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Abstract: *The study of the mind has to grapple with both the unconscious and the conscious. While the phenomenon of cognitive penetration has already been explored especially in connection to the modularity of perceptual and cognitive processes, the phenomenon of cognitive-phenomenological penetration, the penetration within the stream of consciousness of the phenomenological fabric of experiences by the phenomenology of thought, has not been given much attention thus far. In this paper, I focus with analytic-phenomenological methods on cognitive-phenomenological penetration as a phenomenon whereby the texture of non-cognitive phenomenologies gets modified by cognitive phenomenologies. I present a metaphysical model of cognitive-phenomenological penetration and argue that it can be used to support a non-modular view in the metaphysics of the conscious and unconscious mind, to confirm the hypothesis that there exists a sui generis phenomenology of thought, and to defend the view that cognitive-phenomenological penetration has a pivotal role to play in appraisals of rationality, irrationality, and cognitive distortions at the intrasubjective, intersubjective, and extra-mental levels.*

Keywords: *cognitive-phenomenological penetration, metaphysics of the conscious and unconscious mind, phenomenology of thought, cognitive distortions.*

COGNITIVE-PHENOMENOLOGICAL PENETRATION

1. The study of the architecture of the mind is often divided in two: (i) the study of the subpersonal and (ii) the study of the personal. At the (i) level we find studies on the underpinnings of cognition and every other mental going-on, such as perception or action. At the (ii) level we find studies on the conscious dimension of cognition and every other mental going-on, such as perception and action. One widespread view about how we might approach the (i) level is via modularity, either in a reduced format (only some mental goings-on can be dealt with in this way) or in an expanded format (all or almost all mental goings-on can be dealt with in this way), the latter view being often dubbed as that of "massive modularity." The question of *cognitive penetration* more often than not arises on the background and in the framework of the study of the (i) level, concerning systemic influences, of a causal or other nature, between subpersonal modules. In this paper I am concerned with the possibility of a hitherto apparently unexplored phenomenon, cognitive penetration at the (ii) level. Views on the structure and dynamics of the (i) level indelibly influence views on the structure and dynamics of the (ii) level. It is something close to a *datum* that phenomenologies, the qualia of the various mental states that we undergo and that we consciously experience, are modular, at least at a stage prior to their coagulation and interaction in the unity of consciousness. If we pause our stream of consciousness at

various points in time and self-analyse it, we seem to find and routinely take as normal a complex of sensory-perceptual phenomenologies and cognitive phenomenologies, such as a phenomenology of thinking that p or a phenomenology of intending to ψ. These phenomenologies are not normally disparate phenomenologies, the case is rather that they unite in a perspective over the stream of consciousness, allowing the unfolding of and intertwining in more complex mental states the mereology of which cannot *post facto* be easily analysed as a constitution of simple components and rules of combination of those components. Yet, if we could catch in slow motion the mental dynamics in question, there would seem to be an initial stage of conscious or phenomenological modularity, mirroring perhaps a more primitive form of modularity, the modularity at the (i) level. The question of the connection, if any, between the (i) level and the (ii) level has not been itself explored to a great and satisfactory extent. The study of the mind has often been confounded, maybe due to methodological and sociological reasons, with the study of the (i) level, thus leaving outside its scope the proper study of the other half. The progress made on elucidating the mechanics of the (i) level and the frameworks of thought and conceptualization tried for this purpose and taken to the ends of their potential have often been transferred, with *mutatis mutandis* clauses, to the incipient study of the (ii) level. Yet, it is not clear whether this is adequate or apposite for the study of the (ii) level, where insights of a different nature might be needed. Each of the following three lines of inquiry holds some promise, but only two of them might be worth pursuing further: 1. there is a structural isomorphism or homomorphism between the (i) level and the (ii) level, 2. there is no structural morphism of any kind between the (i) level and the (ii) level, and 3., irrespective of whether 1 or 2 are correct, there is a connection between the (i) level and the (ii) level, allowing some sort of communication or transfer of information. If 1 is worth pursuing further, then views on the (i) level of the architecture of the mind bear on views on the (ii) level of the architecture of the mind. A view according to which there is cognitive penetration at the (i) level might thus correspond to a view according to which there is a form of cognitive-phenomenological penetration at the (ii) level and similarly if there is no cognitive penetration at the (i) level. If 2 is worth pursuing further, then there could in principle be four views with respect to the cognitive penetration question: 2.1. no cognitive penetration at the (i) level and no cognitive penetration at the (ii) level, 2.2. cognitive penetration at the (i) level and no cognitive penetration at the (ii) level, 2.3. no cognitive penetration at the (i) level and cognitive penetration at the (ii) level, 2.4. cognitive penetration at the (i) level and cognitive penetration at the (ii) level. The similarity encountered in 2.1. and 2.4. is, according to this line of inquiry, merely accidental. An independent way of establishing the truth of either 2.3. or 2.4. could be taken as a mark of the truth of 2. But the line of inquiry suggested here is more of an *a priori* kind. In this paper, I am not going to focus on the question of cognitive penetration at the (i) level. Instead, I am going to focus on the question of cognitive penetration at the (ii) level, leaving open the 1 and 2 possibilities regarding the macro-structure of the two levels. I do think that 3, regarding the connection between the

two levels, is another line of inquiry worth pursuing independent of the macro-structure of the two levels and that insights into the nature of the connection in question might shed a decisive light over the macro-structure issues. I also do think that positive, optimistic views over the exploratory power of the (ii) level, of mapping and charting the contours and goings-on at the (i) level, hold much promise. In a quasi-psychodynamic view, it is the (i) level that has the capacity to overflow the (ii) level, but it is only via the power of the (ii) level that the raw material at the (i) level can be transformed into material for the (ii) level.

2. I am thus interested in this paper in the question of cognitive-phenomenological penetration, a penetration of non-cognitive phenomenologies by cognitive phenomenologies. The possibility itself of such phenomena in mental ontology depends upon a background that shuns the modularity or massive modularity view at the (ii) level. This modularity overhaul is to be expected at all stages of the phenomenological dynamics. It might be the nexus of the frame problem itself as a problem for modularity or massive modularity views at the (i) level. It arises in a framework of thought according to which phenomenological interactions and combinations are widespread in our mental lives, concerning not only cognitive states and non-cognitive states, but also non-cognitive states in relations to each other. We are often reminded of phenomena such as synaesthesia or cross-modal influences, reverberating at the (ii) level *par excellence*. Synaesthesia and cross-modal influences can be taken as paradigms of inter-phenomenological penetration. They are real, palpable phenomena that are not dependent upon unstable reporting or confusion or other vagaries in the study of the stream of consciousness. The question arises whether such phenomena are due to abnormal wiring at the (i) level or whether they can be emulated at the (ii) level irrespectively of the wiring, be it normal or abnormal, at the (i) level. It is a prediction of the framework of thought according to which phenomenological interactions and combinations are widespread in our mental lives that such emulations can take place simply through alterations in the stream of consciousness, at the (ii) level. But penetrations between non-cognitive phenomenologies are not the most interesting and ultimate level of phenomenological penetration. That is the domain of cognitive-phenomenological penetration, the kind of penetration in the stream of consciousness capable of modifying the texture itself of non-cognitive phenomenologies, transforming them into cognitive phenomenologies. In the next two sections of this paper I am going to present a metaphysical model of cognitive-phenomenological penetration. I sometimes use a more metaphorical language (e.g., "permeation" instead of "penetration") and I see the view put forward as a form of "mental alchemy" at the (ii) level. The endeavour is an exercise in the mental ontology of the stream of consciousness and the stream of thought, starting from a simple distinction between the content of a thought and the colourings of thought (inner speech, mental images, emotions, epistemic feelings, and any other mental states, events, or processes that might get entangled with the content of a thought). Further on, it is an exercise that may hold the key for solving the debate between proponents

and opponents of a *sui generis* phenomenology of thought as a self-standing entity in the mental ontology of the stream of consciousness in favour of the proponents.

