Referring, to be honest, not always faithfully to the Kantian conception[19], Johnson does not consider schemata as passive structures,

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[16] See M. Johnson, *The Body in the Mind*. *The bodily basis of meaning, imagination, and reason*, The University of Chicago Press, Chicago (IL) 1987 e M. Johnson - G. Lakoff, *Philosophy in the Flesh: The embodied mind and its challenge to Western thought*, Basic Books, New York 1999.

[17] F. Varela, E. Thompson, E. Rosch, *Embodied Mind. Cognitive science and human experience*, The MIT Press, Cambridge (MA) 1991.

[18] M. Johnson, *Op. cit.,* p. XIV.

[19] In Kant, for example, schemata are not *pre*-conceptual structures. Even if he does not adopt this terminology, we might say that his trascendental schemata are '*post*-conceptual' structures, rather, since the *a-priori* categories are applied to sensible intuitions by means of schemata themselves. Adopting the contemporary philosophy of mind language, we might define Kant's theory as a '*top-down*' approach (from concepts to intuitions) and not a '*bottom-up*' theory, like the one Johnson suggests here (concepts do not derive from experience, as suppported by empirists criticized by Kant himself). Johnson's debt to the Kantian theory and the differences be-

but as structuring the experience themselves, «embodied patterns of meaningfully organized experience (bodily movements, perceptual interactions, manipulation of objects) […] continous structure[s] of organizing activity»[20]. He is inclined to detect mainly their *non-propositional* nature, opposing, therefore, the main conceptions in vogue amongst cognitivists. Indeed, metaphor is the main cognitive structure allowing the switch between the basic bodily knowledge levels – mediated by image schemata – and concepts, because metaphor allows connecting elements coming from *different* domains (bodily, mental, social, etc.), that are not related arbitrarily, but rather *derived* one from the other.

Therefore, image schemata and metaphorical projections are cognitive structures informing our experience, organizing our knowledge, and reasoning. Johnson tries to provide evidence and explanations supporting the real *existence* of such structures and their fundamental and not marginal relevance in cognitive processes. Upon closer inspection, however, these proofs are often dubious or circular, based on exclusively linguistic analyses and findings (though Johnson himself criticizes linguistic-propositional models of representations). As an example, he tracks down evidence of the reality of image schemata and their metaphorical extensions in the fact that we can perform mental activities on them[21]: similar to images, in fact, we can manipulate schemata and their metaphorical projections in a virtual space. Moreover, in language there is a set of expressions connected to a single concept in an *appropriate*, *relevant* way: in Johnson's view, this would reveal the very existence of the underlying metaphors (as an example, we understand *reasoning* as a *building*, 'founded' on arguments, 'built' in a consistent way, etc.). Moreover, it is possible to associate a term with a set of different but related meanings: the explanation goes back to the common basic scheme all possible meanings link to. Inferences we are able to make in rea-

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tween the two regarding some features are discussed in detail in Johnson, *Op. cit*., pp. 147 - 172.

[20] Ivi, p. 29.

[21] Ultimately, these are the same explanantions provided by A. Paivio in *Imagery and Verbal Processes*, Holt, Rinehart & Winston, New York 1971, and by S.M. Kosslyn in *Image and Mind*, Harvard University Press, Cambridge (MA) 1980, in order to demonstrate the very existence of mental images.

soning depend on the metaphorical basis of concepts; not least, historical-linguistic analyses show that many of the current concepts in use originated from bodily experience (e.g., "understanding" is linked to "to see"[22]; in particular, vision seems to be the activity most related to thought). According to the philosopher, this is possible thanks to the metaphorical projections linking the bodily and the mental level (thus closing the circle)[23].

Most of the time, the aim of Johnson's theoretical proposals is rather to oppose the cognitive paradigm and the logocentric conception of knowledge Western philosophy is grounded on: firsthand, he wants to attack this tradition, in line with M. Heidegger's and others' positions that his approach belongs to. Knowledge, generated by means of schemata and metaphors, is not understood, in fact, in an 'objectivist' way, as a reflexive process working on propositions: rather, knowledge is intended to involve the whole being, the Heideggerian "being in the world". First of all, knowledge consists in *the way you experience the world* and it is mediated, according to Johnson, by image schemata.

For the purposes of this discussion, it's interesting to note that *image schemata* – structures Johnson elaborates on at a theoretical, philosophical level – seem to get the same *functional* significance Damasio, on his side, provides for "*dispositions*" at a neural level. Both authors, in fact, strive to explain *how* we can form the basic levels of knowledge, and hence the increasingly more abstract concepts, starting from the bodily dimension, by means of *non*-propositional facilities [*schemata*]. Furthermore, Johnson strives to develop a real general *model* of the genesis of the mental states, explaining how even the more 'abstract' concepts can arise from the bodily schemata projections at a metaphoric level, establishing not an arbitrary but a necessary and constant link to the bodily level.

[22] This connection between *knowledge* and *vision* can already be traced back to Aristotele, *Metafisica*, α, 980a, 21-26.

[23] M. Johnson, *Op. cit.,* pp. 104 e segg.

