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Aesthetics as evaluative forms of agency to perceive and design reality: A reply to aesthetic realism

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ABSTRACT

Following a naturalist-realist point of view, this paper attempts to contribute to the metaphysical question of whether or not reality includes aesthetics. During evolution, cognitive agents have constructed (goal-directed) regulatory abilities forming anticipatory contents in the form of feelings regarding opportunities for interaction. These feelings are considered to be the fundamental part of an evaluative or (what in this paper considered as aesthetic) behavior through which agents show a preference to aspects of their external world. Thus, 'aesthetic' denotes an agential behavior based on an organization of processes integrated in a form that identifies, evaluates, and compares sources of interaction-success or error in specific aspects of external reality. While agents approach the same aspects of reality as they all interact with the same world, our claim is that aesthetic normativity cannot be an objective feature of this reality. This model overcomes problems of correspondence in the sense that an agent's actions and thoughts *ought* to react to any pre-given (aesthetic) quality or norm, while at the same time it emphasizes the self-directedness of aesthetic behavior that enables the development of creative forms of cognition.

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1. Introduction

Speaking about aesthetics we always deal with a kind of perception (Sibley, 1965). However, the important question that follows is: '*Speaking about aesthetic perception, we deal with the perception of what?'* Are aesthetics real entities in the world that individuals can perceive or are they creations of our mind?

One of the most prominent debates in philosophy, that also characterizes the viewpoint through which aestheticians approach the problem of aesthetic perception, is between realism and anti-realism. This is a very ancient debate between two opposing schools of thought and deals with general metaphysical questions about the nature of reality.

In short, realism holds that the world and its contents exist independently of our thought and perception. Agents evolve in this world and learn about its properties through causal interactions with it. Thus, agents can ascribe, accurately or not, 'real' properties to the world not only for its observable part, which is the part that can be experientially explored, but also, they can develop theories or gain substantial knowledge of the non-observable reality. This is because the world we do not have physical contact with is just as real as the part we do have contact with. Realists accept that while agents may all approach the world from different perspectives, they are all living in and interacting with the same world. In contrast, anti-realism denies this and claims that the world is in some way dependent upon the agent's conscious activity so a 'true' description can be provided only for the part of the world in which they have an actual experience (see Godfrey-Smith, 2003; Hooker, 1995; Okasha, 2002).

The claim of aesthetic realism (A-realism) does not only discern that our environment is real and exists independently of the way that agents respond to it, but it has qualities which are also real. These qualities include normative aesthetic ones (A-qualities), which differ in essential respects from natural or scientific properties. While we accept realism and the objectivity of the external world, our position is differentiated from A-realism and its claim for inherent aesthetic normativity as an objective feature of the world that agents *ought* to perceive.

Following a naturalist-realist point of view, we attempt to contribute to the metaphysical question of whether or not reality includes aesthetics. We suggest the integration of unconscious (psychological and physiological) states of the body constitutes an additional (organizational level of) regulation of cognitive behavior. We propose that this (implicitly psychological level of) regulation forms anticipatory perceptual content in the form of *feelings about opportunities for interaction.* Such regulation constitutes what we suggest should be identified as the *aesthetic form of (a functional) integration* causally related to external reality. Thus, contrary to traditional views of tran-

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scendental aesthetics,[1] the 'aesthetic' is nothing more than a self-directed behavior that concerns a particular organization of process interdependences aimed at detecting and evaluating opportunities for interaction regarding specific aspects of external reality. Self-directed agents, like humans, are not passive receptors of the external reality limited to decisions that *conform with a fact,* perceiving their world as they *ought* to. In contrast, such agents exhibit an organization that is also sensitive to the way they are related to their environment (a somewhat creative way), which allows them to develop high-order forms of cognition that will serve the dynamic and complex goals of life.

The paper is divided into two main sections. In the first section (see section 2) we critically present the claims of A-realism, providing input on problems related to the content of aesthetic perception (CoAP), the way it is connected to reality and its normative character. In the second section (see section 3), we identify the forms by which normativity emerges in perceptual content. Our view is mostly based on contemporary theories and explanations in the realm of inter-activism and embodied cognition, contemporary evidence from affective theory and findings from relevant studies in the experimental aesthetics and neuroscience.

Considering the problems that A-realism faces, we attempt not only to provide a new orientation to approach the metaphysical question of aesthetics, but also to offer a functional and realistic discerption of the cognitive phenomena that constitute the relation between aesthetics and reality. Our aim is not to explain all these phenomena completely. This would be an extremely ambitious task. Accordingly, we aim to explain the formation of the CoAP and the content itself. We cannot explain what an agent specifically likes or dislikes, and we do not deal with the outcome of particular aesthetic judgments or judgments of preference.

2. Aesthetic realism and aesthetic normativity

A central claim of all senses of A-realism is that aesthetics are a normative domain involving a two-fold veridical perceptual relation with the external world (see Beardsley, 1973; Cova & Pain, 2012; Prinz, 2011). This relation, for A-realism, is reduced to aesthetic properties or A-qualities and concerns a) how pleasurable (or displeasurable) is a perceived A-quality, and b) how accurate (or inaccurate) is this perception in correspondence to objective reality. In short, all things (designed objects, events, human beings, objects of nature, etc.) that can be aesthetically perceived are so because of their A-qualities.