3. Let us consider, as abstractly as possible, what I take to be the metaphysic of the phenomenological interaction between the phenomenology of the colourings of the depurated cognitive content of a thought and the phenomenology of the depurated cognitive content of that thought:[1]
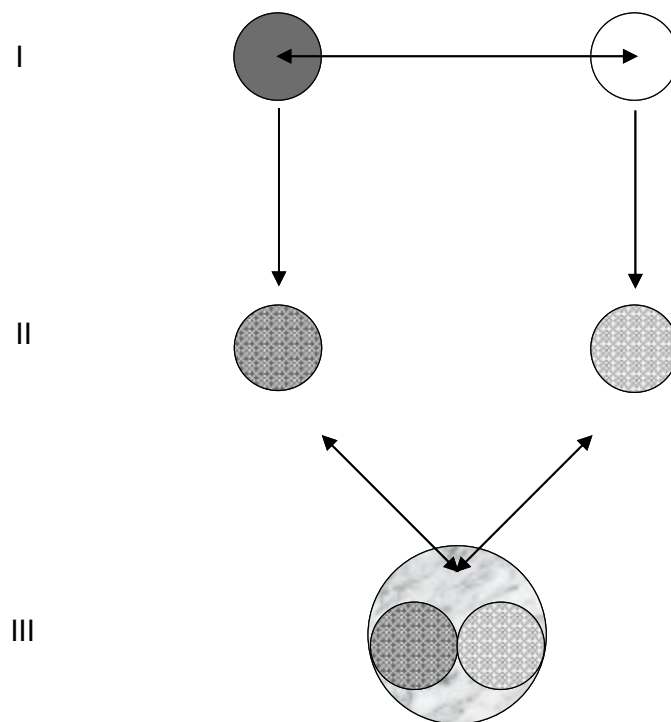
I take levels I-III to reflect a *temporal* succession of the processes taking place: "phenomenological interaction," "transmutation," and "phenomenological blending." Yet, I do not want to claim that the succession is itself experienced by a subject of experience (not typically, at least). We are enquiring here into what may be called 'the nature of phenomenology', and it may well be the case that the processes involved in the birth of certain phenomenological units that are present in experience are not phenomenologically transparent to the subject. Introspection may not typically reveal the genesis of the phenomenological units that are present in experience. There may be a phenomenology-entering threshold beneath which mental life may be teeming with processes such as those discussed here: "phenomenological interaction," "transmutation," and "phenomenological blending." This threshold may vary, depending on what I called in chapter 1 "the acuity of consciousness," making some states hypo-conscious, others normally conscious, and yet others hyper-conscious. In any case, the upshot is that the temporal succession reflected in the transition from level I to level III might be a temporal succession at the level of the nature of phenomenology, and not at the level of phenomenology itself, as it is consciously experienced by a subject of experience.[2]

At level I, we have the phenomenology of a thought colouring (let us symbolize it with 'ξ') in isolation, as well as the *sui generis* phenomenology of the depurated cognitive content of a thought in isolation (let us symbolize that thought, consisting in its depurated cognitive content, with 'τ'). When the subject of experience thinks τ and when τ "recruits" ξ, there is an initial process of "phenomenological interaction" taking place between the phenomenologies of τ and ξ. The process of "phenomenological interaction" makes it such that both the phenomenology of τ and the phenomenology of ξ undergo a process of "phenomenological transmutation" that transforms them into the phenomenology of τ "permeated" by the phenomenology of ξ (synonymously, the phenomenology of ξ "embedded" into the phenomenology of τ), respectively the phenomenology of ξ "permeated" by the phenomenology of τ (synonymously, the phenomenology of τ "embedded" into the phenomenology of ξ). The resulting phenomenological units, at level II, although continuants of the phenomenological units at level I, the phenomenologies of ξ and τ, are both numerically and qualitatively different from the phenomenologies of ξ and τ. Although similar to the phenomenological units at level I, the phenomenological units at level II are nevertheless not qualitatively identical with their predecessors at level I.

When the subject of experience thinks τ and when τ "recruits" ξ, after the initial process of "phenomenological interaction" leading to the "phenomenological transmutation" of the initial phenomenological units, there is a further process of "phenomenological blending" taking place, leading to a "phenomenological blend" comprising the phenomenology of τ "embedded" into the phenomenology of ξ and the phenomenology of ξ "embedded" into the phenomenology of τ. The "phenomenological blend" is nevertheless something over and above the two phenomenological units that "blend" into it. The phenomenology of τ is altered by the phenomenology of ξ when the two get into contact. Similarly, the phenomenology of ξ is altered by the phenomenology of τ when the two get into contact. When the resulting phenomenological units merge, they give rise to a more encompassing phenomenological unit that contains them, but that is also something over and above them. This new phenomenological unit is graphically depicted at level III in the diagram. It represents the phenomenology of τ "coloured" by the phenomenology of ξ, the phenomenology of a thought "coloured" by such mental entities as a bout of inner speech, a mental image, an emotion, or an epistemic feeling.

I have graphically depicted only the "phenomenological interaction" between the phenomenology of a depurated cognitive content of a thought, τ_i, and the phenomenology of a thought colouring, ξ_i. Nevertheless, in most typical cases in which thoughts engage thought colourings, there are "phenomenological interactions" between the phenomenologies of many depurated cognitive contents of thoughts and many thought colourings. If we restrict ourselves, as an example, to the case of the phenomenology of a depurated cognitive content of a thought, symbolized as 'τ_1', and the phenomenologies of two thought colourings, symbolized as 'ξ_1' and 'ξ_2', there will be "phenomenological interactions" between i) τ_1 and

ξ_1, ii) τ_1 and ξ_2, and iii) ξ_1 and ξ_2. These interactions will result in the phenomenologies of τ_1, ξ_1, and ξ_2 to be "transmuted" as follows: from τ_1 to τ_1 (ξ_1),[3] from τ_1 to τ_1 (ξ_2), from ξ_1 to ξ_1 (τ_1), from ξ_1 to ξ_1 (ξ_2), from ξ_2 to ξ_2 (τ_1), from ξ_2 to ξ_2 (ξ_1). When a phenomenological unit is "transmuted" in interaction with multiple other phenomenological units such that it gives rise to a "phenomenological blend" at the next step, we can say that the phenomenological unit in question is "multiply permeated." τ_1, ξ_1, and ξ_2 are all multiply permeated in the example given, and we can symbolically render the "transmuted," "multiply permeated" phenomenological units as follows: τ_1 (ξ_1, ξ_2), ξ_1 (ξ_2, τ_1), and ξ_2 (ξ_1, τ_1).[4] When these "multiply permeated" phenomenological units merge into a "phenomenological blend" at level III, that blend comprises τ_1 (ξ_1, ξ_2), ξ_1 (ξ_2, τ_1), and ξ_2 (ξ_1, τ_1), but is also something over and above them. When we introduce another phenomenology of a depurated cognitive content of a thought, τ_2, we shall have the following "multiply permeated" phenomenological units at level II: τ_1 (ξ_1, ξ_2, τ_2), τ_2 (ξ_1, ξ_2, τ_1), ξ_1 (ξ_2, τ_1, τ_2), and ξ_2 (ξ_1, τ_1, τ_2). At level III, we shall have a "phenomenological blend" comprising all these phenomenological units that is also something over and above them.