3.6. Work in progress

Despite Johnson's reasoning circularity, not only Damasio, but also other neurobiologists such as G.M. Edelman[24] refer expressly to his ideas, initially developed in the field of linguistics, in collaboration with G. Lakoff[25]. They both try to outline the source of the somatic and mental performances, opposing approaches underestimating, if not ignoring in their same epistemological status, the nature of mind's 'implementation base' – of the biological mind, at any rate. Johnson, in fact, does provide a theory, even if a questionable one, about *how* the mental processes are grounded in the bodily base, on the sensori-motoric experience. Furthermore, his "image schemata" would seem to achieve the same *functional* significance, at least, of what Damasio endeavors to indicate as the so-called "dispositions", at the neural level: image schemata, in fact, are pre-conceptual (or, at the very least, *non-propositional*) structures, recurrent patterns that differ from the images proper, whose building up they contribute to.

The bodily dimension, in fact, that Damasio too considers as a primordial dimension, produces representations in image format, realized by means of another kind of representation, the "dispositions" of the self, caught in the changing process the body undergoes in its interaction with any object. These 'representations' are, rather, neural *schemata*, 'featuring', i.e. ordering other neural patterns, inducing neural activity elsewhere, in other sites they are connected to. Dispositions are *potential* schemata, inactive but activable on request, so exciting other neurons included in the whole neural structure they belong to (in the 'convergence zones'). In themselves, dispositions do not constitute stores of knowledge, in image format: rather, they are *tools* for reconstructing knowledge, activating *elsewhere* circuits able to do so. Dispositions and images have different roles, since images represent individual, concrete objects: as schemata, rather, dispositions constitute the fundamental elements for *building* a specific image up.

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[24] G.M. Edelman, *Bright Air, Brilliant Fire. On the matter of the mind*, Basic Books New York 1992.

[25] G. Lakoff - M. Johnson, *Metaphors We Live by*, University of Chicago Press, Chicago 1980.

Therefore, in our view, these kinds of 'representations', introduced by the same Damasio, seem by their features to be the very *link* between the neurophysiological description level (neural dispositions) and the 'mental' proper level (representational level), as it is (still?) mainly understood.

Certainly, such descriptions are incomplete and obscure: this might frustrate both neuroscientists' explanatory claims and the theoretical philosophers' or psychologists' ambitions: nevertheless, they constitute one of the few attempts, though pioneering, of explaining, in *detail*, the *sensorimotoric* roots of concepts, of mental states. The more immediate forerunner of this research on the mechanisms of the genesis of the 'mental', starting from the bodily matrix, can probably be traced back only to J. Piaget's work (from «*biologie*» to «*connoissance*»).

4. What does it mean to 'feel' something?[1]

Fig. 1 - E. Bendemann , 'Die trauernden Juden im Exil' – 1832

4.1. Building up a lexicon of the affective life between phenomenology and neuroscience

What does it mean 'to feel' something? 'Feeling' is one of the worst defined concepts; nevertheless, psychologists, neurobiologists, philosophers etc. make broad use of it, in the most widely varying senses: as a result, they use the *same* term in order to refer to often very *different* phenomena. My contribution on the topic presented here is, as often happens, at times a kind of programmatic document of a research horizon, still only glimpsed, and the outcome of a part

[1] First published as: E. Barile, *Che cosa vuol dire 'sentire', 'provare' qualcosa? Per un lessico della vita affettiva fra fenomenologia e neuroscienze*, Proceedings of the A. von Humboldt Foundation meeting – Italian section, in «SLIFO», 8, 2 (2010), pp. 301-327.

of the journey already gone, retrospectively considered. Therefore, my overall objective is to investigate 'feeling' at all levels (from the bodily feeling to the perception of value and the role of feeling in establishing personal *ethos*), groping for a *taxonomy of the affective life*: by the way, I'm well aware that any classification always evolves from a definition or, better, from several meanings. The same varied and constitutively multilingual and multidisciplinary vocabulary of feeling attests to the use of the *same* term to refer to deeply *different* phenomena. That's why my first purpose in this paper is to make these meanings as *explicit* as possible, through a systematic criticism above all of the current neuroscience language, based on myriad variations of the mereology fallacy[2]. The neuroscientific language in particular – striving to re-translate concepts coming from other (philosophical and psychological) traditions in neurobiological terms – adopts terms such as 'thinking' or 'emotion', used in such non-specific senses that they become quite commonsensical. 'Feeling' is not an exception, but quite the opposite.

The treatment of 'feeling', especially (but not only) in psychology, is mainly linked to *emotions*: the term 'feeling' might then refer to its *subjective* component (i.e. emotion as it is 'felt'). Emotional processes, in fact, consist of several elements: the so-called *public* dimension of emotion, which we can infer by posture, mime, facial expressions and behaviour, the most evident manifestation of emotions, and the *private* and subjective dimension, that is 'feeling' the emotion itself. The more you are capable of establishing similarities between your feelings or your personal experiences in the past and what somebody else feels, the more you are able to establish an empathetic relationship with others. Although functionalist approaches *à la* Frijda[3] recognize 'feeling' as a mere epiphenomenon, the private dimension of an emotion can hardly be *eliminated* from the analysis (let alone from the experience) so hastily, as the author, instead, suggests.

This preliminary consideration on the 'feeling'/emotion relation-

[2] M.R. Bennett - P.M.S. Hacker, *Philosophical Foundations of Neuroscience*, Blackwell, Oxford 2007.

