

Epigenesis and Coherence of the Aesthetic Mechanism

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1. In contemporary debate regarding neuroscience, psychology, cognitive science, philosophy or anthropology it is commonplace to analyse the problem of the mind focusing on its emotional or, alternatively, cognitive and, lastly its symbolic character. Therefore, it is frequently spoken of as an emotional, a cognitive, or a symbolic mind.

In the context of an increasingly branched dialogue and convergence of scientific and philosophical investigation with respect to the mind-body problem, philosophers, psychologists, neuroscientists, anthropologists and physicists have focused, in recent years, on the aesthetic dimension of the mind. *The aesthetic Mind* is the title of an important book published by Oxford University Press in 2011 and edited by Elisabeth Schellekens and Peter Goldie. According to the editors, the central question driving the volume is «how [...] can the empirical work of the sciences be integrated with the more a priori investigations which have traditionally characterized philosophy, and vice versa» and still more specifically, «what role exactly does philosophy have to play in understanding aesthetic and aesthetic experience?». The same title (in its Italian version, of course) was to be given to a book I published in April of the same year and that was titled, instead, *La percezione riflessa. Estetica e filosofia della mente. The Reflected Perception. Aesthetics and the Philosophy of mind*. At this point it isn't necessary to explain how the term «percezione riflessa» (a direct translation of the German «die reflektierte Wahrnehmung», as used by Kant in the § VII of the *Introduction* to the *Critique of the Power of Judgment*) expresses fundamentally the aesthetic nature of the mind. This paper should help to clarify the issue.

Following this assumption, the human mind is not only capable of cognition, emotion, and developing symbols. It is also an aesthetic mind. The word «human» is here not redundant. At the beginning stages of research concerning the theoretical framework of Artificial Intelligence, the main aim of the researchers was to design and implement the

architecture of a cognitive mind (devoid of any aesthetic feature) in the electronic circuits of a machine. Even the divine mind suggested by Kant in the third *Critique* is not an aesthetic mind in the sense of taking pleasure from contemplating objects of perception. Properly speaking, Kant's *intellectus archetypus* does not know the difference between perception, cognition and creation, especially because it does not know the difference between thought and intuition. We could say that it is poietic-artistic as cognitive and cognitive as poietic-artistic. «Aesthetic» is, therefore, the typical feature of an animal mind: an animal mind, neither radically artificial nor purely divine, which is precisely the human one; «aesthetic» is a characteristic of its functioning and its skill to face the challenges of the world. To what extent, however, is the functioning of our mind aesthetically characterized? What kind of property is the aesthetic one? Is it an ancillary or a constitutive property? Only by answering this question, we can explain what relationship exists between the aesthetic dimension of the mind and the emotional, cognitive and the symbolic dimension.

The first question (precondition of any further investigation) is, therefore, to shape the outlines of the conceptual core of the «aesthetic». How do we understand the conceptual field of the aesthetic? What do we mean when we speak about an aesthetic experience or when we express a judgement or an aesthetic point of view? The first critical step is to understand and, maybe, to decide if, in these cases, we employ a concept of «aesthetic» defined by sharp boundaries with a perspicuous articulation of its constitutive elements or, rather, if we use the term «aesthetic» and its derivatives referring to a cluster-concept with flexible and soft contours. I think that we should choose the second alternative. A cluster-concept is certainly more suited to embrace the plurality of phenomena and attitudes we mean by «aesthetic», without – for example – having to limit the discourse to the typically human sphere of the aesthetic facts, with its procession of works of art, styles, metaphors, symbolic and allegorical content, interpretations. Notwithstanding the acceptance of the core of the aesthetic as a cluster-concept, we are not exonerated from elucidating some of its traits. Clusters have recognizable forms that distinguish their multiple nature and apparent heterogeneity and we need to clarify the morphology of the concept at the core of the aesthetic.