4. The underlying picture is then the following: when "phenomenological interaction" is taking place, everything may "permeate" everything,[5] and "phenomenological blends" are born only from "permeations" (the "transmuted" phenomenological units that can get "multiply permeated"), containing them, but at the same time being something over and above them. I am endorsing here the following principles:

(P_1) One can get a "phenomenological blend" only from "transmuted" phenomenological units (or "permeated" phenomenological units).

(P_2) "Permeation" is restricted on a universe of discourse containing only "non-transmuted" phenomenological units—"permeation" of non-phenomenological units by phenomenological units is barred, so is "permeation" of phenomenological units by non-phenomenological units, and so is "permeation" involving "transmuted" phenomenological units.

According to (P_1), "non-transmuted" phenomenological units, such as those at level I, or non-phenomenological units cannot combine with each other or with "transmuted" phenomenological units in order to give rise to "phenomenological blends."

(P_1) allows for cases in which the phenomenologies of thought colourings "permeate" each other, giving rise to "phenomenological blends" comprising phenomenological units such as the following: ξ_1 (ξ_2, …), ξ_2 (ξ_1, ξ_3, …), ξ_3 (ξ_1, ξ_2, ξ_4, …). I take it that such a "phenomenological blend" arises when a subject of experience entertains, within a certain interval of time, multiple thought colourings in the absence of a depurated cognitive content

of a thought, in cases such as those of idly experiencing a mental image, an emotion, an epistemic feeling, and an unbidden, meaningless inner soliloquy within a certain interval of time allowing the unfolding of the process of "phenomenological interaction." All these phenomenological units are "permeating" each other, giving rise to "multiply permeated" phenomenological units at level II. At level III, these "multiply permeated" phenomenological units blend.

The interesting scenario is that in which we introduce depurated cognitive contents of thoughts into the picture. The opponent of a *sui generis* phenomenology of thought, pitched at the level of the depurated cognitive content of thought, can agree with (P_1) and with (P_2), but hold that when we introduce a depurated cognitive content of a thought into the picture, there is no "phenomenological interaction" taking place at level I, since there is no phenomenological unit corresponding to the *sui generis* phenomenology of the depurated cognitive content of thought. As such, the "phenomenological blends" at level III, be they considered in the idle cases or the cases in which there is also a depurated cognitive content of a thought present "recruiting" the thought colourings, should, according to the opponent, be qualitatively identical, not including any contribution from a putative *sui generis* phenomenology of τ_i. Is this really the case? Is it the case that the "phenomenological blends" in cases where a subject of experience is entertaining several thought colourings not "in the service of" a thought or "not recruited by" a thought are qualitatively identical to the "phenomenological blends" in cases where a subject of experience is entertaining those thought colourings "in the service of" a thought or "recruited by" a thought? Is the depurated cognitive content of the thought in the latter cases only a phenomenologically shadowy presence, incapable of "permeating" the phenomenologies of thought colourings and thus leading to qualitatively identical "phenomenological blends"?

If the opponent agrees that there are phenomenological differences and that the resulting "phenomenological blends" are not qualitatively identical, he has to challenge (P_1) or (P_2).[6]

The opponent can challenge (P_1) by holding that putative non-phenomenological units, such as the depurated cognitive content of a thought, can enter into "phenomenological blending" with phenomenological units—there would thus be phenomenological differences at level III, but without the need for any *sui generis* phenomenology of thought. This entails a defence of the thesis according to which phenomenological voids, such as the depurated cognitive contents of thought, can nevertheless engender "phenomenological blends" when the other relatum is a phenomenological unit. This seems to be an unneeded accretion in our metaphysic and it may ultimately predispose us towards contemplating more seriously even views according to which phenomenological voids, when interacting with each other or when blending with each other, may give rise to phenomenological "permeations," phenomenological "blends," or other phenomenological plenums.

The opponent can challenge (P_2) by holding that only the phenomenologies of ξ_is are capable of "permeation"—the opponent can consider, for instance, that in a case in which we

have two thought colourings ξ_1 and ξ_2, but no τ, at level III there will be a blend comprising ξ_1 (ξ_2) and ξ_2 (ξ_1), while in a case in which we have those two thought colourings ξ_1 and ξ_2, but also a τ, there will be, at level III, a blend comprising ξ_1 (ξ_2), ξ_2 (ξ_1), but also τ (ξ_1, ξ_2), although no ξ_1 (τ) or ξ_2 (τ), and thus no ξ_1 (ξ_2, τ) and ξ_2 (ξ_1, τ). τ does not "permeate," but can be "permeated" by ξ_1 and ξ_2. This amounts to a claim according to which a non-phenomenological unit can enter at level I into "phenomenological interactions" in the sense of being "permeated," but not that of "permeating," and can be "transmuted" into a phenomenological unit that can enter into "phenomenological blends." This strategy agrees with (P_1) and also acknowledges the phenomenological difference between the cases in which thought colourings, although "permeating" each other, are conjured up freely or unbidden, and the cases in which the thought colourings are "in the service of" a thought or "recruited by" a thought, interacting with the depurated cognitive content of the thought and giving rise to different "phenomenological blends," although there is no putative *sui generis* phenomenology of the depurated cognitive content of the thought "permeating" them. The latter cases differ from the former cases due to the presence of a phenomenological unit in the blend consisting in the "permeation" of the non-phenomenological depurated cognitive content of the thought by the thought colourings, giving rise to a "transmutation" from a non-phenomenological unit to a phenomenological unit. This τ (ξ_1, ξ_2) is a novel phenomenological entity, but is not quite a *sui generis* phenomenology of thought, pitched at the level of the depurated cognitive content of the thought.

At this stage, the proponent of a *sui generis* phenomenology of thought must resort, instead of contrasts between the "phenomenological blends" at level III, to contrasts between the phenomenological units resulting at level II after the "transmutations" of the phenomenologies of thought colourings. The opponent denies any phenomenological contribution from a putative *sui generis* phenomenology of thought. Then the opponent ought either to i) defend the phenomenological identity between the following phenomenological units at level II in an arbitrary example involving "multiple permeation," in which we consider several (e.g., three) thought colourings (ξ_1, ξ_2, and ξ_3) and several (e.g., three) depurated cognitive contents of thoughts (τ_1, τ_2, and τ_3), or ii) account for the phenomenological differences otherwise than by appealing to a *sui generis* phenomenology of the τs:

    a) ξ_1 (ξ_2, ξ_3)
    b) ξ_1 (ξ_2, ξ_3, τ_1)
    c) ξ_1 (ξ_2, ξ_3, τ_1, τ_2)
    d) ξ_1 (ξ_2, ξ_3, τ_1, τ_2, τ_3)

