

Aisthesis



The Aesthetic Value in Social Education Eric R. Kandel and the Habit of Looking

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Citation: Simonetti, A. (2024). The Aesthetic Value in Social Education. Eric R. Kandel and the Habit of Looking. *Aisthesis* 17(1): 281-290. doi: 10.7413/2035-8466018

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Abstract. This paper intends to deepen Eric R. Kandel's thought on the theme of the aesthetic gaze and the artistic habit. Through neurology Kandel demonstrates that the brain is enriched thanks to the aesthetic habit and can create new logical connectors. The implication is also social because this habit of looking aesthetically can produce new and supportive forms of coexistence. Aesthetics can influence everyone's ethical practices, and this is why, according to Kandel, the possibility of using them should be widened.

Keywords. Art, social community, neurosciences, habit, looking.

The object of my analysis is expressed in an immediate question: is it possible to educate to sociality through art? The theme is of central importance since it intertwines numerous disciplines such as philosophy, pedagogy, and the artistic and historical-artistic dimension; thanks to the work of Eric R. Kandel the focus has extended to neuroscience. The process that the latest neuroscientific studies attribute to the brain in relation to the gaze in front of a work of art is a fact of social interest. What we assert as “world”

is given by that constructive and significant relationship that the brain activates. The image of the world is the principle of aesthetics in search of a construction of meaning that links past, present and future.

1. *Art and social community*

Art has always found a strong and cogent interweaving with leading out, from the etymology *ex-duco*; this is its main goal. Herbert Read explains: «The thesis is: that art should be the basis of education» (Read [1963]: 1). The role of art certainly cannot be limited to its educational role. In fact, the concept of “community” also implies the individual history of the artist and the subject he creates. In every era the artist has dialogued first and foremost with himself to seek clarity and philosophical and expressive coherence; Greek civilization had already interpreted the power of art in a double sense by stating that, on the one hand, the community function, on the other the exclusivity of art compared to other social occupations. Jean-Pierre Vernant explains that the aesthetic dimension, since ancient times, is an «art with its own ends and means, a profession that needs its own specialists at every level» (Vernant [1974]: 41).

In the specific focus on the aesthetics-neurology relationship (the recent science defined as neuroaesthetics) does not neglect the centrality of artistic subjectivity; for this reason, this science studies the “existential spark” that moves towards artistic creation by attributing various components: the action of the artist in the abstract phase of elaboration (a performative synthesis), the transformative realization of the artistic material (from words to sounds, from materials to gestures) and also the relationship between the artist and his personality which is decisive in subsequent relationship with the rest of the community. The Indian neuroscientist Vilayanur S. Ramachandran spoke of the psychophysics of vision studying the relationship between the brain and vision as a fundamental interaction for the artist’s individuality and for his personal point of view on the world (Ramachandran [2004]). It is necessary to understand that the relationship between art and society is productive starting from the individual historicity of the artist and his experience (in the phenomenological sense of *Erlebnis*). This data enters into connection with the reality of human communication in a prospective and profound sense (Maffei, Fiorentini [2008]). Arthur C. Danto explains:

Somewhere along the line it dawned on me that the entirety of philosophy is somehow connected with the concept of representation – that human beings are *ens representans* – beings that represent the world; that our individual histories are the histories of our representations, and how they change in the course of our lives; that representations form

systems which constitute our picture of the world; that human history is the story of how this system of representations changes over time; that the world and our system of representations are interdependent in that sometimes we change the world to fit our representations, and sometimes change our representations to fit the world. (Danto [2022]: 399)

The work of Kandel *Art and Brain Science. Bridging the Two Cultures* (2016) offers us the guidelines to explain our focus: in the field of aesthetics, with its multiple manifestations, the influence of the brain can modify the performances of habit? Is it possible to objectively show the performative quality of aesthetics in the social context?

Kandel reflects on this: «Can any aspect of art, which is a creative and subjective experience, be studied objectively?» (Kandel [2016]: 17). According to Kandel, aesthetics can have important ethical implications. Neurosciences explain that the sense of beauty and taste develops from the functions of the hippocampus and this relationship is linked to the whole of existence; in fact, the aesthetic experience influences social practices because they are our “usual place”, the territory where the community is formed and where we meet “the Other”. The conception of the *mirror-world* binds the brain of each of us to the community (since childhood); for the individual’s subjective experience, the world represents the mirror with which to interact. Aesthetics is a decisive dimension for this action because it develops observation, shows the link between rationality and emotion, forms the habit of listening (Goleman [1995]). In other words, Aesthetics can have, for Kandel, a function of social sharing and mutual respect between individuals.