[3] N.H. Frijda, - J. Swagerman, *Can computers feel? Theory and design of an emotional system*, in «Cognition and Emotion», 1, 3 (1987), pp. 235-257.

ship will also be supported by the iconographic contribution of a mid-nineteenth century painting, *Die trauernden Juden im Exil* (by E. Bendemann, School of Duesseldorf – *fig. 1*), depicting the biblical story of Babylonian captivity. Above all, it impresses in its ability to communicate the emotions of the characters depicted, through *posture* and *facial expressions*. In particular, by observing the faces it is possible to infer some prevailing emotions, such as sadness, fear, anxiety, regret and loss, but also distrust, bitterness etc. In particular, the character represented in the lower part of the painting is especially interesting because of her *posture*: over the exasperation of the emotions already highlighted, it is possible to also recognize 'despair' or 'abandonment'. The original title, *Die trauernden Juden...*, properly refers to the 'distress', the 'mourning' dimension, due to the protagonists having to abandon their homeland without knowing if they will be able to go back: beyond, thus, a generic 'sadness'. The identification of these emotions depends, in fact, not only on the visual perception of the painting, but also on one's language skills, by the individual lexical richness, so that one is more or less able to discriminate between different, albeit similar, emotions.

This iconographic reference wants to echo a definite research trend, headed by D. Freedberg[4], proposing an innovative approach to the work of art study. He refers in particular to A. Damasio's theories[5] and Rizzolatti and Sinigaglia's mirror neurons theory[6]. According to Freedberg, in fact, the capacity of calling forth some emotions, which can be defined as 'primary' emotions, is at the basis of such a unanimous recognition of the artistic value of such works as the *Mona Lisa*. In other words, the so-called 'primary' emotions are those five or six emotions (anger, fear, disgust, joy, sadness, surprise) C. Darwin[7] considered as shared emotions among different cultures, if

[4] D. Freedberg, *Empathy, Motion and Emotion in the History of Art* (Lecture), Stanford University, December 10 (2004).

[5] A.R. Damasio [1994], *Descartes' Error. Emotion, reason and the human brain*, Quill, New York 2000 and Id. [1999], *The Feeling of What Happens: Body and emotion in the making of consciousness,* Harvest edition, New York 2000.

[6] G. Rizzolatti - C. Sinigaglia*, So quel che fai. Il cervello che agisce e i neuroni specchio*, Raffaello Cortina, Milano 2006.

[7] C. Darwin, *The Expression of Emotions in Man and Animals,* Murray, London 1872.

not among different species. There are neither taxonomies nor shared definitions of 'emotions': at the current state of research on emotion, it is fair to recognize that we do not have a definitive theory, but only *sets* of classifications, often conflicting. Far from proposing yet another taxonomy of *emotions*, in this paper I will try, rather, to deal with the emotions' s*tatus quaestionis* and their characterizing features: among these, 'feeling' is the primary interest.

4.2. Is there a taxonomy of emotions?

We can consider emotions as *processes* – rather than 'states' – consisting of several stages. In order to produce an emotion, first of all we need an over threshold stimulus (in order to fall in the attention cone), followed by other stages: evaluation of the stimulus, unleashing of the physiological reactions, public display of the emotion itself – through facial expressions, posture and, in general, one's own behaviour –, private experience, i.e. 'feeling' the emotion itself. The order of these steps is a major cause of disagreement among the various existing theories on emotions, opposing each other regarding the emphasis given to one or other component. Simplifying very much, we should classify the several theories available in this way: neuroscientific approaches (Panksepp[8], LeDoux[9], Damasio[10]) support theories on emotions emphasizing the role of *physiological reactions*, while the dominant logocentric view[11], instead, is the theorical frame of theories underlying the role of the *cognitive evaluation* (considered primitive and antecedent to the physiological reactions).

Evaluation, one of the *fundamental* components of the emotional process, is generally held as a highly cognitive dimension: in the

[8] J. Panksepp, *Affective Neuroscience. The foundation of human and animal emotions*, Oxford University Press, Oxford - New York 1998.

[9] J.E. LeDoux, *The Emotional Brain. The mysterious underpinnings of emotional life,* Simon and Schuster, New York 1996.

[10] A.R. Damasio [1994], *Descartes' Error,* cit.; *Id.* [1999], *The Feeling of What Happens,* cit.; *Id., Looking for Spinoza. Joy, sorrow, and the feeling brain*, Harcourt, Orlando 2003.

[11] For a review of the current available theories on emotions, see the updated J. Deonna - F. Teroni, *The Emotions: A philosophical introduction*, Routledge 2012.

cognitive view, 'evaluating' is considered a 'high' level mental operation, allowing decisions to be made consciously and rationally among 'values', at any level considered. Thus, it is also possible to distinguish theories on different emotional processes about how 'evaluation' and related 'values' are intended. A. Damasio, for example, reinterprets the concept of 'evaluation' in neurobiological terms, as the automatic process survival choices are based on[12]. Hence, interpreting 'evaluation' in this way means, for example, considering emotions not confined to our species only, but also to others, especially the most evolved animals. Equally fundamental for developing emotional processes, *physiological reactions* are emphasized especially by the approaches *à la* James: according to him, in fact, «we feel sorry because we cry»[13]. In this alternative interpretation, automatic physiological reactions first trigger emotions, that are interpreted and cognitively labeled as 'fear' or other emotions only later on.