If the opponent takes route i), he must defend what I take to be the implausible thesis according to which the phenomenologies in a)-d) are all qualitatively identical, since τs make no phenomenological contribution. From my vantage point, it seems more promising

for the opponent to take route ii)—hold that the differences can be explained as follows: the further "permeations" of ξ_1 that are taking place when we introduce several depurated cognitive contents of thoughts into the picture are due not to *sui generis* phenomenologies of thought, but to the novel phenomenological entities of the $\tau\ (\xi_i, \xi_j)$ sort. In the simplest case, we have at level I a ξ_1 and a τ. At level II, ξ_1 is not "transmuted," but τ is "transmuted" into $\tau\ (\xi_1)$. ξ_1 and $\tau\ (\xi_1)$ then "interact" and give rise to a "transmuted" ξ_1, namely $\xi_1\ (\tau\ (\xi_1))$, in which τ itself makes no phenomenological contribution, although its "transmuted" continuant $\tau\ (\xi_1)$ does—it "permeates" ξ_1. One may also push here for a "transmutation" of $\tau\ (\xi_1)$ into $[\tau\ (\xi_1)]\ (\xi_1)$, resulting from the "permeation" of $\tau\ (\xi_1)$ by ξ_1. All this amounts to rejecting (P$_2$) as it is stated, by allowing for "permeations" between "non-transmuted" phenomenological units and "transmuted" phenomenological units. I think that it is more parsimonious to simply bar the possibility of a phenomenological unit "permeating" a non-phenomenological unit at level I, "transmuting" it into a phenomenological unit that can subsequently "permeate" and be "permeated."

There clearly are certain available resources for the opponent of a *sui generis* of thought to account for the phenomenological differences between blends at level III and between the phenomenological units of "multiply permeated" ξs at levels II, but I think that the resulting theory is much less elegant, more complicated, and less fertile than the theory that simply postulates a *sui generis* phenomenology of the depurated cognitive content of thought at level I and abides by (P$_1$) and (P$_2$). The virtue of simplicity, corroborated with those of elegance and fertility, ought to lead us to choose the theory according to which there is a *sui generis* phenomenology of thought, pitched at the level of the depurated cognitive content of thought, instead of the theory according to which there is no such mental-ontological entity and we can explain everything solely in terms of a phenomenology of thought colourings.

In this way, the debate between the proponent and the opponent of a *sui generis* phenomenology of thought can be conceived as a theoretical debate, in which theoretical virtues ultimately allow us to decide which theory wins the day. Although the theory according to which there is no *sui generis* phenomenology of thought may *prima facie* appear to be preferable because it complies more with Ockham's razor, I maintain that *ultima facie* it is the theory according to which there is a *sui generis* phenomenology of thought that allows us to better explain the fundamental contrast between the phenomenologies of thought colourings in isolation and the phenomenologies of thought colourings when engaged by thoughts. According to Ockham's razor, entities must not be multiplied *beyond necessity*. The contrast between the phenomenologies of thought colourings in isolation and the phenomenologies of thought colourings when engaged by thoughts is necessity enough, I maintain, for adopting the view according to which there is a *sui generis* phenomenology of thought "permeating" the phenomenologies of thought colourings when the latter are engaged by thoughts.[7]

5. The abstract metaphysical model of cognitive-phenomenological penetration or "permeation," as I called it, concerns not only phenomenological penetration in the direction from thought to thought colourings, but also phenomenological penetration in the opposite direction. The strength of the *sui generis* phenomenology of thought is fleeting: shifting circumstances might make it more prone to penetrate the phenomenology of thought colourings or the converse might be the case, when thought colourings rather penetrate its texture, giving rise to highly colour-charged phenomenologies of thought. Whereas in the former case the phenomenologies of thought colourings align to the textural structure of the *sui generis* phenomenology of thought, to its abstract, formal, logical form-like pattern, in the latter case the logical form-like phenomenological pattern and texture might get distorted, altered, elongated by the unadulterated phenomenologies of thought colourings, possibly influencing the train of thought and the inferential and associative mechanisms governing its motion, opening unexpected potentials in the stream of consciousness. The machinery of thought, in its conscious dimension, may at times appear different, dependent upon the way in which the balance of probabilities contingent upon the prevalence of the *sui generis* or the colourings shifts.

Yet, despite the emphasis on penetrations or "permeations" of phenomenological fabric, the abstract metaphysical model put forward can, if further developed, restrict such phenomena, such that no penetrations or "permeations" occur between already-established phenomenological blends. At its avant-garde point, the model can retain a kind of modularity by not allowing further combinations of phenomenological blends or alterations of the newly established phenomenological fabric by phenomenological units outside it. The overall view of conscious mental life that would emerge from such a development is that of multiply emerging phenomenological blends, products of phenomenological penetrations in the adumbrated mental-ontological framework, connected on the basis of non-invasive threads at the macro-structure of the fabric of the stream of consciousness. Experienced from a distant vantage point even within a subject's experiential stream, this overall phenomenological architecture might give the impression of modularity, neglecting the possibility of an underlying rich non-modular foundation in the metaphysics of mind.

Let me end this section by comparing the abstract metaphysical model of blending put forward with other models of interaction that may be heuristically employed in the study and understanding of such phenomena (the overlap model and the vector sum model) and by providing an answer to the questions: how are the blends achieved and how do the blends work?[8]

"Permeation" blending is *not* a case of simple overlap, as in set theory or in the overlap of colours such as red and yellow yielding orange. The overlap model (Figure 1) can be diagramatically illustrated as follows, where, arbitrarily, μ_A – phenomenology of thought colouring in isolation, μ_B – *sui generis* phenomenology of the depurated cognitive content of thought (the values of μ_A and μ_B can also be interchanged):
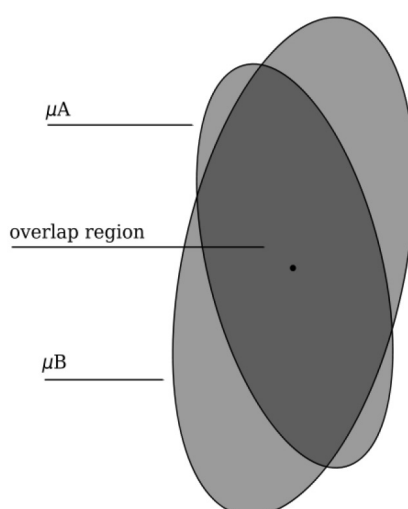
Figure 1. The overlap model

The representation here is bidimensional because of the nature of the medium, but we could also easily imagine similar three-dimensional or multi-dimensional representations. There are also various stages and possible movements/elongations of the overlap, from partial to total (when we can arrive at perfect alignment).

The problem with the overlap model is that it inaccurately represents the dynamics of cognitive-phenomenological penetration: understood set-theoretically, the overlap region focuses on a commonality, but not on interaction or penetration impact; understood colour-wise (red and yellow yielding orange), the mix simply eliminates the identity of the components and the traces they leave, as well as their detachability.