It is not a superficial reading that affirms art as a social source of peace but intends to clarify how the habit of an aesthetic evaluation of the facts that happen (personal and collective) can change the habits of social coexistence. Kandel wants to show that these changes are for the better (cf. Kandel [2018]; Cappelletto [2009]; Damasio [2001]).

2. *Aesthetics towards ethics*

The approach to abstract art, according to Kandel, is reductionist but this attribute has no negative value; conversely, the nucleus of the aesthetic message takes the essentials of the image, thus leaving great freedom to sentiment and interpretation:

Although the reductionist approaches of scientists and artists are not identical in their aims – scientists use reductionism to solve a complex problem, and artists use it to elicit a new perceptual and emotional response in the beholder – they are analogous. (Kandel [2016]: 6)

The cerebral reception offered by abstract art to the viewer hides specific neural dynamic actions showing how an undefined, aleatory image refers to an inclusive horizon in a social sense (Hauser [1951]).

The legitimacy of this neuronal action has obvious foundations in the scientific field, evidence that current neuroscientists are investigating carefully. The historical-artistic traces identified by Kandel concern the analysis of some contemporary authors and currents to signal the concreteness of the art-neuroscience nexus: above all the New York School with Mark Rothko, Willem de Kooning, Jackson Pollock. The event on the canvas is not a representation or a painting, but a real event. Both neuroscience and abstract art, Kandel argues, ask the same questions and objectives about human existence, and surprisingly also share the same methodologies. Just as for the neurosciences the study of the cellular and molecular bases of memory has represented a step forward in the understanding of learning and memory, or of the fundamental mental processes of our knowledge of the world and of our sense of personal identity, in the same way painters like Piet Mondrian and the protagonists of the New York School, de Kooning, Pollock, Rothko as well as Morris Louis have developed a similar experimental and investigative approach in their passage, reducing images to their essential elements of shape, line, colour or light (Zeki [2007], [2011]). Developing an aesthetic habit through reflection and observation of abstract and geometric art (such as American Expressionism) makes the subject capable both of dealing with and resolving complexity, and of maintaining an openness to diversity and difference. In a philosophical era marked by the debate on minority theories (gender, identity, blackness) the social practice of aesthetics formed and educated on abstractionism can provide a vehicle for social inclusiveness¹. Reductionism, a term that derives from the Latin *reducere* (“to reduce”, “to bring back”), in the scientific field is practiced when one tries to explain a complex phenomenon through the study of its components at a more elementary mechanistic level according to Kandel.

Creative growth, according to Kandel, is greatest through the analysis of abstract art because there are more combinatorial possibilities. This work is not only aesthetic but, if it becomes a solid habit, it is useful for developing a socio-aesthetic philosophy of coexistence in the plurality of ideas. It can become a *theory of equality in difference*.

Kandel explains: «By reducing to form, line, colour, or light, abstract art relies more heavily on top-down processing – and therefore our emotions, our imaginations, and our creativity» (Kandel [2016]: 58).

It is also necessary to reflect on the social context in which the aesthetic habit moves. Today marketing and advertising have a great influence on individual habits but, especially after the Covid-19 pandemic, media and social networks

have not guaranteed a social construction; in the contemporary hyper-fast horizon we are witnessing an atomization and a fictitious, virtual sociality (Virilio [1977], 2005).

For art to flourish in a society, it needs a support system. Art is produced and disseminated through institutions and bodies which constitute its support system. Among these are the academe, community organizations, the museums, the galleries, cultural organizations, religious entities, mass media, and the art market. Of these, institutions which have to do with educating and raising public consciousness and knowledge of art are the academe and the museum network. All aspects of art are learned from the academe and the museum in its thematic exhibits: art theory and practice, art history, aesthetics, and criticism. Community organizations, cultural organizations, religious entities, and the mass media serve to broaden the base of art appreciation in society. Galleries, and art dealers, along with the recent entry in Asia of the big auction houses Christie's and Sotheby's, make up the art market. (Guillermo [2017]: 3)

The potential of the gaze is the incipit of the creative process. But beyond this tension, whoever receives the image, the addressee, has the same productive possibility of modifying himself through the image. Without theorizing a rigid determinism, the philosophical goal is to highlight the opportunity, through art and the related activities of the brain and behaviour, to educate to an altruistic, supportive, kind feeling.