This assumption has an important implication in our understanding of what A-qualities are proposed to be for A-realists. As we discuss next, A-qualities are not only real and objective properties of the world, but also they form the only *kind* of CoAP that an agent might have. This implies a direct relation between reality and the CoAP. But before we unfold this perceptual relation (see section 3) we need first to provide a brief description of how A-realism concerns A-qualities: a) as objective features of the world (see section 2.1) and b) as genuine perceptual content that represents reality (see section 2.2).

2.1. Aesthetic qualities as part of the objective reality

The whole idea of A-realism is based upon the realism/anti-realism debate, and the argument that the qualities of an object are meaningfully distinguished from how that object might be perceived by an agent. Accordingly, A-realists acknowledge that A-qualities (e.g. elegance, complexity, harmony, balance, etc.) appear as another feature of the object. Following realism, A-realists argue also that A-qualities should also be inherent in the object that possesses them even if there is no one there to perceive them.

The problems appear when A-realists attempt to justify a conception of A-qualities that meets one constraint and two requirements that we attempt to set in question here. The constraint concerns the argument that any aesthetic behaviour is reduced to problems that are related to A-qualities as *genuine conceptions of qualities* that their aesthetic-evaluative nature distinguishes them from any other kind of quality. This argument is considered valid by all authors in aesthetic philosophy as long as any contradicting claim is absent (Konigsberg, 2012). The two requirements that follow this constraint are: a) all A-qualities should somehow come into existence agent-independently, and b) A-qualities should acquire an agent-independent, normative character.

In short, the whole argument of A-realism is that the world, from its substances, creates normative (pleasurable or displeasurable) A-qualities which are as real as the world is, and such substances should certainly satisfy some aesthetic predication.

Considering the constraint, A-realists, in order to resolve these two requirements, are in search of a dependency relation that explains how A-qualities are connected to the real substances of the world. So, with the first constraint having already been set in question, A-realists are faced with an unresolved problem, that of distinguishing A-qualities from the non-aesthetic features (NA-features) of the world. Whatever this relationship could be, there must be some NA-features ultimately responsible for any A-quality and certainly for its normative character. As Sibley (1965, p. 146) puts it, "there always is, and must be, some *reason* why a thing has that quality" and this *reason* should not concern what (experts) agents believe about this quality. Zemach (1991) argues that this *reason* could set the normativity of the function of any A-quality, e.g. if a specific *reason* is satisfied, then the A-quality that appears has the positive norm of pleasure. Thus, A-qualities can be normative about the world and this normativity cannot be in error.

Let us take Sibley's example: "the reason the music is sad at a certain point may truly be that just there it slows and drops into a minor key" (p. 148). There must be, according to A-realists, a direct relation between the objective and real NA-feature of a "minor key" and the A-quality of "sadness". However, this relation (nor Sibley) do not ex-

[1] While this argument seems relevant to the Kantian argument about intersubjective feelings of pleasure and the role they play into judgments of taste and beauty (see e.g. Kulenkampff, 1990 - and we thank an anonymous reviewer for this remark), our point of departure is quite different from the once dictated by the Transcendental perspective according to which cognition arises from two fundamental sources and their interplay: the reception of representations (the receptivity of impressions), and the faculty for cognising an object through these representations (spontaneity of concepts); through the former an object is given to us, through the latter it is thought in relation to that representation (as a mere determination of the mind) (see Kant, 1999, p. 193). In this way, and based mostly on contemporary evidence that considers perception and feelings as one function, we are not aiming at explaining the possible factors that determine the development of beauty, thus seeking for an exceptional case of cognition. In contrast, we question any division of cognitive faculties into aesthetic and practical ones (elsewhere we have argued about how these faculties are related in the context of the emergence of representation, see Xenakis & Arnellos, 2013; 2014; 2015). In the light of the naturalist-realist perspective, the proposed model attempts to explain the implications of considering aesthetic behaviour as an goal-directed organization of cognitive processes that affects the way we perceive and appreciate the world (before any possible claim for beauty is formed). As a consequence, beauty is not considered as a presupposition for aesthetic behaviour but as a subjective cognitive implication of it. Thus, any attempt to distinguish the aesthetic behaviour from other categories like sensual judgments, judgments of reflection, moral judgments, empirical judgments, judgments of taste, and judgments of niceness or nastiness, is beyond the scope of this paper.

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plain how "sadness" attains its normative value. Something "sad" may not only be pleasurable or displeasurable but it may have different grades of value ranging between pleasure and displeasure. Thus, a dependency relation in order to be "aesthetic" should not only describe the 'structural' connections or the interdependent relationships between the constituent parts (e.g. major or minor keys, colors, shapes, materials, technology, information, etc.) and the whole material (e.g. designs, works of art, objects of nature, etc.) or immaterial (e.g. events, socio-cultural relations, sounds, services, etc.) things, but more importantly, should describe how A-qualities inherit their normative nature.

The problem with A-realism is that aesthetic normativity (A-normativity) appears to have an unspecified connection to reality. It is quite oxymoronic that A-qualities preserve their values mind-independently but, at the same time, the designer (e.g. a painter, a dancer, a musician, a writer, etc.) creates them by using his mind (the process is known as composition). The former hypothesis cannot support the truth of the latter. The act of composition engages the designer in making decisions about when an A-quality is true or false in his creation during the design process. This means that he not only detects errors, corrects errors and stops the process whenever thing are in their 'proper' place, but he can also create new A-qualities during the design process (e.g. that of Impressionism or Cubism). So, we should not confuse Sibley's '*reasons'* with the aims and the goals of the designer who self-directs his creative interaction processes forming his own conditions of normativity. NA-features are not kinds of goal-directed processes that are interactively engaged in relationships, which can serve (or not) the function they are selected for to fulfill. For instance, a minor key (or any other key) does not aim at anything. It cannot interact with other features in self-directed musical compositions that preserve an inherent goal that is defined apart from the needs of its creator/designer.