"Permeation" blending is also *not* a case of vector addition, diagramatically illustrated as follows (the tip-to-tail method - Figure 2), where, arbitrarily, arrowed a – phenomenology of thought colouring in isolation, arrowed b – *sui generis* phenomenology of the depurated cognitive content of thought (the values of arrowed aand arrowed b can also be interchanged), θ – the angle of "phenomenological interaction" between arrowed a and arrowed b, arrowed (a+b) – the blend of arrowed a and arrowed b:
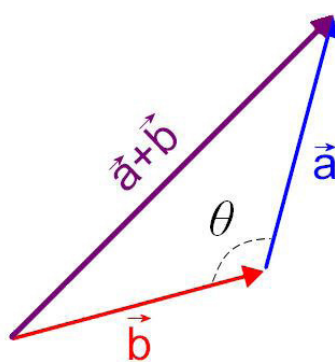

Figure 2. "Permeation" blending diagram

Vector addition is simply not an apposite representational tool to account for the phenomena of consciousness (neither metaphysically, nor epistemologically or heuristically), given its focus on physical phenomena – velocities, forces, and the like. This line of thought does not presuppose mind-body dualism, but it does not reject it either. Phenomenological "blends" are not simple arithmetical sums or vector additions, and especially not in a Euclidean, flat space. A more apposite mathematical representational tool would involve non-Euclidean models, such as models in hyperbolic geometry (where space curves outward) or in spherical and elliptic geometry (where space curves inward). It is hard to venture a non-intuitive, more precise guess as to the right geometry of conscious phenomena and "phenomenological interactions" compatible with the "permeation" blending model that I presented – my intuitive guess would be on models in hyperbolic geometry, since the convexity heuristic underlying it could account for the knowledge-seeking irradiations of consciousness in the world outside the head.

The model I put forward centres on "permeation," an interlocking of phenomenologies that are not simply classical phenomenologies. It seeks to explain the fundamental contrast case between the phenomenologies of colourings in isolation and the phenomenologies of colourings attached to thoughts. Why is it that the texture of perceptual phenomenologies such as the phenomenology of hearing and auralizing strings of sounds initially devoid of any semantic properties changes after acquiring understanding, recognitional, and producing capacities for those semantic properties? Why is it that the perceptual phenomenology of seeing an image or a text changes after acquiring the mastery of the semantic properties that entirely catapult the experience in the semantic zone of experience, away from the purely syntactic, formal, and structural zones of experience? We can think of the experience of reading a text in an ancient, not so known language, such as Aramaic. We can think of the text also containing various images and symbols that are hard to understand and localize in context. Mastering the language and acquiring the capacities to see the images and symbols in the right way will radically change the experience. Something in the new experience will be the same as in the experience prior to the semantic elevation, but it will take serious mental effort to disentangle the interlocked components of the new experience. Such effort will probably require tagged memories of each of the learning steps, mechanizing something that is otherwise automatic.

As explained in §3, the blends are achieved in a *temporal* sequence. The processes take place in the biological spacetime in which an individual mind and body dwell. On the one hand, the phenomenologies of the colourings are always more empirical, pertaining to the senses (they are the transposition of the classical perceptual phenomenologies into the inner realm, the transposition of visual, auditory, olfactory, tactile, and gustatory phenomenologies into their corresponding imagistic phenomenologies). In a way, these phenomenologies come from the body and this is especially evinced in the case of natural emotions. On the other hand, the *sui generis* phenomenology comes from a non-sensory

dimension, it is conceived of in a more rationalist way – it doesn't look as if it comes from the body. It has been argued that the phenomenology of thought is a distinct experiential modality, as distinct from each of the sensory modalities as they are from each other, a cognitive-experiential modality; moreover, this distinct cognitive-experiential modality has been identified with the sixth Buddhist *āyatana*, that of thought, mind, or mental objects,[9] something that comes close to what I have in mind. Overall, there are philosophers who are empiricists about the phenomenology of thought[10] and philosophers who are more rationalists about the phenomenology of thought.[11] I side with the latter.

The blends work so as to infuse the classical phenomenologies with the *sui generis*, to achieve the semantic elevation. The *sui generis* illuminates the phenomenologies of the colourings, it elevates them through what may be called "progressive sparks" modifying the texture. And the same works in the other direction, where the phenomenologies of the colourings alter the *sui generis*, either in a negative or in a positive way, by charging the *sui generis* or by nuancing it. The "permeation" blending model and the interlocking of phenomenologies it rests upon is a model accounting for these phenomena.

It needs to be acknowledged that the category of thought colourings is a heterogeneous one – it puts together inner speech, emotions, images, epistemic feelings and any other mental states, events, or processes that might get entangled with the content of a thought. While one can see more easily the semantic elevation of the blend at work for inner speech, emotions, or images, the case of epistemic feelings is somewhat more complicated, but one can get traction on it as well – the distinctive phenomenology of disappointment of thinking that it is raining out and the disappointment due to the need to cancel an expected tennis match is not at the same level of semantic elevation with the disappointment of thinking that one has lost three years of life due to an accident. There are levels of disappointment and various associative and inferential connections that are established in the stream of consciousness depending on the nature of the thought content. The *sui generis* can elevate the disappointment into something tragic or dramatic, while the disappointment can charge the *sui generis* to the point of annihilating it or can nuance the *sui generis*, in the sense of seeking alternative paths in thinking to change the chemistry of disappointment, transforming a negatively polarized epistemic feeling into a positively polarized one. The subtle modifications of texture for the phenomenology of the colourings or the *sui generis* phenomenology can be explained by the existence of this force of field of interactions giving rise to the "permeation" blending.

It also needs to be acknowledged that the nature itself of the *sui generis* is somewhat mysterious. The depurated cognitive content of a thought, by extracting all the colourings, becomes a sort of a functional signature of a thought. It is a form of phenomenological void, yet it has phenomenological presence. If I were to synthesize my views on the nature of the *sui generis* phenomenology of thought, I would say that it consists in the opening of certain inferential and associative potentials in the stream of consciousness of thought:

thus, there can be a more inferential phenomenology, maybe related to the logical form of judgments, as well as a more associative phenomenology, arising from the entanglements between pure thought and thought colourings, functionalized in turn through the extraction of the colourings. The colourings in isolation are not devoid of content, just as the *sui generis* without colourings is also not devoid of content. But the content of the colourings when permeated by the *sui generis* gets to be semantically elevated, so it changes.

To summarize, it is often difficult to offer demonstrative, introspective arguments for the *sui generis* phenomenology of thought and it might well be the case that indirect arguments for its existence can be provided precisely on the basis of observing its penetration impact, causal or not, on other phenomenologies: a sort of a *nonconstructive*, rather than constructive *existence proof*. Yet, phenomenology-focusing or phenomenology-extraction thought experiments, in which we zoom in on relevant phenomenologies or in which we imagine a subject left without various phenomenologies, but still enjoying a *sui generis* phenomenology of thought or the phenomenology of an otherwise isolated colouring, even if in an inner otherwise almost computational environment, are sufficient *constructive existence proofs* (for such thought experiments, see, for instance, Avicenna's "floating man" argument[12]).

6. The theoretical developments put forward so far concern the architecture of mind and consciousness. They do not address the links between mind and consciousness, on the one hand, and extra-mental reality, on the other hand. There are reasonable grounds for arguing that mind and matter are not separate realms of reality, not in the sense of endorsing a form of physicalistic/idealistic monism with respect to the mind-body problem, but in the sense that mind and matter might be connected at a much more fundamental level. The metaphysical thesis of neutral monism, according to which there is only one underlying commonality to both mind and matter, distinct from each and to which both can be reduced to and constructed from, is such a philosophical position allowing the connection between mind and matter at a much more fundamental level. In previous work[13] I have argued that the neutral entities posited by neutral monism can be understood as amorphous, plastic entities that can *morph into* various mental or physical entities and that this overall schemata of superscripted neutral monism can also be applied to the metaphysics of phenomenologies: there might be something subjacent to all kinds of phenomenologies (including the *sui generis*, the colourings, and the sensory-perceptual), a sort of an amorphous phenomenology *morphing into* particular phenomenologies. There is room for further inquiry leading from these views on the architecture and metaphysics of mind and consciousness and the metaphysics of phenomenologies to views on rationality, irrationality, and the study of cognitive distortions.