However, in this paper I want to prioritize the so-called *'affective neuroscience*' approach, even if not unconditionally: authors such as J. Panksepp and, in particular, J. LeDoux (who founded, at the neuroanatomical level, theories on emotions skillfully popularized later on by his disciple D. Goleman, by means of a set of successful books such as *Emotional intelligence*[14]), and A. Damasio himself hold this view. In contrast to this approach, N. Frijda[15], A. Ortony *et al.*[16] and M. Nussbaum[17], among the most recent contributors, support cognitive theories. However, such a sharp contrast between cognitivists and neuroscientists concerning the cognition/emotion relationship has no consistency any longer: the same existence of a journal such as *Cognition and Emotion* for more than twenty years attests to it. This journal, in fact, has been founded with the primary purpose of letting emotion and cognition interact, since, from at least the time of

[12] A.R. Damasio [1994], *Descartes' Error,* cit.

[13] W. James, *What is an emotion?*, in «Mind», 9 (1884), p. 190.

[14] D. Goleman, *Emotional Intelligence*, Bantam Books, New York 1995.

[15] N.H. Frijda, *The Emotions*, Cambridge University Press, Cambridge 1986.

[16] A. Ortony, G.L. Clore, A. Collins, *The Cognitive Structure of Emotions,* Cambridge University Press, Cambridge (MA) 1988.

[17] M. Nussbaum, *Upheavals of Thought: The intelligence of emotions*, Cambridge University Press, Cambridge (MA) 2001.

Plato, they have always been considered as opposite and conflicting features[18].

The emotion/cognition relationship is much more blurred than it is simplistically supposed to be. Even the more orthodox cognitivists nowadays have to admit that emotions cannot be just ignored: emotions should rightfully be included among the states to deal with, since they are also related to the more 'cognitive' states. Above all in language, we can recognize obstacles to this 'integrated' vision: the «new science of the mind», so to quote H. Gardner[19], was established as *cognitive* science for historical reasons, but it would be more appropriate to be used to adopt 'cognitive scienc*es*'[20] as a plural name instead. *Cognitive* psychology, in fact, is only *one* vertex of the 'cognitive hexagon' graphically representing the pluridisciplinary field of research of 'cognitive scienc*es*'.

Some preliminary considerations on neuroscientific approaches: LeDoux in particular, handling the emotion/cognition relationship, tried to argue for the differences between emotion and cognition and the precedence of the former over the latter. He produced not only theoretical or principle reasons, but precise neuroanatomical evidences supporting his position. In particular, LeDoux justified the idea that emotion is more *primordial* than and *constitutive* of cognition through the statement that the neural circuit connecting amygdala (the neuroanatomical structure more intrinsically linked to emotions) to the cortex is, actually, *shorter* than the neural circuit from the cortical level to amygdala, responsible for the inhibition of emotions[21].

Despite the solidity of his theoretical frame, the main criticism we can make of LeDoux is that he built a model of emotions that basically analyzed just *one* of them, namely the 'primary' emotion *fear*. In modeling all emotions, he definitively analyzes just *this* emotion

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[18] I would like to draw attention to the so-called myth of the 'biga alata', often quoted in order to support this view; nevertheless the 'biga' is always drawn by (and, consequently, it is also *constituted* by) the horses [*NoA*].

[19] H. Gardner, *The New Science of the Mind. A history of the cognitive revolution*, Basic Books, New York 1985.

[20] See D. Marconi [2001], *Filosofia e scienza cognitiva*, Laterza, Roma - Bari 2003, pp. 12-18.

[21] See J.E. LeDoux, *Op. cit.,* cap. 8.

in particular: in the case of fear, in fact, it is evident that, compared to cognition, emotion is both primordial and preceding: the response and processing speed of a suited emotion in danger, in fact, ensure the survival of the species. LeDoux, however, extended the explanation of this mechanism not only to fear, but to *all* emotions. Indeed, many approaches to the emotional process have this limit: they consider an emotion, which neuroscientists often choose from among the very basic emotions, namely the so-called "big six"[22], and regard this emotion as paradigmatic for *all* the others. Actually, *each emotion* has to be analyzed and concerned in a different way, also because, even at the neural level, they are realized by different and specific circuits (see LeDoux[23] himself or Gazzaniga *et al.*[24]). Even in neurobiological terms, considering the emotional phenomenon 'in general' seems neither legitimate nor appropriate.

As an additional relief to LeDoux, but also to other neuroscientists, he sometimes embarks on reviews – even historical ones, pretending that they are complete reviews – of his own discipline or of others, such as philosophy and psychology: nevertheless, these reviews are often very incomplete. They often show a basic philosophical knowledge that probably does not go far beyond *History of Western Philosophy* by B. Russell. Moreover, such reviews are also drawn up according to an ahistorical mentality: philosophical and psychological descriptions are presented as a load of nonsense and 'mistakes' committed in the course of time until today, when, finally, neuroscientists arrive and explain 'how things really are'. This view is as *naïve* as it is petty towards other disciplines, primarily philosophy, that first conceived theories on mind: moreover, it is also very partisan especially in its 'historical' reconstructions. We have to admit that, when some neuroscientists engage in neurobiological interpretations of previous philosophical texts (Damasio has been fascinated by authors such as Descartes and Spinoza), they mainly do it imprecisely and superficially.

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[22] See P. Ekman, *Emotion Revealed,* Weidenfeld & Nicolson*,* London 2003.

[23] J.E. LeDoux, *Op. cit*.

[24] M.S. Gazzaniga, R. Ivry, G.R. Mangun, *Cognitive Neuroscience: The biology of the mind*, W.W. Norton 2002[2].