Attempting to overcome this problem, A-realists offer an alternative explanation of how A-normativity should be understood: If X is an A-property of some object, then it is true that it has X or it has not. In other words, what makes an aesthetic behavior true or false is the presence (or absence) of a certain A-quality in the things that we perceive (see Cova & Pain, 2012; Matravers & Levinson, 2005). This explanation of normativity is quite vague since no A-realists argue "who" detects for the true or false condition of X. One thing that is certain with A-realism is that such detection does not involve the mind. This means that while the object may have X, that is already known and detected (by an agent), but also, this X may only be part X' and X″ that could be unknown (for the moment). This also means that a perceiver could never be absolutely sure about the conditions of true, and especially false, of the A-normativity of an object. For instance, the A-qualities of Impressionism were known only after the 19th century. Thus, if agents had observed an object with such A-qualities before Impressionism, they probably would have been misled as to its value since they were unable to detect these A-qualities and thus to perceive its "real" value (see e.g. the Salon des Refusés). But, if agents cannot determine what is true or false, then who can? Another certainty is that objects are unable to detect themselves as being in a true or false condition and certainly they cannot modify themselves to correct a false condition that they cannot detect. So, if X is a A-property of some object there is no entity that can detect if it is true that it has X or not.

The problem in describing a mind-independent relation is getting way harder as philosophers and scientists attempt to understand what causes the entire A-normativity of objects (e.g. paintings, cars, buildings, etc.) that appear to also have, at the same time, many complex combinations of undefinable A-qualities (e.g. gracefulness, balance, sublimity, sobriety, flamboyance, gaiety, harmony, etc.), only by sharing the same static NA-features. Obviously, the explanation of the entire A-normativity for objects with non-static NA-features like cultural events, information, people, human relationships becomes simply impossible.

2.1.1. The claim for aesthetic supervenience

A-realists argue that there is no known law (like that of physics) to explain the above complex cases of A-normativity. The most prominent explanation that they offer concerns the metaphysical *supervenience* relation. This idea can be informally stated as "no difference in supervenient properties without a difference in base properties", which means that necessarily, a change in an A-quality (macro-properties or supervenient properties) of an object requires a change in some of its NA-features (microphysical or base properties) (see Bender, 1996; Levinson, 1984) and thus a correction in NA-features also corrects the A-quality (Kim, 1979; Levinson, 1984). Even though, for those who understand the above doctrine of aesthetic supervenience more as an 'emergent' relationship according to which A-qualities are irreducible to their microphysical or base properties (see Levinson, 1984; Sibley, 1965; Zangwill, 1998), the problem of how an A-quality takes its normative character is still a black box. Moreover, as we have already seen, the problem of creating/correcting an A-quality is unresolved. Creating/correcting an A-quality demands either a) mental processes that can detect the error in a macro-property so as to choose the 'proper' corrections in the microphysical properties or b) the object that tends to possess a false A'-quality should have a self-regulative ability that detects the error and corrects it according to an inherent knowledge of a true A-quality. But both (a) and (b) are impossible.

For many authors, aesthetic supervenience has been related to the logic of normative claims in a similar way that mental or moral properties supervene upon physical properties (Bender, 1996) but such supervenience relationships have already faced many problems to explain the cognitive process (see e.g. Bickhard, 2003b).

2.2. Aesthetic realism and the three types of aesthetic perception

As we mentioned in the beginning of section 2, aesthetics are a normative domain, involving a two-fold veridical perceptual relation with A-qualities. The content of aesthetic perception (CoAP) is characterized a) by normative conditions that concern how pleasurable or displeasurable the perceived A-quality is, and ii) by accuracy or inaccuracy in relation to how this normative CoAP corresponds to reality. In the context of A-realism, the CoAP is response-independent in the domain that concerns normative verdicts of pleasure or beauty since the aesthetic value is a real and objective property of the world, but it is response-dependent in the domain that concerns its match to reality. So, all these aesthetic responses an agent could have for an A-quality are not subjective reactions to it, but rather they involve a content which is somehow objectified. Thus, A-realism also bears the problem of objectivity. The objectivism(a) - subjectivism(b) debate, addresses ontological issues directly related to the origin of the aesthetic perceptual experiences:

a. Agents perceive a quality X as aesthetic because quality X is aesthetic.e.g. Elegance is a property of the object, and therefore we ought to be interested in it.
b. A quality X is aesthetic because we perceive it as aesthetic. e.g. Things are elegant because of the interest we have in them.

The objectivism claim (a) can be distinguished by at least three types.

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A. The externalist objectivism. According to this first type, A-qualities are response-independent and inherent to the object that possesses them. The agent ought to perceive them in addition to their value (e.g. pleasurable or displeasurable), and such a perception may be in error only when the conditions of interaction do not support an accurate perception. Such perceptions are direct since they are not relative to cognitive evaluations, memory, knowledge, or past experiences. A-qualities are only ontologically related to NA-features, which are certainly objective and real and they are not relative to cognitive justification. This strong externalist interpretation has few adherents these days (see Eaton, 1998). Most A-realists, as we will see next, argue that aesthetic perception carries a subjective element since it involves (human) interpretation.