According to Kandel, *the aesthetic habit of plurality* has its neurological phases. The cortical areas responsible for vision make use of two complementary processes: the *bottom-up* process and the *top-down* one. The first refers to the computations implemented by biological evolution in the circuits of the brain and governed by universal rules that allow us to extract key information from the outside world, such as contours, shape, figure-ground and light-shadow contrast, orientation, the colour and texture of the surfaces. In practice, this innate process, which involves the low and intermediate levels of vision, guarantees that the visual system of each subject can extract the same essential information from the environment. The top-down process, on the other hand, is based on higher order mental and cognitive functions such as memory, attention and learned visual associations and therefore mainly refers to the subjective psychological context, by virtue of which every man attributes the itself I perceive a share of very personal additional meanings (Schapiro [1994]). This is a very creative task that our visual brain performs continuously to integrate and complete the information that comes to us from the physical world in an ambiguous or incomplete way. The "looking" transforms the brain into a *visual brain*.

Vision is the core of discovery. If vision becomes an aesthetic habit, one can imagine a process of civilization and socialization whose purpose is research and not domination, dialogue and not the constraint of silence. At this point there are three key determinations:

- 1) Perception is essential for thinking;
- 2) Art is one of the most powerful means to activate the perceptive component;
- 3) The relationship between aesthetic habit and ethical action is evident

There is a kind of *transfert* in the aesthetic experience. It applies to painting, but also to music (listening is a fundamental condition for the development of the aesthetic habit), to poetry and literature in general (especially on the link between words and the world). Kandel says:

Each work is highly ambiguous, as great poetry is, and each focuses our attention on the work itself, without reference to people or objects in the external environment. As a result, we project our own impressions, memories, aspirations, and feelings onto the canvas. It is like a perfect psychoanalytical transference, where the patient imposes upon the therapist a replay of experiences with parents and other important individuals, or like the repetition of a word or a tone in Buddhist meditation. (Kandel [2016]: 178)

Many art critics, art historians and aesthetics scholars have noted the power of the artistic message and its ability to overturn both sentiment and individual reason. We need to make a difference. While the world of virtual media always seeks to make a model of seriality homogeneous (for example the absence of a critical profile among people), the world of art always opens universes of critical, creative references, in (even solitary) relationships with the world and with others (Gombrich [1960], [1999]; Kris [1952]). If, thanks to Kandel's analysis, we have understood how abstract painters intended to free shapes and colours from the slavery of representation, thus, through them, the spectator is placed before a freed image and can be led to a need new performative and behavioural.

3. *Aesthetic habit and social practice*

For Kandel, an isolated component actively stimulates our imagination and possesses an evocative capacity greater than that which a complex image could arouse: the former forces the observer to a more creative perception, because it urges the observer's imagination to produce unexpected relationships and new connections between the work of art and the personal perception of the world, but also because the most essential and most powerful component evokes in the viewer a high sense of *immateriality of art*. This behaviour demonstrates that,

just as for the artist, every creative process necessarily also implies an interpretative process and in the same way, also the interpretative process that the observer of the work of art puts in place during fruition, in fact constitutes a creative process. If the image is reduced to its essential elements, the level of contribution required of the viewer is greater. The reductionist approach of neuroscience has demonstrated that learning produces considerable changes in the neuronal connections that underlie top-down processing, whose prevalent associations take place in the inferior temporal cortex, where continuous exchanges of information take place between the hippocampus, the part of the brain responsible for the conscious recall of memories and the amygdala, where emotions originate (Kandel [2007], [2012]). The simplicity of the abstract painting leaves more room for working on emotions and affective-emotional intelligence rather than a painting full of figures, defined lines, representations. This is the potential of the aesthetic habit since the abstract image allows a better self-on-self approach.

The symbolic vehicle is the main element for founding a meaningful relationship through art and the artistic object. The possibility that we have clarified in this itinerary between philosophy, art and neuroscience is defined in terms of *constructivism* (Regni, Fogassi [2019]). Why? Construction and reception are the two gestures that shape the growth of the human being, on the one hand receiving the data of the world from the outside, on the other, starting from these elements, subsequently building a life.

Art can lead to a transformation of ethical coexistence because it educates to plurality and difference. This theme is shown by Kandel in two decisive approaches: the artistic gaze and the connected neurological processes of the mind. Biologism and physiologism are the foundation for developing the educational process through abstract art, a sort of sentimental education canvas after canvas, look after look, until arriving at psychological determinations (a certain socio-emotional disposition and the acquisition of a habit of goodness, of kindness, of significant relationships since they are interrelated with mind and heart). Kandel tries to explain to us how brain cells can process the perceptions and sensations that each of us feels in front of a work of art, identifying in the science of the mind the only territory to discover the relationships to perceive a work of art. For the neuroscientist, Nobel Prize winner in 2000, the end of traditional psychologism was decided by the reductionism and deconstructivism that generated Abstract Expressionism in figurative art (Hauser [1979]); the reason is to interpret the creative act as something that modifies the perceptive and emotional involvement of the viewer. Kandel describes deconstructive processes by saying that philosophers and researchers of neuroaesthetics «[...] rather than depicting an object or image in all its richness, they often deconstructed it, focusing on one or, at most, a few components and finding richness by exploring those components in a new way» (Kandel [2016]: 9).