4.3. Not only emotions

So, emotions turn out to be a *problem*, not a *fact* you can start from, especially if you want to carry out a study on 'feeling'. There are no unified and shared classifications of emotions, and every taxonomy requires, in turn, a definition. This is an evident circle: if you define emotion in a specific way, then a certain kind of classification follows and *vice versa*. Moreover, the same debate on the cognition/emotion relationship might turn out to be a stale debate by now. Identifying the *critical features* of the emotional phenomena seems much more relevant, heuristically. Among these dimensions we count: the definition of 'thought' in general, beyond a logocentric vision of the mind according to 'thinking', that has always been and continues to be understood as *logos* only; what does '*evaluating*' mean, since this is almost considered a high-level, cognitive operation only; furthermore, what does '*feeling*' something mean, especially important in the following analysis.

Focussing more on feeling than on emotion, it would particularly help the discussion to consider feeling as more than just an emotional phenomenon: this would also partly avoid, at least, the theoretical unsurpassed *impasse* on the emotion debate already highlighted. 'Feeling', in fact, has no exclusive relation to emotion: feeling concerns an entire *set* of states, including needs, motivations etc. Emotion is just *one* of the possible 'felt' states: probably, not even the most important.

The usage of '*feeling*' as associated with 'emotion' probably comes from a typical misunderstanding in the English language, often employing the terms '*feeling*' and '*emotion*' as synonyms. The Romance languages, on the contrary, can distinguish these terms in a more refined way: the Italian language, for example, differentiates 'emotion' [emozione] from 'feeling' [sentire, provare] and 'sentiment' [sentimento]. In this paper, I suggest understanding 'feeling' as distinguished not only from emotion, but also from 'sentiment': this is defined, rather, as a mental proper state, always aware, coming after an emotion, or, more precisely, a combination of emotions. A complex sentiment like 'friendship', for example, is not simply a consciously perceived emotion: rather, it is a long term state, involving a *set* of individual emotions. As distinguished even from 'senti-

ment', 'feeling' might be thus recognized in the *subjective* component related to *any* psychological state – as this state is 'felt'. In this paper I suggest employing the term 'feeling' to refer to the *entire set* of states that can be 'felt' (like emotions, but also 'needs', 'drives', 'motives' etc.).

This way understood, can we consider 'feeling' a 'high' level state only? We are usually led to consider 'feeling' as the outcome of mental operations running only when all cognitive functions are in use, especially the highest functions (mainly related to the neocortex). This, however, seems to allow 'feeling' states that, in a less superficial analysis, seem rather to show a much more basic but also less evident bodily root. It is questionable, in fact, whether we really need a neocortical basis in order to 'feel' something or if 'feeling' is rather more entrenched at the bodily level than we usually think.

What do 'felt' states share? Are there some states that can be 'felt' and others that cannot? Starting from an analysis of everyday language, C. Castelfranchi, for example, showed that in general we report 'feeling' only some psychological states, not all of them. In fact, we usually say: "I feel the *need* for ...", "I feel the *desire* to ...", "I feel the *motivation* to ...", but we don't say "I feel the *intention* of ..." or "I feel the *belief* of ..."[25]. Castelfranchi suggests replacing the word 'feeling', so intertwined with emotion, with the more general word 'affect'. In this way, in fact, we might better identify the shared components of 'felt' states, compared to those states for which we do not report any connected feeling, namely: sensorimotoric basic components, *bodily* feedbacks, at different levels, and a *hedonic valence* (positive/negative, in terms of pleasure/displeasure). However, there is no single definition nor a theory and a general shared taxonomy of 'affects' too.

[25] See C. Castelfranchi, *To believe and to feel: The case of "needs",* in D. Canamero, *Emotional and Intelligent: The tangled knot of cognition*, Papers from the 1998 AAAI Fall Symposium, AAAI Press, Menlo Park (CA) 1998, pp. 55 - 60 [*my emphases*].

4.4. The classification of the affective states by A. Damasio

The dominant cognitive mold analyses often ignore or, at the very least, underestimate the common bodily root of the 'felt' states. On the contrary, neurosciences mainly focus on these. For example, since *Descartes' Error*[26] Antonio Damasio has proposed a description of 'feeling' according to which this bodily root emerges clearly. The neurobiologist advances, in fact, an organismic view, beyond the *new* neuroscientific *dualism* between *brain* and *body*. In the need for simplification, neuroscience, in fact, considers primarily the mind/brain relationship, outclassing the role of the body in the constitution of the mental states. However, at the present state of research we can no longer consider the body as just the 'container' of the brain: the body seems as important as the brain in order to bring forth what is defined, in a still nebulous way, as 'mind'.

With particular regards to the taxonomy of 'feeling', Damasio has proposed the unorthodox concept of "background feelings", a sort of 'mirror concept' of "background emotions". He himself introduced these 'emotions' in the already problematic taxonomy of emotions, providing, *de facto*, yet another classification. So he defines background feelings: «I am postulating another variety of feeling which I suspect preceded the others in evolution. I call it background feeling because it originates in the 'background' body states rather than in emotional states»[27].