B. The internalist objectivism. This second type could be seen as a development of the above strong externalist position. A-qualities are *response-dependent* but still not in a way that makes them subjective. As Bender (2005, p. 84) argues, A-qualities "are not mind-independent properties of the physical world in the sense that they are true of objects no matter what *anyone* thinks or how anyone reacts, but they may be true of those objects independently of how any particular person might respond to them. So, in this sense they are not just subjective reactions." The CoAP is determined by 'interactions' between A-qualities which now represent real states of affairs, situations, or facts which cannot exist without human involvement (e.g. while heaviness is a property of reality, it is actualized only in relation to the abilities of the agent).

C. The universal validity. This third type is based upon the "common sense argument" according to which a considerable number of agents (e.g. from a specific group of people to the whole of mankind), share the same aesthetic content, and thus, it could be considered as objective and real. However, having a group of agents that share the same claim does not preclude another group that denies this validity. This means that universal validity is based upon 'intersubjective' agreements, which are not the best evidence for an objective truth. Moreover, *universal validity* inherently involves the problem of normativity since the whole claim is based upon aesthetic claims whose owners consider them as true. But which of all claims is indeed valid when we have two or more groups of agents with contradicting aesthetic assertions for the same external reality? In order to avoid subjectivity, A-realists return to the externalist objectivist argument by saying that the only assertion that is valid is that which corresponds to an accurate perceptual content (see Cova & Pain, 2012).

In our view, A-realism has serious difficulties in modeling the CoAP because of its direct correspondence to representational relations. Most of them concern encoding correspondence relations that generate circularities. For instance, an A-quality can be directly perceived only if the observer already knows the encoding relationship according to which a set of NA-features correspond to harmony. This is probably why A-realism argues that some A-qualities are there but hidden from some observers. But such models are static and fixed and cannot generate a genuine CoAP by themselves. There must always be someone indicating (and teaching) this encoding relationship externally. So, if such direct relationships are real, the designer should always create conventions (specific sets of NA-features) that correspond to new A-qualities which would be perceptible only if the observer is externally aware of the new convention. This is a circular conception of representational relations known as "encodism" (for an extensive analysis see Bickhard, 2003a). Moreover, as we have already mentioned in section 2.1, such an act of composition (selecting the best among unlimited options of NA-features to compose new forms of A-qualities) presupposes mind-dependent evaluative processes through which the agent (by itself) characterizes when the new A-quality is true or false, and corrects the error in relation to some goal, e.g. to create a new set of A-qualities that will constitute the movement of Cubism. But this ability violates the objective nature of A-qualities since the A-normativity is genuinely formed by the subject and not the objective reality, while it presupposes that all agents should be aware of the convention of Cubism in order to perceive its A-normativity.

Such externally imposed A-normativity leads agents to act as passive receptors of an environment that already knows what is good or bad for them. This conception violates fundamental principles of self-directness condemning agents to non-creative encoding mechanisms that perceive things as they *ought* to. In what remains, we suggest a conception of aesthetics that while accepts the objectivity of the external reality, it overcomes problems of A-realism providing an alternative realistic ground to approach the metaphysical question of whether or not reality includes aesthetics.

3. Approaching the content of aesthetic perception from a naturalist-realist point of view

3.1. Revising the two-fold veridicality condition of the aesthetic perceptual content

Burge (2003, 2014) from a similar realist[2] standpoint, argues that perceptual states involve contents. These contents may have an accurate or inaccurate match to reality representing relations between the agent and the world in a certain way.

In general, these contents are characterized by accuracy and truth, which for Burge are the two main species of veridicality. According to his claim, the formation of a representational content presupposes veridicality conditions. A veridicality condition is a condition for being true about a subject matter. Specifically, truth is for the veridicality of anticipation. Anticipations, or representational contents, are conditions that can be true or false. If the condition is not fulfilled, the content is not veridical. Anticipating, for instance, that the perceived building-design will serve a company's needs for offices has a true condition; a representational content that is fulfilled if the company's needs are in fact satisfied by moving into the new building, and these needs are not fulfilled otherwise.

In contrast, *accuracy* is for a veridicality that is not anticipatory. Non-anticipatory contents also set conditions for being accurate about subject matter. If the condition is met, the content and the associated perceptions are accurate. If the condition is not met, they are not. However, factors which form inaccurate contents could go beyond the abilities and the goals of the agent. A person, for instance, may form an inaccurate perceptual content of a building-design because of pathological (e.g. he is not wearing his glasses), or contextual (e.g. the room is so crowded that hardly anyone has visual contact with the building-design) reasons.

According to Burge, primitive perceptual states may have accurate or inaccurate correspondence with reality but they cannot be anticipatory, they cannot be true or false. However, there are kinds of perceptions that are also representational. As Burge argues, perception is where representational mind begins. As we argue in section 3.3, this is proposed to be the cognitive level where the two-fold veridical perceptual relation with the environment begins. It is the

[2] Burge takes perceptual states to be content-bearing representational states which is a compatible claim with aesthetic realists who argue that the aesthetic perceptual content is related to A-qualities. However, this conception is not compatible to direct realists, (e.g. Gibsonians) and enactivists who avoid the reference to any form of internal representation.