2. My first move consists in clarifying what we mean by «aesthetic». Conceptual analysis is the first task of the philosopher, what he should best perform. However, it constitutes only half of the philosophical work. As we know from Plato's *Phaedrus* the philosophical work of the analytical *diairesis* goes hand in hand with the epistemic dialectic operating

on the hypotheses at the origin of the different sciences. In the terms used by Winfried Sellars, philosophy is not only the chaste muse of clarity, but also the mother of the hypotheses. Connected with an analysis and with the minimal, but robust definition of the conceptual core of the aesthetic, there is, thus, the hypothesis of a sequence and of an idea linked to it. The sequence, which I would call the paradigmatic or theoretical sequence, regards therefore a consequential relationship among four components: 1. The conceptual core of the aesthetic; 2. The paradigm that can develop from it; 3. The models of the aesthetic consistent with this paradigm; 4. A mental mechanism of the «aesthetic». This mechanism is expected to explain the significant and characteristic presence of an aesthetic attitude in several living species, its cross-cultural persistence within the human species (from its biological emergence to its cultural transmission, including its amazing power of metamorphosis and expansion). The «idea» is that of a «mechanism» as the engine or device that makes possible the paradigmatic sequence itself. The aesthetic mechanism appears thus as the sub-structure that allows a transmission line and a feedback relationship between the levels and components of the sequence.

By «mechanism», I mean here the logic and operational connection between the different parts or elements of a structure or the mechanism as a logical-operational connection among the parts of a system that has also the property of reversibility. This idea is strictly related to relationships among the conceptual core of the aesthetic, the models that it bears and the aesthetic functioning of the mind. Depending on how we define the conceptual core of aesthetic and the mechanism coherent with it, the relationship between the idea of an aesthetic mind and that of a conscious mind (including the idea of a self) is not contingent, but necessary.

3. Traditionally, in the history of aesthetics - at least since its birth as an independent philosophical discipline during the 1700s, and in particular with Baumgarten's work titled *Aesthetica* – four main conceptions of Aesthetics have been compared. 1. An emotivist conception (sustained for example by Hume), according to which the relevant and discriminating feature of each aesthetic fact (from the immediate experience to its articulation in the form of a judgment and to the production of expressive gestures, behaviours or works) consists of a peculiar emotion or a complex of emotions. Here, the core of the aesthetic is an emotional feedback. 2. A cognitivist conception (already formulated by Baumgarten's idea of *aesthetica* as «cognitio sensitiva inferior»), according to which the aesthetic is ultimately a special form of knowledge: the evaluative

recognition, maybe emotionally and affectively connoted, of aesthetic properties and qualities that objects and aspects of the world possess in itself. Here the core of the aesthetic is an evaluative cognition: a (way of) cognition that has for us a particular value. 3. A semantic-intentionalist conception (already foreshadowed in Hegel's devaluation of natural beauty and celebrated in Gadamer's dissolution of aesthetics into hermeneutics), according to which expressive and representative artworks that incorporate intentionally meaning constitute the true content of the aesthetic facts and the very object of aesthetics. 4. A weak expressivist conception (for same suggestion in this sense see for example Herder) that identifies the core of aesthetic in a generic impulse to an expressive activity by gestures, behaviours, performances or production of artefacts, quite apart from its symbolic level of meaning or its artistic value. A weak philosophy of expression and expressiveness replace here a conception of Aesthetics as a philosophy of art, defended by the semantic-intentionalist position. Following the first conception, the emotivist one, the aesthetic mind with its specific features would have no reason to exist. It would be a variant of the emotional mind and the aesthetics would be nothing more than a segment of psychology. If we assign the aesthetic to the horizon of knowledge, albeit of a special kind, the aesthetic dimension of the mind would be absorbed in a cognitive model. Following the semantic-intentionalist model, we should resign ourselves to consider the aesthetic as an essentially human matter, rescinding any possible connection with the aesthetic sense of other animal species. The aesthetic mind would be thus another name for the symbolic mind, coinciding substantially with it. The conceptual core of the aesthetic, therefore, would be resolved into a linguistic-symbolic one.