In the footsteps of the standard neuroscientific view, Damasio regards emotions and feelings mainly as *bodily* states and not as 'mental' states only: nevertheless, differing from other neuroscientific approaches (see Panksepp[28], LeDoux[29]), *evaluation* plays a key role in his proposal. However, Damasio does not understand 'evaluation' in an exclusively cognitive sense, but also as '*appraisal*', that is choosing according to pleasure/pain criteria, intended in survival terms.

Considering the plethora of existing classifications on emotions, I

[26] A.R. Damasio [1994], *Descartes' Error,* cit.
[27] Ivi, p. 150.
[28] J. Panksepp, *Op. cit*.
[29] J. E. LeDoux, *Op. cit*.

hazard the guess that Damasio introduced a further taxonomic level both of the emotions and of 'feeling' in order to outline clearly the bodily root of these states, something that is less evident in other classifications. Since the concepts of 'background emotions' and of 'background feelings' show a 'mirror' structure, we need to examine briefly the nature of the former in order to understand better the nature of the latter.

Beyond his problematic classification of emotions as *secondary* or *social* emotions (envy, jealousy, contempt, etc.) and *primary* emotions (anger, disgust, surprise, joy, sadness, fear), Damasio introduces the further level of 'background emotions'. These are 'emotions', or, better, *proto*-emotions, preceding all others, phylogenetically and ontogenetically; they do not necessarily require a language in order to be expressed or recognized[30]. 'Background emotions' are states like «malaise», «wellness», «tension», «edginess» etc., i.e., complex collections of bodily states, grounded on the basic states of pleasure and pain[31]. Background emotions are aspecific states, preceding emotions proper (i.e., from the primary emotions onwards): so, they are *not* 'emotions'[32] proper. Damasio calls them "emotions", but background emotions differ since they emerge from the *overall, 'online' state of the body*: background emotions feed back the state of the body as *a whole*, and not of a specific part of it. As an example, when we are 'relaxed' or 'tensed' it is not a part of our body that is 'relaxed' or 'tense', but *relaxation* and *tension* 'emerge' from all the bodily feedbacks received, considered as a whole.

'Background emotions' are not a shared item in our conceptual *armoire*: therefore I will try to characterize background emotions by means of a 'contrast technique', both comparing them with and distinguishing them from only apparently similar states. Compared to

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[30] A.R. Damasio [1999], *The Feeling of What Happens,* cit., p. 52.

[31] « (…) I began seeing background emotions as the consequences of deploying certain combinations of the simpler regulatory reactions (e. g. basic homeostatic processes, pain and pleasure behaviours, and appetites (…)). Background emotions are composite expressions of those regulatory actions as they unfold and intersect moment by moment in our lives», in Id*., Looking for Spinoza,* cit., p. 44.

[32] S. Harnad, for example, in his *Explaining the mind: Problems, problems,* in «The Sciences», 2001, pp. 36-43, proposed defining them as "*motions*" instead of "emotions".

emotions proper (from primary emotions onwards), for example, background emotions are *precedent* (in terms of evolutionary line, of time and of complexity), and are most basic and simpler at the same time. Moreover, they are more closely related to the *bodily* dimension than the other taxonomic levels of emotions, which are increasingly more complex and influenced by culture and environment. Background emotions are *regulatory states of the body*, included in those states concerning the balance of the body, from the metabolic regulation to the secondary or social emotions. Background emotions differ from emotions proper in their *aspecificity* (for example, primary emotions, with which they share a greater resemblence, always have a specific object). When you are 'tense', for example, it is not always possible to go back to a specific object inducing this state. 'Tension' occurs primarily at the bodily level, it is caused *by the relationship with the world as a whole*. The source of 'tension' can be *external*, as in this case, or *internal*, when it originates in the visceral reactions.

The concept of 'background emotion' is also different from *mood*, another non-specific state, but a *long term* state. When you say: "today I'm fine" or "I'm in a good mood", this mood usually continues for a certain amount of time. On the contrary, a background emotion is a *temporary* state possibly running, for example, even when you are 'in a good mood': however, at a certain point, you may become 'tense'. If you are not suffering from mood disorders, the occurrence of this event does not instantly change a basically positive mood, which does not usually vary radically every time you encounter a source of tension or nervousness. However, if these events multiply, an overall 'good' mood may turn into a rather 'bad' one. Though sharing the aspecificity feature, mood is a *long-term* state, while background emotion is a *short term* state: if mood is a 'movie', background emotion is then a single 'shot' on the state of the body *as a whole*.

Starting from 'background emotions', Damasio builds up the mirror-concept of 'background feelings', as it is possible to infer from the following definitions:

> When we sense that a person is 'tense' or 'edgy', 'discouraged' or 'enthusiastic', 'down' or 'cheerful', without a single word having been spoken

to translate any of those possible states, we are detecting background *emotions*[33].

Prominent background feelings include: fatigue; energy; excitement; wellness; sickness; tension; relaxation; surging; dragging; stability; balance; imbalance; harmony; discord. The relation between background feelings and moods is intimate: drives express themselves directly in background emotions and we eventually become *aware* of their existence by means of background feelings[34].

Background *feelings* are just *aware* background *emotions*; When 'background' emotions come into the 'foreground', they are *perceived* and become background '*feelings*'. (By the way, this process expresses well the sense of the etymology of the word *emotion*, from «*ex-movere*», i.e., "moving *from*" a pre-existing condition, that is always already in the background). Above all in *The Feeling of What Happens*[35] Damasio distinguishes carefully between emotion and feeling (understood as either 'feeling' or 'sentiment') and he offers his own classification of 'feeling' too, introducing the further taxonomic level of *background feelings*. Only in his following work *Looking for Spinoza*, however, does Damasio try to define 'feeling', starting from Spinoza's concept of «affectus»[36]. The neurobiologist defines "background feelings" as not originated by emotions: compared to the feelings we usually refer to in everyday language, they

[33] A.R. Damasio [1999], *The Feeling of What Happens,* cit., p. 52.