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perceptual state where the CoAP is characterized by both accuracy and truth. This is the point where the anticipatory nature of perception could function to resolve inaccuracy (e.g. while someone is driving in fog, he can still form anticipatory contents of his interactive relation with the road, so as to proceed with his driving). For this reason, we are mostly interested in investigating the veridicality conditions of anticipation during the formation of the CoAP since it is a crucial evaluative capacity that differentiates current conceptions of A-realism from our view. Particularly, as we have already seen in section 2.2, while A-realists argue for accuracy and truth, they do not accept that the true condition is anticipatory in the sense that the agent could finally fail to satisfy its veridicality condition. According to A-realism, when an A-quality is perceived accurately, the agent cannot fail to represent its normative character because the aesthetic part of the quality is also an objective property of the world and not a condition that can be true or false. This means that its content cannot be partly in error in the sense that someone could accurately perceive the harmony but fail to perceive the pleasure in it.

As we will explain next, the above argument for externally imposed normativity violates fundamental principles of the agent's autonomy. When the values of good or bad are 'engraved' in the external world and the only thing that agents *ought* to do is to form accurate perceptions, then any conception of self-directness towards the interactions that they prefer is violated. Seeing aesthetic perception from an naturalist-realist perspective, our claim is that A-normativity naturally emerges as a functional consequence of interaction. Thus, both accuracy and truth should follow a set of conditions for being accurate and true about a subject matter. But, more importantly, the normative functionality of aesthetic perception presupposes that the agent's contributions towards those conditions always involve the possibility of error. Since external reality cannot be in error, the possibility of error in aesthetic perception is a problem that concerns agency in the sense that agents form anticipation that may be in error as well.

In this direction, the following sections attempt to provide a naturalist-realist explanation of aesthetic perception based on theoretical principles of embodied cognition and emotional theories that A-realism does not take into consideration.

3.2. The normative content of aesthetic perception emerges from self-directed behavior

According to Burge (2011), perceptions are psychological states and the lower border of sensory representation. This capacity is based on a normative functional background (not representational nor psychological) which provides the agent the fundamental goals of self-interest and self-awareness.

In short, this normative functional background involves modes of coordination between the two functionally distinct roles of our nervous system: i) the Autonomic Nervous System which is devoted to functioning as a fine-tuned control of the physiological state of the body during evolution, and ii) the SensoriMotor Nervous System, devoted to preserving global coherency or stability by modulating interactive processes such as attention, satisfaction and evaluation. During evolution, this coordination evolved into new functional structures in the human brain providing an increased capacity for functional integration that sets the basis for the realization of a higher-order form of cognition based in lower-order ones (see Arnellos & Moreno, 2015; Arnellos, Spyrou, & Darzentas, 2010a; Arnellos, Spyrou, & Darzentas, 2010b; Moreno & Lasa, 2003; Moreno & Mossio, 2015).

So, before we are consciously aware of our *psychological self* and the respective goals of taking care of ourselves, of understanding our needs, what we can do with all these things around us, what we like or what we hate about them, a vast system of unconscious psychological states and activities are taking place which are relevant to *self* only insofar as they bear certain relations to conscious states and occurrences (Burge, 2011). Self-directed agents like human beings have the capacity to perform high-order integrative process modulation, in this vast network of interdependent processes, selectively shifting between alternative *forms of integration.*

Self-directed agents may adopt certain unconscious (Freudian) attitudes during their perceptions similar to what Burge (2011) calls '*points of view* 'or '*perspectives'* and Bickhard (2000) as '*competence, mastery or aesthetic motivation*s'. These attitudes drive the agents to a *form of integration* (a way to approach the situation) and enable them, as we will see in section 3.4, to use relevant sets of criteria (or norms) to fulfill a goal. This ability allow agents to approach a situation and fulfil goals in it by using alternative thinking paths. Moreover, agents can learn to modulate their (cognitive) organization in accordance to these *forms* providing an extra ability; to seek in the external reality specific kinds of aspects (indications) that are relevant (or not) to the ongoing goal(s). For instance, during the perception of art one can approach the object from different perspectives (historical, political, in terms of A-qualities or of the artist, etc.) that each of them enable him to seek for indications about historical facts or about political manifestations or about combinations of A-qualities or about clues that depict the intentions of the artists, etc., or all of them at the same time. Self-directed agents, like human beings, can form perceptions by following several already known *forms of integration* while they can develop new forms of them through learning in order to evaluate a potential interaction.

Therefore, the objective world may always seem interesting to us in new ways since it can always provide us a range of different kinds of *opportunities for interaction* or interaction affordances (see Xenakis & Arnellos, 2013, 2014) and thus new challenges when the world is seen from alternative *perspectives*. Thus, for instance, a perceiver can adopt a mathematical, an artistic, a professional, a social, an ecological, etc., point of view of the same objective reality or all of them at the same time during a goal fulfillment. However, this does not mean that by approaching the world under a certain *perspective* the engaged processes (e.g. conscious affective experiences, learning functions, memories, beliefs, decisions, goals and intentions) are functioning in such a way that could influence the objective character of the world. For instance, the paper will still be a paper and the 'marks' on it will always be 'marks' no matter from what *perspective* they are seen. However, a paper with 'marks' on it will never be a building-design if it is not seen, at least, under a specific *perspective* (a mathematical, an artistic, a professional, etc.) anticipating to fulfill a goal of the perceiver.

As we suggest in the next section, by perceiving reality as evaluated ranges of *opportunities for interaction following a perspective,* A-realism does not necessarily need the limited notion of 'A-quality' (see section 2.1) that has so far (and still) problematically explained expressions of life related to art. In contrast, our argument is that A-realists should share their theoretical and empirical investigations in common descriptions that can also be investigated and explained from different theories of different domains.