None of the solutions illustrated here is, however, fully satisfactory. Therefore, I think that the most consistent model of Aesthetics is a model that looks at Kant's *Critique of the Power of Judgment*. This is productive and coherent with the phenomenological unfolding of an aesthetic mind that does not ignore its evolutionary links with the animal aesthetics. Kant, here, not only avoids the traditional opposition between an emotivist conception of the aesthetic and a cognitivist one, but he also breaks the deadlock between a purely naturalistic and a mere culturalistic characterization of the faculty of taste and more generally of the aesthetic. The idea of the aesthetic experience as the feeling of a *Beförderung des Lebens* (Kant [1793], § 23)¹ establishes meaningful and

¹ An aspect whose general relevance for the debate about the relationship between aesthetics and evolution has been rightly stressed by Winfried Menninghaus in some recent works. See: Menninghaus (2008, 2009).

internal connections between the first part of the Critique, devoted to the aesthetic judgment, and the second part, devoted to the teleological judgment, whose centre is the question of life and the concept of organism. Developing the Kantian intuition, the conceptual core of the aesthetic can be so identified as an active connection or link between emotion and cognition, i.e. as an expressive synthesis between the emotional and cognitive layers of the experience. An original synthesis – we must add – that has the characteristics both of a blending or (eu)harmonization of different networks of the brain and of a rewarding accord between inside and outside, between the interior of the mental life and the exterior of the world.

Summing up, we should not overlook or forget that the thematic focus of aesthetics cannot unilaterally concern either emotional-affective involvement as qualitative state of mind or cognitive and evaluative selection of world aspects and objects. Honouring its etymology, the thematic focus of the aesthetic implies, rather, the qualitative dynamics of a perceptive trade (of *aisthesis*): the perceptual quality of life as a continuous exchange between the systemic unity of an organism and the environment in which it lives and evolves.

4. On the basis of this minimal, but not ambiguous definition of the core of aesthetic as an original and therefore emerging synthesis of different elements and factors, we can move towards a better understanding of what an aesthetic mind might mean, without the need of identifying or annexing it to an emotional, a cognitive or a symbolic mind. By this definition, we are entitled to consider the evolutionary origin of the aesthetic and the relationship between the specifically human aesthetics and the animal aesthetics, without reducing it to something else. We can so maintain its irreducible specificity in the terms of a critical naturalism, aware of its limits and its virtues. The next move will concern, therefore, the necessity to consider which relationship is possible and coherent among the starting point of the paradigmatic sequence, the more influential models of aesthetic and the mechanism that defines the mind as aesthetic. I think that we can assume at least two opposite possibilities:

- a. Between starting, medium and endpoints of the sequence there is not a necessary or almost coherent connection;
- b. Between the starting, medium and endpoints of the sequence exists a necessary or almost coherent relationship.

In the first case, the sequence does not represent a logical, but only a linear-temporal connection. Consistent with this solution is an interpretation of the evolutionary origin of aesthetic in the terms of sexual selection. According to it, the intelligibility and plausibility of the first emergence of aesthetic can be found in the context of adaptation. This assumption is inappropriate, however, for understanding the further developments of the evolutionary genesis of the aesthetic attitude. The main reason is that we cannot easily attribute the plurality and heterogeneity of the aesthetic facts to the mechanism of sexual selection. If so, the consequence would be a lack of coherence between the concept-core of the aesthetic and the mechanism that would explain the evolutionary origin of the aesthetic attitude. Even in its most elementary form the first emergence of an aesthetic attitude in the proto-human world should contain, however, the distinctive traits of the conceptual core of aesthetic as an expressive synthesis between an emotional gratification (pleasure in sensorial perceiving as well as in agency) and a cognitive discrimination of world aspects. Together with these primary constituents of the basic core of aesthetic could also occur aspects such as those related to sexual selection. These aspects are secondary, although prominent for the definition of the aesthetic. However, the adaptationist paradigm of Evolutionary Psychology (EP) considers the connection between the sexual selection and the development of a sense of beauty in the animal and therefore in the human world not as something secondary or concomitant, but as the essential aspect of the mechanism. According to the EP paradigm, we should understand the further development of the aesthetic by referring to a hidden reason that governs the aesthetic attitude from inside and not at all consistent with the ordinary phenomenology of the aesthetic. There is, therefore, a rift between the development of the forms of the aesthetic attitude in the human world and its evolutionary origin. Ascribing the developments of the aesthetic to the sexual mechanism gives rise to a wide range of intellectual acrobatics or to the idea that the most complex manifestations of the aesthetic attitude are nothing more than accidental by-products of other adaptations².