[34] Ivi, p. 286 [*my emphases*].

[35] Id. [1999], *The Feeling of What Happens,* cit.

[36] Historically, Spinoza's view provided one of the philosophical solutions proposed to the problem of the mind/body interaction following the Cartesian dualism, by means of the psycho-physical parallelism. This view is grounded in a very meaningful theory of 'affects', which piqued Damasio's interest as much as it did Descartes. Really, we can recognize 'Damasio's errors' regarding Spinoza's work too, since he thinks that the philosopher's interest was oriented towards the body. On the contrary, adopting the language of the current philosophy of mind, we should rather consider Spinoza's theory a kind of *neutral monism*, as suggested by S. Nannini in *L'anima e il corpo*, Laterza, Roma - Bari 2002. Spinoza's theory, in fact, is not a *materialistic* monism, as Damasio interprets it, since Spinoza considers neither the matter nor the mind as the prior dimension. The primacy of the body that Spinoza would have supported has to be underestimated, since this view is, probably, just Damasio's theorethical interpretation.

do not derive from emotions proper (from primary emotions onwards), but they are foregoing, as aware perceptions of combinations of bodily states defined, precisely, "background emotions". Once more, then, the term 'sentiment' turns out to be highly inadequate to cover the entire spectrum of 'feelings' and differs, above all, from 'background feeling'.

What does "background" mean, ultimately? It is not the same as "unconscious": this adjective, in fact, has many more connotations, theoretically. Unconscious states are 'removed' states, i.e. they cannot be brought to consciousness voluntarily and on request. The semantic equivalent qualification of 'background' might be, rather, 'unaware', understood as what falls into the attention cone. In fact, you can bring attention onto background states at any time, focussing on them, so that they become aware as soon as we 'realize' that something is 'happening' at the level of the body. At the Escher's drawings manner, you can carry these kinds of bodily perceptions to the background or to the foreground, once they fall into the attentional cone. When they are still background *emotions*, these complex collections of bodily states remain out of the attentional focus, unaware, aspecific, and able to feed back the sense of things (the world or the body) as *a whole*. Background emotions do not concern a specific part of the world, a definite object, or even a specific part of the body: when falling in the attentional cone, they feed back the sense of the body *as a whole*.

Even 'background feelings' might be confused with 'moods': however, background feelings reveal 'on-line' the *temporary* internal situation of the body, while moods are *long term* states. In this respect, I refer the reader to the second essay of these collected papers:

> we can get up in the morning, for instance, feeling in 'a very good mood' the whole day, but this doesn't mean that we could not also have rather bad background feelings such as a bit of 'tension' or 'malaise' for short periods of time during the same day. If we are not affected by mood disorders, we usually don't change a 'good mood' immediately due to minor disturbances such as a short tension or malaise, provided that the duration of these background feelings is short enough and they don't occur too often[37].

[37] First published as E. Barile *Are 'background feelings' intentional?,* «Open Journal of Philosophy», Vol.4, No. 4 (2014).

4.5. The primacy of the somatic dimension

From Damasio's analysis here proposed, there clearly emerges a bodily root of 'feeling', generally underestimated by the standard approaches to this phenomenon. What is '*feeling*"? For a possible definition, we should preliminarily emancipate its analysis from the exclusive domain of emotions. Emotion, in fact, is just *one* of the possible 'felt' states: indeed, it is probably not even the most important. Moreover, the debate on the definition and the classification of emotions seems to be currently stalled on a, perhaps, insuperable theoretical *impasse*: thus, distinguishing feeling from emotion might help to avoid this problem. 'Feeling' concerns not only emotions, but also needs, motivations, desires and so on: all these states include an 'evaluative' component (at different levels of complexity) and feedbacks from the perception of the overall condition of the body, through the so-called 'enteroception', occurring at two levels. The first level is *proprioception*, the perception of the body in its muscleskeletal structure; the second is *interoception*, the sense of the body resulting from the feedbacks from *viscera* and the internal *milieu* or homeostatic balance (see Damasio[38] and Gallagher[39]).

'Feeling', in fact, reveals a deep and ineludible bodily root, located not only in the brain: the proprioceptive and interoceptive feedbacks involve *the whole body* (including the brain, of course). That's why we need to overcome the body/brain *dualism* that even neuroscience has relapsed into. Damasio recognizes a *primacy of the somatic dimension* over the 'mental' dimension or, even better, he stresses that what we call 'mental' in the first instance is originated simply by more and more complex levels of organization of a biological bodily structure.

Despite the merits of his analysis, however, the concepts of *background feeling/emotion* are not entirely original: reporting observations and comments of his readers and critics, in *Looking for Spinoza* Damasio himself pointed out that these concepts can be traced back

[38] A.R. Damasio, *Looking for Spinoza,* cit.