In short, we don't support the view of an inherently aesthetic external reality in nature and of its regulation towards A-qualities. Additionally, we reject the idea of genuine aesthetic mental functions. We are skeptical of how "aesthetic emotions" as unique feelings differ from any other everyday affect or emotion, as we are also skeptical that even if such things as 'aesthetic mental functions' exist they

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are engaged solely to form a unique CoAP that corresponds only to some unique cases of reality (i.e., the A-qualities).

3.3. Feelings and the aesthetic form of (functional) integration

For many decades, scientists thought of the brain as a stimulus–response organ. Accordingly, learning and experience merely modulate brain activity that is driven by sensory events in the world. In recent years, scientists have come to realize that the brain probably does not work this way. The convention is genuinely inverted when scientists understand that agents do not mentally react to stimulations from the external real world, but instead they form anticipations of it (Barrett & Simmons, 2015). Through various forms of integration, self-directed agents modulate their organizations in order to assign grades of normativity to environmental aspects. These grades of normativity are the outcome of comparative evaluations and concern grades of like and dislike, good or bad, pleasure or displeasure denoting anticipation about future interactive states (Christensen & Hooker, 2000a, 2000b).

Damasio and Carvalho (2013) among others, suggest feelings are a result of such an integration of unconscious psychological and physiological states of the body that constitute an additional level of regulation of cognitive behavior. They could constitute and function in the lowest level of the conscious mind where the non-anticipatory perceptual contents (i.e., the content related to accuracy) become representational. As Damasio and Carvalho (2013) argue, feelings "directly portraying the advantageous or disadvantageous nature of a physiologic situation as a 'felt experience' facilitates learning of the conditions responsible for homeostatic imbalances and of their respective corrections, as well as anticipation of future adverse or favourable conditions" (p. 143).

In our view, feelings are most likely the fundamental part of any evaluative behavior through which agents show some preference to the external world. This form of integration constitutes *feelings about opportunities for interaction* and constitutes an *aesthetic* form of integration to cope with external reality: *to identify, evaluate and compare sources of interaction-success or error in a given situation* (see e.g. Brown, Gao, Tisdelle, Eickhoff, & Liotti, 2011; Xenakis, Arnellos, & Darzentas, 2012). In general, feelings are complex functions that serve in the realization and/or the anticipation of a behavioral outcome, by modifying the anticipatory content of the ongoing situation (Barrett, 2015; Duncan & Barrett, 2007; Griffiths & Scarantino, 2009; Lindquist, Wager, Kober, Bliss-Moreau, & Barrett, 2012; Pessoa, 2008, 2016). In this sense, the term 'aesthetic' denotes nothing more than a self-directed behavior that concerns a specific organization enabled to function according to a *perspective* aiming at detecting and evaluating opportunities for interaction in the external reality. We call such organization of processes 'aesthetic integrations' or 'aesthetic behaviors'.

It is noted that the form of organization that yields an *aesthetic behavior* involves goal-directed (aesthetic) perceptions, the contents of which are not products of any special or unique affective functioning that follows exceptional rules and kinds of normativity that differ from what scientists already know about feelings in human beings. This means that the CoAP is not 'aesthetic' *per se* and mostly it cannot be reduced to A-qualities, as A-realists suggest. In contrast, the CoAP represents dynamic relations of agential organizations of processes to external reality in forms of *action tendency* (see e.g., Frijda, 1987). Action tendency does not follow the stimulus–response tradition. It concerns neuropsychological states that are derived from the integration between feedback and predictive mechanisms. Such neuropsychological states constitute perceptual contents that represent the *aesthetic* relation of *a self-directed agent* to reality in a form of *evaluated opportunities for interaction* (see Barrett, 2005; Barrett & Bar, 2009; but also Lowe & Ziemke, 2011; Xenakis & Arnellos, 2014, 2015).

This model of aesthetic perception while accepting the objectivity of the external reality, overcomes the problems that correspondence models bear in the sense that agent's actions and thoughts *ought* to correspond to pre-given values or norms. In other words, 'aesthetic' is not about a feature or a quality of reality but concerns a psychological state according to which the agent *feels like* it is possible (or not) to interact with this reality (Xenakis & Arnellos, 2014). Therefore, 'aesthetic' is not something that just happens to us but in us in the sense that it concerns a reflective situated action. Objective reality may exist separately from its perceiver, but situations do not (Barrett, 2009). And a situation could be evaluated as special, as good, as pleasurable only if it is anticipated to play a specific role for the agent's goals.

3.4. The development of aesthetic behavior

According to what has been claimed so far, A-normativity is the outcome of an aesthetic behavior and of the related perception and it is causally connected with the goals of the agent. The agent, by setting his own goals, it does not only determine *the conditions of satisfaction* according to which this content is veridical, but it also determines the *correctness criteria* that specify the *standards* or the *norms* (right or wrong ways) to fulfill these conditions.

In general, normativity provides the agent with characteristic information about an action in forms of norm signals that denote the relation between the ongoing conditions of interaction and the conditions of satisfaction (Christensen & Hooker, 2000a). When the agents know the conditions of satisfaction, they might detect something in their environment and in their own selves which may initiate a procedure that happens to be inappropriate for these conditions. This means that they can detect the error when it happens and some higher-order sophisticated agents, like human beings, can detect the error before it happens (anticipate the error), while they could also learn from these errors. Through learning the correctness criteria and the history of failures are available to agents and they can better anticipate the upcoming error when things do not go as well as expected at a given time in the interaction. Expecting the error, these agents can correct themselves and proceed towards the goal minimizing the possibilities of interaction failures.