This way of considering the paradigmatic sequence contrasts with the hypothesis that there is a substantial consistency among the core concept of the aesthetic, the various models that have been developed from this core also in the form of beliefs and theories and, finally, the mechanism that makes possible the transmission and persistence of aesthetic. On the base of this coherence we can also infer that the paradigmatic

² See, for instance: Buss (1995, 2005), Kohn, Mithen (1999), Mithen (1996), Currie (2011). The by-product hypothesis has been defended in particular by Pinker (1997): 526 ss.

sequence has a circular rather than a linear structure. The circular nature of the relationship between the core of the aesthetic and the mechanism of its transmission and variation confers a quasi-transcendental value to the sequence, according to which there is no gap between the evolutionary origin and the further development of the aesthetic. To justify this step we must now define more precisely the aesthetic mechanism capable of making the paradigmatic sequence circular and, ultimately, of generating the sequence itself. At this point we can verify that the aesthetic mechanism, so defined, can overcome the crippling opposition among some paradigmatic alternatives that have traditionally formed a theoretical impasse for a valid configuration of the aesthetic. I refer in particular to the opposition between innatism and culturalism (historicism), between internalism and externalism and, finally, between universalism and relativism.

5. What I propose now is to develop an idea of mental mechanism consistent with the definition of the core concept of the aesthetic, as an expressive and advantageous synthesis of the emotional resonances and the cognitive discriminations inherent in the dynamics of perception. The next step consists, therefore, in unlocking this mechanism from the causal monism involved in the adaptationist paradigm. We will be able, in this way, to provide the paradigmatic sequence with the requested circularity, absorbing the main instances that animate the debate about Aesthetics in the consistency of the circle. I propose to replace the causal monism by a plurality of factors that correspond precisely to the characterization of the term «aesthetic» as a cluster-concept. This plurality is in itself enumerable. Therefore, even if only provisionally and with all due caution, I claim that at the origin of the aesthetic mechanism there are four factors:

- 1) The mimetic assimilation of the real (the expansion of the circle of what is familiar);
- 2) The pleasure of exploration (the seeking: the curiosity for the new and the discovery of affinity);
- 3) The pleasure of exercising preferences (the ability to choose as a degree of freedom and an advantage in the conduct of life);
- 4) The impulse to play (the intra specific and cooperative practice of learning through the exercise and the simulation reinforced by the pleasure).

Each of these factors has a dispositional character. They are dispositions rooted in the system of primary emotions³ that have developed from the early levels of mental life in

³ For the system of the primary emotions, see Panksepp, Biven (2012), Desideri (2014).