It is a question of a virtuous seriality, an assemblage that produces an ethicality in which the other is considered, appreciated, included, in a prospective and multilinear sense. The human brain is a practical and theoretical “modelling machine” (Regni, Fogassi [2019]). The aesthetic gaze is one of these powerful and creative tools. The aesthetic habit can increase the construction of a self-capable of contributing to one’s own and others’ well-being and happiness (Aristotle already spoke of it as the goal of every living being in the *Nicomachean Ethics*. He used the category of *philia*).

The symbolic vehicle is the main element for founding a meaningful relationship through art and the artistic object. The analogy is an immediate response because it creates intuitions and invents worlds. For example, Mondrian reduces his palette to the three primary colours but this is not reductionism; on the contrary, this opens up new possibilities for understanding and connection. Thus, an image is formed which is therefore able to capture our attention in a particular way and thus to imprint itself in the long-term memory. With this we go further in the process that from sensation goes to recognition and continues to abstraction. The symbolic value contained in the object, added to the purely visual value of the image, varies culturally, and defines further levels of vision/reading that call producer and user into play. Aesthetic habit as a “concrete doing in a context of material and technical elements” (Eco [1978]). Aesthetic enjoyment is not given only by visual apperception, but also by the process of understanding, a fundamental element for fomenting a pleasure, that of learning precisely, so important for education. The aesthetic cognitive process keeps *problematicism* open and always makes theory-practice and practice-theoretical dynamic. Kandel explains:

I learned from Popper what for me is the essence of scientific investigation – how to be speculative and imaginative in the creation of hypotheses, and then challenge them with the utmost rigor, both by utilizing all existing knowledge and by mounting the most searching experimental attacks. I learned from him even to rejoice in the refutation of a cherished hypothesis, because that, too, is a scientific achievement and because much has been learned by refutation. (Kandel [2006]: 97)

An education to a socio-emotionality where the self and the other are a source of training and moral and social improvement, also passes through the concept of the Other as an environment and, following the latest neuroscientific studies, the synaptic solicitation is stimulated by new contaminations positive, from new modular scenarios, from differentiated solicitations. The environmental real represents a wide possibility of formation of prospective personalities, as well as. According to Kandel, abstract art with its reductionist tension fuels all of this. Abstract art does not minimize but stimulates the imagination beyond the threshold of the visible. This is a neuronal invitation of excellent purpose and on which

to leverage to create a concrete relationship with others, with a sense of care for the other understood as a person, world, environment.

Building a reality through empathic reciprocity means tending towards an ideal of beauty, an experience characterized and oriented towards an edifying and well-formed teleologism (in a sense close to Kant). The fallout of these stimulations on the cerebral cortex shows the potential that can be activated, how high and performative it is if triggered. The mechanism is evolutionary: the body, to keep itself adequately alive, must build a brain that is capable of representing its every state and a mind that is capable, not only of representing the signed modifications of the internal or external environment, but which can also alter them to his advantage. It is as if thinking were a bit like representing a model within oneself to be able to intervene on reality (Damasio [2001]). Kandel finds an incisive example of this approach in the work of Jackson Pollock; action painting and “the sunset of easel painting” does not simply weave the question of decomposition, irregularity, desired imprecision, of chance on the canvas but, conversely, contributes to a radical question on a new thinkable order, out of the established schemes. The same historicity of art with its multiple forms, as well as the fruition of the work of art, as Gillo Dorfles recalls, have contributed to the decisive passage from the meaning, linked to ancient forms of expression (at least up to the 19th century) to reach to the experience of the avant-gardes onwards, to the choices. There is no longer a dense canvas of meaning in all its clarity, the terrain of the gaze is no longer filled with meaning; the spectator must choose, he is actively led to balance and interpret what is placed before him (Dorfles [1973]).

Finally, Kandel’s work has linked the study of neuroscience to the aesthetic experience. In this work Kandel has shown how art and, in general, the habit of aesthetic gaze is very useful for opening possibilities for new actions on the world. Getting used to art means creating practices of civil coexistence beyond personal taste, in a sharing of the aesthetic value of civilization.

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Notes

- 1 Neuroaesthetics, a recently established field of studies, brings together a series of investigations from the neuroscientific field aimed at investigating the methods of creating and using the artistic object. Multiple disciplines contribute to the construction of a research activity relating to the mind-brain relationship, which is truly in its infancy, not due to the quality of the studies, but due to the complexity of the subject matter.