These cognitive agents are in a position to detect the error in respect to how close or far they are from appropriate or optimal ways of fulfillment. They form anticipation by recognizing aspects of interaction in sources through which possible success or error may occur before their final contribution. In particular, cognitive agents (from the most elementary to human beings) are differentiated by their increasing ability to anticipate and evaluate their current interactive state using feedback systems that may encompass multiple features of the external reality anticipating multiple action possibilities in their performance (see also Christensen & Bickhard, 2002; Christensen & Hooker, 2000b).

In higher-order sophisticated agents like human beings, feelings function in this way. According to Carver and Scheier (2013) in a goal-directed interaction, affectivity (the whole underlying processes of feeling constitution) runs automatically as a feedback process, simultaneously with the ongoing behavior and in parallel to it. Affects function to compare firstly, how well the current behavior satisfies the *criteria or the standards* that lead the agent to the goal state, and secondly, to check for deviations from the *criteria or the standards.*

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This comparison yields a signal about a forthcoming error, which is manifested subjectively as a feeling having a grade between a positive (pleasure) and a negative (displeasure) value. The detection and the correction of errors during aesthetic perception would be impossible without these criteria and a knowledge of how some aspects of the world work. As Bedford (1999) notes, not all our knowledge about the world comes through the senses. Some of it comes through the genes over the evolutionary history of the agent, and others might arise from early internal developmental changes that are not dependent on environmental inputs. It should also be noted that sophisticated agents, like human beings, can improve their criteria through time or they could form new ones when needed through learning. The ability to improve and form new criteria regarding the satisfaction of a goal is a fundamental process for the development of the entire functionality and the qualitative outcomes of the agent's aesthetic behavior. By reforming the criteria and by learning to select the most suitable ones, the agent could organize more efficient aesthetic behaviors in the sense that he can increase his anticipatory ability and cope with even more unpredicted interactive situations. Moreover, a developed aesthetic behavior may also confirm that some *perspectives* are proved to be more effective than others with respect to the interactive requirements of a situation.

Thus, aesthetic behavior is not a fixed ability to cope with reality providing fixed contents with fixed opportunities for interaction (e.g. the perception of A-qualities). The complex organization of interdependencies between goal-generation, sensory, error feedback, learning, evaluative and anticipatory sub-systems of processes shows that is almost impossible to distinguish where feelings end and cognition begins. Feelings and cognition not only interact strongly in the brain, but they are quite often integrated so that they jointly contribute to behavior (see Duncan & Barrett, 2007; Pessoa, 2008). Agents, by developing each one of the abovementioned sub-systems of processes, they gradually develop the entire aesthetic outcome. They develop their creativity in minimizing the possibility of error, in developing the *perspectives* through which they approach the world, in creating new forms of perspectives and thus to design totally new realities as new indications that provide new forms of opportunities of interaction. Being aware of such creative abilities (what the agent can attain or not in a range of situations) the agent can set new, higher-order goals that will involve new loops of aesthetic behavior.

This perspective provides a resolution to the unresolved problem mentioned in section 2.1, namely of 'how an A-quality can be designed or corrected'. When a designer sets as a priority the achievement of A-quality *X* in a concept of a building-design, it is only then that he is in a position to be aware of the criteria under which a potential action --during the design process-- is relevant to the accomplishment of *X* or deviates from it (leading to error). This presupposes a functional relationship between some existing knowledge about *X* and the processes towards the achievement of *X*. A designer, following a *perspective,* can activate specific sorts of criteria that enable him to modulate his processes in such *forms* that allow him to anticipate that specific objective modifications in the external reality could form specific indications of interaction relevant to *X*. When this anticipatory relation becomes an action, the designer creates 'marks' of external reality (e.g. drawings in the paper), which, at the same time, are anticipatively perceived by him in accordance to the achievement of *X*. If the related self-defined criteria are applied as it was anticipated, the designer feels successful and then he can proceed to fulfill the next goal. If these criteria indicate an upcoming error, the designer feels that he must regulate his processes to avoid the error. When the error finally occurs and the designer anticipates it can be corrected, he can form a new strategy towards its correction, otherwise he should change the criteria or his goal towards *X*.

This spiral process of aesthetic behavior will give him the opportunity to develop himself as a designer; to refine his executive actions (through exercise), to update the problematic criteria or to develop totally new criteria. During the design process, all the actions and 'marks' are objective and real but the perceptual relationship with them is anticipatory. In this way, the definition and the accomplishment of *X* (or every other goal) is relevant to 'aesthetic' comparative perceptual evaluations and not to a fixed correspondence relationship between reality and content that is limited to a dyadic relation of accuracy and inaccuracy.

This is because the attainment of a goal does not necessarily follow simple dyadic modes of success and failure, but rather follows degrees between them. In other words, mainly in sophisticated agents, a desired end state is rarely fully attained, and this does not necessary imply error. Goals, according to Carver and Scheier (2013) exist at many levels of abstraction in which very abstract goals (e.g. *sustainable* building-designs) are achieved by attaining more concrete goals (e.g., conserving resources) that help agents define the abstract ones. Only lower-level goals are attained by shorter sequences of action (e.g., the use of recycled materials) and their success or failure has actual results that can be easily detected through perception. As Carver and Scheier argue, all these goals, from very concrete to very abstract, can in principle serve as reference points in self-regulatory functions like affectivity. This is one more reason according to which agents *ought* not to (necessarily) perceive abstract A-qualities. Not only because an *ought* to relationship is against self-directness, but it is impossible to perceive such abstract meanings for A-qualities in one direct interactive step. Agents first should learn to fulfill more concrete goals in order to be in a position to form more abstract correctness criteria that allow them to perceive abstract meanings and conventions like A-qualities.