Rationality, irrationality, and cognitive distortions can only be appraised on a background comprising a subject's mind, other subjects' minds, and reality.

Intrasubjectively, it could be argued that the phenomenology of rationality is evinced when the phenomenologies of thought colourings align to the textural structure of the *sui generis* phenomenology of thought, to its abstract, formal, logical form-like pattern, whereas the phenomenology of irrationality and cognitive distortions are evinced when the logical form-like phenomenological pattern and texture get distorted, altered, elongated by the unadulterated phenomenologies of thought colourings, possibly influencing the train of thought and the inferential and associative mechanisms governing its motion, opening unexpected potentials in the stream of consciousness. In this sense, irrationality is not heuristically useless or pragmatically inefficient, possibly allowing important shifts and mutations in the stream of consciousness, giving rise to discovery, innovation, or creativity. Cognitive-phenomenological penetration from the direction of the *sui generis* to the direction of the colourings can function as a calibrating mechanism of rationality, whereas phenomenological penetration in the converse direction can function as a calibrating mechanism of irrationality when rationality is excessive.

Intersubjectively, the phenomenologies of different subjects can be sensed via empathy or via interpretational mechanisms. There is much room for misinterpretation at this stage, due to subjective interferences. Subjectivity can never be aligned, geometrized on a single dimension. Thus, subjective variety also means greater potential for misinterpretation in intersubjective interaction and appraisal of rationality and irrationality. What someone sees as rational, another person sees as irrational. Some cognitive distortions are seen in a positive light, others are seen in a negative light. This is always due to limitations on knowledge. Since we are not omniscient subjects, the phenomenologies that we harbour are always restricted, configuring subjective horizons that sometimes converge or diverge. Communication calibrates the cognitive transactions by working on modifications aiming at convergence of the subjective horizons. This process can shed light on whether a phenomenology is that of a rational or irrational mental state, event, or process in a more objective way. It can identify whether a cognitive distortion is justified or unjustified, epistemologically and pragmatically.

Neither intrasubjectivity, nor intersubjectivity can settle matters of rationality, irrationality, and cognitive distortions without the connection to extra-mental reality. Intrasubjectivity and to some degree intersubjectivity concern the conscious dimension of mind, but the connection to extra-mental reality is much stronger at the level of the underpinnings of the mind, the level of sub-personal processes. If the sub-personal machinery of thought functions on the basis of static and dynamic maps, rather than a formal language of thought,[14] then the connection to reality is easier to establish. What counts as irrationality is also easier to establish, amounting to malfunction at the sub-personal level of building models of reality via the static and dynamic maps. Reality is never static, but dynamic, not only in the sense that the extra-mental environment is changing, but also in the sense that other minds constantly modify reality. The sub-personal machinery needs to detect not

only the non-mental shifts in reality, but also what count as mental shifts of reality. Neutral monism, blurring the distinction between the informational transactions between mind and matter into the continuum of neutral information, opens the way for a heuristic mechanism allowing the identification of what is rational, irrational, or cognitively distorted: the mind first settles on the neutrality point in any cognitive transaction, be it intrasubjective (e.g., in self-mind reading), intersubjective (e.g., other mind reading), or concerning the connection to extra-mental reality; it allows only after the skew towards the positive or the negative morphing, the gateway into appraisals of rationality, irrationality, or what is cognitively distorted. Building accurate models of reality and working rationality is thus a concerted effort in which both the sub-personal and the personal count, influencing and calibrating each other by allowing transfer of information. A modular view of the architecture of mind and consciousness does not do justice to the dynamics underlying the construction of accurate models of reality and the achievement of working rationality.

Two questions at this stage are the following: What *is* the alignment between the *sui generis* phenomenology of thought and the phenomenology of the colourings? How is the formation of rational belief influenced by the *sui generis* phenomenology of thought and is this influence evinced *before* or *after* the "permeation" blending?[15]

As already explained, the textural alignment between the *sui generis* phenomenology of thought and the phenomenology of the colourings is the sort of alignment that allows the semantic elevation of the raw content of the colourings, the transformation of raw inner speech into inner speech *as* meaning thus and thus, of raw mental images into meaningful mental images, of natural emotions into cognitively sharpened emotions, of vague epistemic feelings into more precise epistemic feelings (on various probability and approximation metrics). The textural alignment is a process that could take place either subpersonally or personally. But when it takes place in the stream of consciousness, we can see the formation of rational belief in the making, cancelling anomalous experiences, aligning their elements in the right structural pattern. Any delusional tendency coming from the anomalous experiences can be rejected and its persistence can be stopped. Rationality is principally driven by the *sui generis* phenomenology of thought – the latter influences the formation of rational belief *before* the "permeation" blending, it *enables* the "permeation" to occur on rational safe ground. The "conscious hook" that allows the *sui generis* phenomenology to "permeate" the phenomenology of the colourings and generate the blends allows, if maintained, the *persistence* of rationality *after* the "permeation" blending. In its absence, rationality is sectioned, fragmented. If the direction of "permeation" blending is from the colouring to the *sui generis*, then there is a higher probability of irrationality – we see the primordial forces of the body and of the mind at work, rather than the *sui generis* and the semantically elevated phenomenologies of the colourings. On such grounds, subjects only understand based on their previous experiences; anything outside this sphere is never understood empathetically. Through the semantic elevation, the *sui generis* changes the landscape.

We can think of cognitive-phenomenological penetration as a subject's striving to achieve the ideal of rationality and the unity between the empirical parts of the mind and the more rational parts of the mind – it is a union, in the stream of consciousness, between the two main chambers of the mind, a striving to reach what is sometimes called the Aleph (ℵ) point, *post* interactions in the stream of consciousness. In Borges' story *El Aleph*, the Aleph is a point in space that contains all other points. Anyone who gazes into it can see everything in the universe from every angle simultaneously, without distortion, overlapping or confusion. Cognitive-phenomenological penetration, through the semantic elevation of the phenomenologies of thought colourings and the modification of their texture, attempts to achieve this ideal.

The overarching goal of the inquiry in this section has been that of arguing that cognitive-phenomenological penetration has a pivotal role in appraisals of rationality, irrationality, and cognitive distortions, at the intrasubjective, intersubjective, and extra-mental levels. The reach and function of cognitive phenomenology in the architecture of mind are important not only when the phenomenology in question concerns the substantive parts in the stream of consciousness of thought (the kernels or topics of thought around which all parts of the thought revolve, conferring it thematic unity), but also when it concerns the transitive parts in the stream of consciousness (the fringes of the substantive parts, the spaces of transition within a thought and from one thought to another, the halo or horizon of relations). Appraisals of rationality, irrationality, and cognitive distortions and the heuristics of settling on the neutrality point before skews towards the positive or negative morphings are at their best in the zone of the fringes, evincing what is mostly potential, rather than actual in the stream of thought. The reach and function of the cognitive phenomenology of fringes and of its penetration impact upon other phenomenologies remains a topic worthy of further exploration,[16] as does the question of phenomenologically-based prediction (by building dynamic models of self and other mental realities).