the form of attitudes with the function of operational and precognitive resources. Each of them is exercised and is widespread in the nonhuman world as well as in the human one, without having to identify with practices and attitudes of aesthetic content. These dispositions, developed in the context of the emotional mind, represent rather the prerequisites or preconditions for the emergence of aesthetic. None of them is in itself, however, the decisive factor. If anything, each of these dispositional factors may appear as the characterizing element in certain contexts. The pleasure of expressing preferences is, for example, at work in all those phenomena characterized by the intertwining of sense of beauty and sexual selection. The mimetic assimilation plays a role in those proto-aesthetic events – so deeply investigated by Ellen Dissanayake – that shape the mother-child relationship (from the baby talk to the various ways of making special)⁴. The expressive dimension of the play is at the origin of many performative and fictional-simulative artistic practices. The seeking is evident in all aspects of the aesthetic experience concerning the desire for novelty, even by changing the rules of production of objects. None of these factors in itself, however, can, fully characterize the aesthetic nor can identify its mechanism of generation and transmission. Accordingly, we may hypothesize that the aesthetic attitude and the artistic attitude arise from a distinct integration of some of these dispositions with higher cognitive functions typical of our species. We can thus assume that the exercise of an aesthetic sense in the form of a typically human cross-cultural attitude emerge from a synthesis of higher cognitive functions (including the capacity of reflexive processing and categorization of sensorial inputs) with the pleasure of exploring (the disposition n. 2) and that of expressing preferences (the disposition n. 3). Similarly, we can imagine that the specific artistic attitude of *Homo sapiens* results from integrating higher cognitive functions (in particular those of reflexive processing of information, of' conception and design) and the development of productive skills with the disposition for the mimetic assimilation (the disposition n. 1) and that for play and practices of simulation (the disposition n. 4).

To generate both attitudes (the aesthetic and the artistic one) should be, however, a single aesthetic mechanism: a dynamic activity of the brain that integrates into a single space of mutual resonance and harmonization neocortical and subcortical neural circuits: aspects of mental life emotionally attuned and aspects that are specific of cognitive processing of information.

⁴ See for instance: Dissanayake (1998, 2000, 2001, 2007).

6. In this respect are of great interest some recent «meta-analysis» studies, working on neuroimaging experiments. I refer in particular to a paper published in the issue no. 58 (2011) of «Neuroimage» by a group of researchers working in Canada and Germany (Steven Brown and others) dedicated to the theme *Naturalizing Aesthetics: Brain Areas for Aesthetic Appraisal Across Sensory Modalities*. The interest of this paper is due to several factors. Firstly, the model of the aesthetic perception is not naïve and limited only to the circuit between the visual experiences of artworks and the emotional responses to it. Appreciable is, moreover, the attention to the intermodulation between cognitive and emotional elements, moving from the fact that the aesthetic pleasure is not configurable only as an emotion in hedonic value, but it is closely linked to the object from which derives the experience. The outcome is a basic model of aesthetic processing that «involves an interaction between interoceptive and exteroceptive processing via recurrent connectivity between anterior insula and OFC» (Brown *et al.* [2012]: 256). A circuit, this one, defined by the authors as a «core circuit for aesthetic processing», although it is «in no way restricted to aesthetic processing, but may be related to all cognitive processes that involve viscerality» (*ibidem*). According to authors, «the recurrent connectivity between the anterior insula and the OFC» can mediate the so-called «homeostatic emotions», assigning a related valence to objects «as a function of current homeostatic state» (*ibidem*). Another significant part of this circuit is, then, the ACC, whose rostral part «is reciprocally connected with both the anterior insula and OFC, and is co-activated with both of them in many imaging experiments» (*ibidem*). The proposal of the authors is to go beyond the dichotomy between object and outcome. This proposal refers to Edmund Rolls' research and is consistent «with neuroanatomical studies showing that OFC is a form of higher-level sensory cortex receiving input from «what» sensory pathways involved in object processing» (*ibidem*) (Rolls, 2005), whereas the ACC is a premotor area involved in predicting and monitoring outcomes in relation to motivational intentions (Carter and Van Veen [2007]).