[39] S. Gallagher, *How the Body Shapes the Mind*, Oxford University Press, New York 2005.

to «vitality affects» by D. Stern[40], as elaborated in the field of developmental psychology and even earlier, to the philosophy of S. Langer[41]. Also while discussing with R. De Monticelli, already dealing with the classification of the affective states in *L'ordine del cuore. Etica e teoria del sentire*[42], we traced back an unsuspecting forerunner to the concept of 'background feeling' in the phenomenological tradition, particularly in «*sensi vitali*» [Lebensgefuehle], particularly in Max Scheler's *Formalismus*[43]. Beyond the claims of paternity of terminology and concepts, Damasio's approach is important for his claim of the bodily root of 'feeling'. Feeling is, in the end, also one of the ways to 'say' consciousness: this is a *plural* phenomenon that, at different levels, seems also deeply rooted in the bodily level before the cortical level. The continual representation of the body (through proprioception and interoception) originates, in fact, the sense of our own 'biological self' [protoself; core self][44], the core all the higher states of 'consciousness' develop from. Among these states, only by way of a possible list, we recognize: wakefulness, the «minimally conscious state»[45], the awareness of the world, self-awareness, self-consciousness[46].

In defining the different levels of 'consciousness', the still dominant logocentric approach to the 'mental' dimension prejudicially ignores 'feeling'. On the contrary, a layer – however slight – of bodily

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[40] D. Stern, *The Interpersonal World of the Infant: A view from psychoanalysis and developmental psychology*, Basic Books, New York 1985 e Id., *Forms of Vitality*, Oxford University Press, New York 2010.

[41] S. Langer, *Philosophy in a New Key: A study in the symbolism of reasons, rite and art,* Harvard University Press, Cambridge (MA) 1942.

[42] R. De Monticelli [2003], *L'ordine del cuore. Etica e teoria del sentire*, Garzanti, Milano 2008.

[43] M. Scheler [1913, 1916], *Der Formalismus in der Ethik und die material Wertethik. Neuer Versuch der Grundlegung eines ethischen Personalismus*, Francke Verlag, Bern 1980.

[44] A.R. Damasio, *Looking for Spinoza,* cit.

[45] J.T. Giacino, *The minimally conscious state: Definition and diagnostic criteria*, in «Neurology», 58 (2002), pp. 349 - 353.

[46] I refer the reader to the essay *'Dell'incertezza'*, in E. Barile, *Pensare Damasio. Due o tre cosec he so di lui*, FrancoAngeli, Milano 2013, in order to provide a detailed classification of the states of consciousness, arising form the analysis of the vegetative state patients case.

feedbacks seems to be essential in order to be conscious. In particular, the feeling/knowing relationship needs special clarification[47]: 'feeling' and 'knowing', in fact, are generally considered inseparable aspects of the *contents* of consciousness, but they are not necessarily related in order to be just 'conscious'.

Even in a set of experiments on skin conductance, carried out by the same Damasio, it turns out to be a difference between 'knowing' and 'feeling', usually considered connected features. In experiments on patients with cortical lesions, some images with a strong emotional content were projected and patients were asked about what 'they felt'. When looking at some images that usually elicit pain, patients reported that they *knew*, at a cognitive level, they would have to feel pain in that situation: however, they *felt* 'nothing'[48]. They 'knew' without 'feeling', so showing a clear dissociation between the *knowledge* (of 'having to' feel something in that given situation) and the personal *feeling*, occurring primarily at a bodily level. These considerations suggest the need to redefine what we mean by both 'consciousness' and 'thinking'.

To date, there is no single definition nor a shared general theory about what 'feeling something' does mean: the role of 'feeling' in thought processes and in the nebula of meanings we refer to with the term 'consciousness', at all its levels, is even more obscure. Hence, the pressing need for endeavouring to create a taxonomy of feelings: first of all, we have to outline all the possible different meanings 'feeling' has in the various disciplines employing the *same* term 'feeling', but in order to refer to often very *different* phenomena.

If we want to avoid the perpetuation of a 'dialogue among the deaf', where we would only have the impression of understanding each other for the mere fact of using the same words, first of all we have to make all the various possible meanings of 'feeling' *explicit*, with the final target of working out a shared, multidisciplinary and multilingual lexicon of feeling. Certainly this kind of lexicon is all still to come: this paper aims to at least make an initial contribution.

[47] C. Castelfranchi, *Op. cit.*
[48] A.R. Damasio [1999], *The Feeling of What Happens,* cit.

5. In doubt, what do PVS feel?[1]

EDITORIAL NOTE

The fast progress of technological innovations, especially in a research field as delicate as medical ethics, and for an issue as troubling as the vegetative state and the definition of 'death', makes it almost impossible to republish papers like this, even after a few years, without also adding substantial revisions. I decided not to republish this paper in its original version in the English translation of these collected papers because, taking into account the evolution of the ethical and legal status of the vegetative state (especially in Italy, after the troubled epilogue of the Englaro case in 2009) and the theories of Damasio on this topic, they require a completely new paper. Damasio, who has never dealt thematically with the ethical implications of its medical-theoretical proposals, at least in the more popular scientific production, refers explicitly to the vegetative state in his latest work *Self Comes to Mind*, particularly in chapters 7 and 9, providing further data for reasoning on such a controversial clinical condition [*NoA*].

[1] Already published as *Dell'incertezza: cosa provano i pazienti in PVS?,* in E. Barile, *Pensare Damasio. Due o tre cosec he so di lui*, FrancoAngeli, Milano 2013, pp. 92 - 112.

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