Notes

1. The sort of work that I attempt to do here is methodologically and structurally similar with that of Dainton 2006 and Williamson 2013 (chapter 5, "Logics of Phenomenal Character"); for the meaning of the illustrations, see the *Glossary* at the end of the paper.
2. I have talked here about phenomenological units and non-phenomenological units. I consider that interactions at the level of the nature of phenomenology involve phenomenological units, although those units may not be phenomenologically present. I endorse the following lemma: a unit counts as a phenomenological unit if it *can* be phenomenologically present (depending on the "acuity of consciousness"), whereas a unit counts as a non-phenomenological unit if it *cannot* be phenomenologically present.
3. I am using the 'x (y)' notation to symbolize the "embedding" of the phenomenology of y in the phenomenology of x, or, synonymously, the "permeation" of the phenomenology of x by the phenomenology of y.

4. I am ignoring here questions pertaining to the order within the brackets of the "permeating" phenomenologies—it may be argued that the phenomenologies of certain thought colourings have priority over other phenomenologies of thought colourings or over the phenomenologies of other depurated cognitive contents thoughts in the "permeation" of the phenomenology of a depurated cognitive content of a thought and, similarly, that the phenomenologies of certain depurated cognitive contents of thoughts have priority over other such phenomenologies or over the phenomenologies of other thought colourings in the "permeation" of the phenomenology of a thought colouring, but I remain agnostic.

5. The universe of discourse is restricted to "phenomenological units" of the sort encountered at level I. I am vacillating over whether to take "permeation" as irreflexive or rather nonreflexive (hence I am vacillating over referring to what is at stake with 'everything "permeates" everything but itself' or rather with 'everything may "permeate" everything'), but I lean towards taking "permeation" as not reflexive (whether irreflexive or nonreflexive), symmetric and transitive. As we shall see, there are questions to be raised about the viability of "permeation" of non-phenomenological units. If we were to supplement the universe of discourse with non-phenomenological units, I take it that "permeation" would a) remain symmetric, if we allow "permeations" of non-phenomenological units by phenomenological units and vice versa, or b) be nonsymmetric, since although there are reciprocal "permeations" between phenomenological units, or "permeations" of non-phenomenological units by phenomenological units, there are no "permeations" of phenomenological units by non-phenomenological units (or, alternatively, one might consider that there are "permeations" of phenomenological units by non-phenomenological units, but no "permeations" of non-phenomenological units by phenomenological units).

6. The opponent may agree that there are phenomenological differences, agree with (P_1) and (P_2), but hold that since "phenomenological blends" are something over and above their constituents, perhaps they are qualitatively different because there are extra qualitative properties by virtue of them being numerically different, although they have the same constituents. Alternatively, the opponent may consider that, although we consider the same ξs, there may be a "reshuffling" involved in the way in which they "permeate" each other from one case to another and, in particular, from the case in which they are conjured up freely or unbidden to the case in which they are "recruited by" a thought or "in the service of" a thought. Such "reshuffled permeations" entail the need for claims of priority within the brackets of the "permeations"—as I remarked in a previous note, I remain agnostic over such priorities, but I tend to think that they do not have any import on the qualitative character of the resulting "phenomenological blends."

7. The discussion in this section of the paper, in its current format, has been carried out at a very abstract level – it is an exercise in the metaphysics of mind and analytic phenomenology, and not an empirical investigation, although, in a Quinean way, I do not neatly distinguish between what is *a priori* and what is *a posteriori*. So, the high level of abstraction and the lack of empirically rich examples or illustrations are in their natural element given the meta-theoretical goals of the paper. The underlying metaphilosophical view is not that of building on concrete examples and paradigms in order to extract generalities and abstract patterns, but rather that of building on a rich array of intrasubjective and intersubjective experiences in order to offer a model that can be subsequently tested and investigated in a more empirical way. Analytic
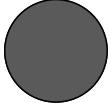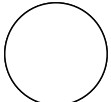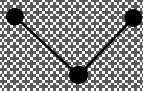
phenomenology presupposes a synthesis starting from which empirical work can be done. My goal is to tap into the structures of the model with methods somewhat similar to those employed in theoretical linguistics, i.e., non-empirical, but building on certain kinds of intuitions. Such intuitions do not originate at this time in scientific experiments, but in the vast reservoir of phenomenological experience. I am not building on much extant empirical work, but I am intuitively and imaginatively constructing a model and a framework for doing empirical work in this field. When such relevant work will be done, the model will be calibrated in a reflective equilibrium-type approach – the vast reservoir of phenomenological experience is never exhausted and can be enriched through the various geometrizations brought about by scientific experimentation, in one's own conscious and unconscious *psyche* and in the general model of the conscious and unconscious *psyche*. The theses put forward can be applied to some particular cases of thought colourings. In my paper "The Nature and Phenomenology of Inner Speech" (manuscript) I discuss at length how the phenomenology of inner speech, when the latter is engaged by thought, can be considered as a cognitive phenomenology, in compliance with the abstract metaphysic explored in this section. When conscious thought is mediated or constituted by inner speech, the phenomenology of that mental episode is not separable into a cognitive component and a sensory, auditory-imagistic component—it is rather a unified composite: the phenomenology of inner speech *as* meaning thus and thus. But in cases of conscious thought without inner speech or meaningless inner speech, the two components can come apart. Views on the mechanics of inner speech emphasize the role played in engendering the experience of inner speech by two components: a production component and a perception/comprehension component. These go by several names: inner voice, motor-articulatory imagery for the production component; inner ear, auditory imagery for the perception/comprehension component. From a phenomenological point of view, it is unclear to what extent the actual mechanics of inner speech, involving a production and a comprehension/production component, is relevant. Even if we agree with studies such as the ones in D. Reisberg, ed., *Auditory Imagery*, (Hillsdale, NJ: Lawrence Erlbaum, 1992), that emphasize a constant partnership between the two components in most tasks involving inner speech, or with studies stressing their inseparability (D.G. MacKay, "Constraints on Theories of Inner Speech," in D. Reisberg, ed., *Auditory Imagery*, 121-150), or studies considering inner speech as a form of motor imagery e.g. M. Jeannerod, *Motor Cognition* (Oxford: Oxford University Press, 2006), or, for that matter, with theoretical views not allowing any division into components of inner speech, what matters is that, phenomenologically, inner speech appears to be in most cases as already possessing a meaning, as already semantically interpreted. Therefore, the phenomenology of inner speech is not a purely sensory-perceptual one. This would only be the case if we were constantly hearing streams of inner speech in an unknown language, or syntactically and semantically ambiguous or obscure speech streams running through our heads, constantly applying judgments of translation or disambiguation along the way in order to make sense of them. There is a strong case to be made against such a scenario as holding for everyday inner speech. Even in pathological cases such as those of auditory verbal hallucinations, they appear to be inherently meaningful, although acknowledged as not belonging to oneself. Independently of whether auditory and motor imagery work in tandem or separately in inner speech, they may nevertheless independently support semantic properties, so the thesis that cognitive phenomenology is