The authors of the mentioned paper claim then that «polysensory convergence of reward processing» that occurs in OFC «is most likely evolved in the service of perceiving the quality of food sources, including their gustatory, olfactory, visual, and textural (somatosensory) features» (*ibidem*). Consequently, the aesthetic appears as a mechanism that has evolved co-opting «an ancestral system of food appraisal» (*ibidem*) for the aesthetic objects. The origin of the aesthetic would thus be detected in an extension of the sense of taste. The basic circuitry used for homeostatic needs, for «the appraisal of appetitive objects of biological importance» (Brown *et al.* [2012]: 257) would

have been co-opted, for social need, for artworks such as songs and paintings. Although the model of the authors leaves unanswered many questions on the origin of art and limits considerably the extent and complexity of the aesthetic, remarkable is its character of interaction between different circuits and processing: a synthesis that cannot be restricted to the sphere of emotional responses. The more interesting aspect of their hypothesis is, in conclusion, to consider the aesthetic processing (in our terms the «aesthetic mechanism») as an appraisal process of perceived objects. An appraisal process that «comes through a comparison between subjective awareness of current homeostatic state - as mediated by the anterior insula - and exteroceptive perception of objects in the environment, as mediated by the sensory pathways leading up to the OFC» (*ibidem*).

As shown in articles by other authors⁵, a theoretically equipped analysis of aesthetic experience and its typical way of processing information shows a dense pattern of experience where sub-levels of information processing interact with higher order levels (symbolic and sub-symbolic).

Coherently with the density and the multilevel pattern of the aesthetic experience, the mechanism of its origin is, therefore, configurable as a synergistic space of relationships, resonances⁶ and mutual integration between different neural networks and different areas of the brain (different also from the evolutionary point of view). The dynamic space⁷ in which the aesthetic mechanism works is thus conceivable as a space

⁵ I refer here, in particular, to Slobodan Markovic, working at the Laboratory of Experimental Psychology at the University of Belgrade, whose paper appeared in «i-Perception» (Markovic [2012]) and is devoted to *Components of Aesthetic Experience: Aesthetic Fascination, Aesthetic Appraisal and Aesthetic Emotion*. According to Markovic, «the fascination with an aesthetic object (high arousal and attention)» intertwines and blends with «the appraisal of the symbolic reality of an object (high cognitive engagement)» and «a strong feeling of unity with the object of aesthetic fascination and aesthetic appraisal» (Markovic [2012]: 1).

⁶ «Clearly, the whole net will respond at every point; it will, so to say, go into «resonance», and the whole sensory apparatus will be flooded with activity referring to information about this particular pattern. [...] I believe that this explains why early man embellished his artifacts with ornaments and mosaics, and why complex weaving patterns are one of man's earliest achievements in the realization of mathematical concepts. I even venture to say that the almost physical pleasure we experience when exposed to certain highly redundant stimuli is not only at the root of our aesthetic judgment, but is, in fact, intrinsic in the prestructuralization of our nervous system» (Von Foerster [1962]: 11)

⁷ For a description of brain-dynamics consistent with my model of the aesthetic mechanism see Vitiello (2010).

of awareness, an awareness⁸ that arises from the bottom of sensory and perceptual life as it emerges in the context of attentional processes characterized by a selective and heightened modulation of the perceptual activity. The decisive factor is here the relationship with the reality out of the mind: with an environment, dense not only of challenges and of threats to survival, but also of elements and aspects that sound favourable and more than favourable. I think here foremost of forms capable of stimulating the integration and harmonization of different mental dispositions and different attitudes, generating in this way unprecedented expectations and indeterminate desires toward reality.

For this reason, we cannot identify the aesthetic mechanism with a particular faculty or a specific function and, even less, we can locate it in a single area of the brain. We have to think, rather, of a blending between different attitudes of dispositional nature. A non-modular device that can synthesize these attitudes in an original and advantageous way, moving from attractors or affordances offered by the environment.