In parallel with Campbell (2010), we suggest that the only way to express A-normativity in terms of *ought* to is not to do it as a requirement but as an expression of the internal relation between achieving *X* and the act of designing towards *X*. The outcome *X'* of the design process while it may not be *X*, it can be perceived as pleasurable too. Think about the example of the relation between hitting the bulls-eye and the act of firing at it. The final achievement may provide a pleasurable perceptual content even when the arrow does not hit the bulls-eye as it *ought* to. Someone could feel the pleasure of winning or of playing even when he fails to hit the bulls-eye that he was initially aiming at. In other words, the pleasure that is related to a perception of goal fulfillment is not a fixed thing that agents *ought* to definitely accomplish in forms of accuracy or inaccuracy with respect to the realist goal under consideration. In contrast, the pleasure that is related to a perception of potential goal achievement is relevant to dynamic correctness criteria that may be totally altered during the interaction, thereby affecting the whole aesthetic experience at once.

It is clear, so far, that the pleasure we get by perceiving potential goal achievement cannot be reduced to specific arrangements of NA-features. Thus, our failure to perceive a potential goal achievement could be a matter of inaccuracy but mostly depends on the organized behavior of the agent and the respective criteria that form such (anticipatory) perceptual relations with the objective world. According to Campbell (2010), there is a disparity between what the act was, and what this action actually accomplished. Failing to achieve *X* is precisely *the occurrence of error* and not the error itself. The error must be error for the agent's goals or functions and not for a possible observer (see e.g. Bickhard & Campbell, 1996; Campbell, 2010; Heras-Escribano & Pinedo, 2015).

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This also explains why two aesthetic behaviors may have a totally different content even though they phenomenally seem identical to an external observer. For example, a designer and a public servant may both feel contented about the outcome of the design process but for totally incompatible reasons. The designer, following his professional *perspective*, may feel that his building will serve needs for housing. But the public servant, following a politician's *perspective*, may feel that this building-design will perfectly promote his political ambitions. In other words, each of the agents is engaging complex *forms of integration* following a complex web of priorities of goals in order to detect and evaluate an *opportunity for interaction.* And, in some sense, almost all of the evaluated *opportunities for interaction* involve an *aesthetic integration* whichever they are: artistic, engineering, mathematical etc.

Ginsborg (2006) argues that there is no criterion for resolving disagreements about the aesthetic validity of a state of affairs. On the contrary, as we have argued, agents take their own perceptual responses to be *appropriate* and therefore, to phenomenally agree or disagree about the aesthetic validity of a state of affairs. Goal-directed behavior and conditions of normativity give us the possibility to argue that there is always a realistic reason for every aesthetic response. The *normative functionality* of *aesthetic behavior* is always based on the *conditions of satisfaction* and the *correctness criteria* that agents use during their interactions. Aesthetic science should systematically seek these conditions and criteria rather than merely collecting aesthetic verdicts.

4. Conclusions

Following a naturalist-relist point of view, we have attempted to provide our view on the metaphysical nature of aesthetics. According to the proposed model, the 'aesthetic' denotes an integration of unconscious (psychological and physiological) states of the body that constitute an additional (organizational level of) regulation of cognitive behavior. We propose that this (implicitly psychological level of) regulation forms anticipatory perceptual content in the form of *feelings* about opportunities for interaction. Feelings are the fundamental part of any evaluative perceptual behavior through which agents regulate themselves so as to decide (preference) to interact with the objective reality in a way that is anticipated it will serve their dynamic goals. From this point of view, 'aesthetic' is nothing more than a self-directed behavior that concerns an organization of systems of processes that are enabled and function according to a *perspective* aiming at detecting and evaluating opportunities for interaction in an external reality.

While the proposed model of aesthetic behavior accepts the objectivity of the external reality it also overcomes the problems that correspondence models bear in the sense that agent's actions and thoughts *ought* to correspond to pre-given values or norms. According to the proposed model, 'aesthetic' is not about a feature or a quality of reality that exists in the external world and influences our lives. The 'aesthetic' is rather a product of a reflective, creative, situated action and concerns a psychological state according to which the agent *feels like* it is possible (or not) to interact with this reality (see also Xenakis & Arnellos, 2014). Therefore, the term 'aesthetic' does not specify a quality of the object but rather the quality of the interactive situation towards a goal. Thus A-normative assessments are made by intentionally selected, evaluative functions that take place within the organization of the agent, having a specific role to accomplish: to inform the whole organization to modulate its interdependences in accordance to the most viable alternative towards the achievement of self-defined goal states.

As a result, by arguing for A-normativity we can see two important consequences. Firstly, aesthetic behavior should be understood as a goal-directed organized perceptual function whose content has two conditions to satisfy: to be true, and to be accurate. Secondly, aesthetic behavior is open to development. The agent, by reforming the criteria through which a goal is satisfied, and by learning to select the most suitable of these criteria for each goal, is able to develop his aesthetic behavior, to minimize the possibility of error, to develop the *perspectives* through which he approaches the world, to create new *perspectives,* and thus, finally, to design totally new realities that provide new forms of opportunities of interaction.

In our view, agents, through their capacity for aesthetic behavior, increase their levels of understanding, thereby directing themselves towards new (goal-related) priorities. It is in this way that they implement new designs in the external reality, anticipating through these designs to extend their ability to cope with the dynamic and complex goals of their lives.

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