inherent in the phenomenology of inner speech is safeguarded. In my paper "The Nature and Phenomenology of Emotions" (in preparation) I similarly discuss at length how the phenomenology of emotions, when the latter are engaged by thoughts, can be considered as a cognitive phenomenology, in compliance with the abstract metaphysic explored in this section. Emotions are a case in which phenomenological blends are eminently evinced. The contrast between the phenomenologies of natural emotions and cognitively sharpened emotions may be considered as the fundamental contrast case allowing us to postulate a *sui generis* phenomenology of thought capable of "permeating" the phenomenology of emotions (see J. D'Arms and D. Jacobson, "The Significance of Recalcitrant Emotions (Or Anti-QuasiJudgmentalism)," *Philosophy*, Supp. 52 (2003): 127-145 for relevant phenomenal contrast cases and the challenge of recalcitrant emotions). In emotions, the body (possibly including the brain as well) and the mind meet in what may be called a *nexus mirabilis*. The body brings physiological manifestations that the mind interprets, misinterprets (see the classical experiments of Schachter and Singer, in S. Schachter, and J. Singer, "Cognitive, Social, and Physiological Determinants of Emotional State," *Psychological Review,* 69 (1962): 379–399), distills, transforms, or sharpens. The mind can zoom in or zoom out on certain physiological manifestations and can also give rise to certain physiological manifestations. Emotions are the products of this *nexus mirabilis*, where there is mysterious bidirectionality (see the James-Lange theory of emotions and the Cannon-Bard theory of emotions – W. James, and C.G. Lange, *The emotions*, Baltimore: Williams & Wilkins Co., 1992; W.B. Cannon, "The James-Lange theory of emotions: A critical examination and an alternative theory" *The American Journal of Psychology* 39 (1927): 106–124; Idem, "Again the James-Lange and the thalamic theories of emotion," *Psychological Review* 38 (1931): 281–195). The cognitive sharpening of natural emotions, induced by the "permeation" of the *sui generis* phenomenology of thought, gives rise to a form of elevation of the body and of the mind. The *nexus mirabilis* is the place where to look for explanations of psychosomatic interferences in functioning, and in this sense the study of cognitive-phenomenological penetration is also relevant for the philosophy of medicine and what is sometimes called "holistic healing." One question that remains concerns the functionalization of emotions and of cognitive-phenomenological penetration – if such functionalization can be done, could emotions be induced in a robot, for instance? The problem here is at the level of natural emotions – while cognitively sharpened emotions may be induced in a robot, the latter needs a base of natural emotions on which to build; without such a base and a living, biological environment, natural emotions are hard to replicate and to produce artificially, unless the biological environment in which living organisms that we see around is in turn an artificial replica (*cf*. skeptical Cartesian arguments and brain-in-the-vat scenarios and discussions about biological and artificial singularities in the phenomenological tradition and in AI). If we are already biological robots, the question of the functionalization of emotions and of cognitive-phenomenological penetration was solved a long time ago. The functionalization of the intricate tapestries of non-modular interactions in the stream of consciousness and of the phenomena of cognitive-phenomenological penetration whereby the spark of the *sui generis* phenomenology of thought modifies the texture of other phenomenologies undoubtedly hold the key for the creation of old and new emotions, building upon a natural, biological base. Still, the biological base will always bring recalcitrance,

given its inherent limitations. So, an expansion of the biological base, an unboundedness that could be generated in it, possibly through the openings of inferential and associative potentials of thinking in the stream of consciousness, will bring cognitive-phenomenological penetrations at a much higher rate, allowing elevations, new emotions, and architectural experiential tapestries to occur.

8. These issues have been raised by an anonymous reviewer.

9. See G. Strawson, "Cognitive Phenomenology: real life," in *Cognitive Phenomenology*, ed. T. Bayne and M. Montague (Oxford: Oxford University Press, 2011), 285-325.

10. E. g. J. Prinz, "The Sensory Basis of Cognitive Phenomenology," in *Cognitive Phenomenology*, ed. T. Bayne and M. Montague (Oxford: Oxford University Press, 2011), 174-196.

11. E. g. C. Siewert, "Phenomenal Thought," in *Cognitive Phenomenology*, ed. T. Bayne and M. Montague (Oxford: Oxford University Press, 2011), 236-267.

12. The "floating man" argument has been extensively discussed – see, e.g. D. Black, "Avicenna on Self-Awareness And Knowing that One Knows," in S. Rahman, T. Hassan, T. Street, eds., *The Unity of Science in the Arabic Tradition* (Dordrecht: Springer, 2008), 63–87.

13. See M. Dumitru, "Monismul neutru, încotro?" in *Problema minte-creier în neuroştiinţa cogniţiei*, ed. G. Vacariu, and G. Ştefanov (Bucharest: Bucharest University Press, 2013), §3 and §5.

14. See M. Dumitru, "Compositionality, the Language of Thought, and the Dynamic Map of Thought," M.A. Diss., Ecole des Hautes Etudes en Sciences Sociales Paris, 2005.

15. These issues have been raised by the same anonymous reviewer.

16. I analyze this topic starting from some historical comparative observations about the similar views of William James and Edmund Husserl on the theory of fringes (also explored in A. Schütz, "William James' Concept of the Stream of Consciousness Phenomenologically Interpreted," *Philosophy and Phenomenological Research* 1 (1941): 442-451, especially with respect to the question of articulated and polythetic syntheses) in my paper "William James and Edmund Husserl on the Conscious Stream of Thought" (in preparation).
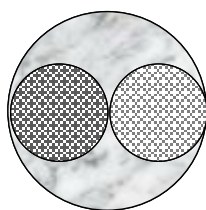
Glossary:

Phenomenology of thought colouring in isolation from a thought

Sui generis phenomenology of thought in isolation from thought colourings (phenomenology of the depurated cognitive content of a thought)

Phenomenological interaction

Phenomenological "transmutation"

Phenomenological blending
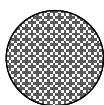
Phenomenology of thought colouring "in the service of" a thought or "recruited by" a thought; phenomenology of thought colouring "permeated" or "infiltrated" by the *sui generis* phenomenology of the depurated cognitive content of the thought; *sui generis* phenomenology of the depurated cognitive content of the thought "embedded" in the phenomenology of the thought colouring.

Phenomenology of thought colouring "in the service of" a thought or "recruited by" a thought; phenomenology of thought colouring "permeated" or "infiltrated" by the *sui generis* phenomenology of the depurated cognitive content of the thought; *sui generis* phenomenology of the depurated cognitive content of the thought "embedded" in the phenomenology of the thought colouring.
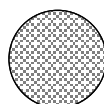
Sui generis phenomenology of the depurated cognitive content of a thought "in the service of" a thought colouring or "recruited by" a thought colouring; *sui generis* phenomenology of the depurated cognitive content of a thought "permeated" or "infiltrated" by the phenomenology of the thought colouring; phenomenology of the thought colouring "embedded" in the *sui generis* phenomenology of the depurated cognitive content of the thought.

Phenomenological blend, comprising i) the *sui generis* phenomenology of the depurated cognitive content of the thought "embedded" in the phenomenology of the thought colouring and ii) the phenomenology of the thought colouring "embedded" in the *sui generis* phenomenology of the depurated cognitive content of the thought.

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Williamson, T. *Identity and Discrimination*. Reissued and updated edition. Oxford: Wiley-Blackwell, 2013.they had to meet a challenge. The challenge, of course, was to give an account