The internal engine of this synthesis is a mutual, convenient and rewarding connection of the emotional-affective content of sensorial perception (its internal resonances) with the discriminative-evaluative content of it. Because of this synthesis, the involved dispositional elements (mimetic disposition, seeking, exercise of preference, play impulse) are transformed into moments of a mechanism. The aspect to consider, in this regard, is that the synthesis does not originate and does not work purely within the mind, but rather emerges and is activated by the dynamics of perception. Here we understand the origin of aesthetic from «aisthesis» as a reciprocal exchange between inside and outside, between mind and world or between organism and environment. An aesthetic mind originates, thus, only by virtue of this exchange, by virtue of a favourable and rewarding perceptive trade, which has effects on both the interior landscape (the mind) and the external landscape (by the very fact that the exterior becomes in this context a «landscape»).

At the origin of the aesthetic mind there is therefore a mechanism that transforms the four dispositional factors identified as mimesis, seeking, preference, play into moments of a logical, operational and recursive connection. The connection has here the Kantian character of a harmonization and, then, that of a free play that develops always in relation to aspects of the world-environment: aspects (shapes, overviews, objects) that seem almost designed to activate the aesthetic function of the mind (as Kant

⁸ For the relationship between the human amygdala and cognitive awareness, see Phelps (2005).

observed in the *Third moment* of the *Analytic of the Beautiful*). An extremely significant peculiarity of the aesthetic mind is the virtue to reveal that the order is not only inside, but also outside.

7. To recall Heinz von Foerster's thesis (Von Foerster [1981]: 121), we could argue that it is precisely in relation to an aesthetic mind that the environment-world reveals the presence of an order, not just of noise or disaggregated data waiting to be processed. The most relevant feature of the aesthetic mind is thus the expressive accord between inside and outside. An accord or harmony that is detectable in different proportions, depending on the weight or relevance that each of the four dispositions assumes inside the aesthetic mechanism. Always, however, this accord has the characters of a favourable synthesis between the emotional instance (relative to the subjectivity of the mind) and the cognitive one (relative to the objectivity of aspects or levels of reality). This aspect of the accord or expressive harmonization between interior and exterior allows us to go beyond the opposition between the internalist point of view, that would psychologize the aesthetic facts, and the externalist one, that would reduce it to external criteria of correctness or to social practices and behaviours.

Properly by growing from the soil of perceptual experience (of the «aesthesia»), the aesthetic mechanism cannot be seen as something innate or genetically predisposed. On the other hand, it is not even conceivable that such a mechanism derives only from socio-historical contexts or is transmitted by a cultural tradition. Sharing the culturalistic thesis would mean to claim a radical break between the nonhuman aesthetics and our aesthetics. For these reasons, it is preferable, according to Changeux and Dehaene⁹, to think of the aesthetic mechanism as an epigenetic stabilization of neuronal selections; this, on the assumption of the brain plasticity and, therefore, of the decisive role of the experience.

The epigenetic character of the aesthetic mechanism, its nature of emerging synthesis that turns into moments some dispositional factors independent of each other, makes possible to overcome the impasse of the alternative between internalism and externalism, as well as that between innatism and historicism.

Because of its epigenetic nature, the mechanism, by which an aesthetic mind arises, is conceivable as an operative sub-structure capable of producing schemes (patterns) that have neither the fluidity of the emotional-affective schemes nor the articulation in specific categorical domains that characterizes the cognitive schemes. Compared to the

⁹ See for this issue Changeux (2002) and Dehaene (2007).

affective and to the cognitive schemes, the aesthetic ones are elastic, multi-modal and lacking of a specific domain. Their internal differentiation is based on the relevance and the role assumed in them, jointly or separately, by each of the four moments. Thanks to its internal differentiation, the aesthetic mechanism holds degrees of freedom relative to both its functioning and development. Because of its degrees of freedom the way of functioning of the aesthetic mechanism or the pace of its generating operational schemes has a twofold valence: a. That of a tuning balance promoting an harmonization or, using with some freedom the terms of Jean Piaget (1975), an *équilibration* between emotional systems and cognitive structures; b. That of an imaginative extension of levels of reality, creating, by works and practices, new worlds of meaning and discovering new dimensions of sense. Thanks to this twofold valence, the aesthetic mechanism reveals itself as a sub-structure with the character of the subvenience underlining other dynamics and processes. This way of functioning of mind performs a double junction: first, that from an emotional mind to a cognitive mind and then, that from an aesthetic mind to a symbolic mind. In both cases, the anticipatory nature of the aesthetic mechanism and of its peculiar schematics reveals itself. There is not, therefore, a direct homology between an aesthetic and a symbolic mind, but rather a relationship of analogical affinity. The aesthetic mechanism represents the ground from which a symbolic mind can develop. In this case, the subvenient mechanism assumes the character of the supervenience.

8. In this respect, some remarks that Wittgenstein wrote around 1930 about the idea of mechanism seem to me illuminating. Here Wittgenstein focused on the both formative (*bildend*) and figurative (*abbildend*) significance of the mechanism image (*Bild*), having in mind in particular the peculiar and paradoxical nature of the grammatical mechanism. In this context Wittgenstein distances himself from the conception of language as calculus and argues that the «meaning of a word [is] shown in time [...] like the actual degree of freedom in a mechanism» (Wittgenstein [2005]: 115e). The meaning of these observations, which are included in *Philosophischen Betrachtungen* and reappear in *The Big Typescript* and the *Philosophical Bemerkungen*, is well expressed by this proposition: «Grammar gives language the necessary degrees of freedom»¹⁰. The aspect that Wittgenstein highlights is the indeterministic character of the mechanism, given by degrees of freedom inherent in its functioning:

¹⁰ Wittgenstein (1975): 74. The remark is included in *Philosophische Betrachtungen (Nachlass, Item 107: 282)* in a sheet from 03. 03. 1930.

Well I have to say that the degree of freedom of the mechanism can be revealed only over time? But then how do I know it cannot make certain movements (and that it can make certain movements that has not yet made)? (Wittgenstein [2005]: § 37, 5-6)

Wittgenstein's answer is that the mechanism is related to its use and in some way depends on it. The mechanism cannot be abstracted from its effective functioning and, then, from that to which it is applied and from the context in which this it is done:

It can be said: the mechanism must work when you use it. [...] Thus, however, the degree of freedom of the mechanism of a grammatical construction must be shown only in the case of the application. (Wittgenstein, *Nachlass*, Item 109, Band V)

The consequence to be drawn is that (in the words of Wittgenstein himself) «the picture [*Bild*] of the mechanism may well be a sign of the degree of freedom» (Wittgenstein [2005]: § 37, 5-6). What is true for the grammar mechanism, it is perhaps even truer for the aesthetic mechanism. In the case of the latter, the degrees of freedom that are constitutive of its functioning are at least four: 1. A double movement between rule and surprise: the propensity to renew not only the objects of its attentional involvement, but also the rules or ways in which this involvement happens or can happen); 2. The vagueness and flexibility of the schemes and rules produced by the aesthetic mechanism: the consequent ability to detect affinities between different contexts; 3. The expressive power to form and figure aspects and levels of reality; 4. The constant play between the indeterminacy of desire and the anticipation of new versions of the world.

These features are certainly due to the active role that imagination plays in the establishment of the aesthetic mechanism, complementing the four dispositional elements described before. An active role that is not limited to the production of fictional worlds. In a few words, the concept of aesthetic is wider than the concept of fiction. For this reason, its mechanism is a performative mechanism characterized by internal and external degrees of freedom (first of all related to the perceptual constraints of first and second level) with the effect of revealing and placing (especially through the game between indeterminism and anticipation) degrees of freedom within the texture of reality. For this aspect the aesthetic mechanism could also be seen as the matrix of the grammar mechanism. In Goethe's terms: as the seed of the *symbolische Pflanze* of language.

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