

The Pedagogy of Light in Early Artistic Modernity

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ABSTRACT: This paper explores the concept of "Pedagogy of Light" as a defining force and implicit educational method in early modern art (19th century). The analysis focuses on how artists from movements such as Impressionism and Neo-Impressionism transformed the understanding and use of light, going beyond simple optical representation to elevate it to the status of an instrument of knowledge and an autonomous artistic language. We investigate how the fascination with optical phenomena and color theories led to a new way of "seeing" and "teaching sight" to the public. By studying moving light, atmospheric effects, and the spectral decomposition of color (Divisionism), artists not only innovated aesthetically, but also developed a form of visual pedagogy that defied traditional academic norms. This informal pedagogy, centered on subjective perception and sensory experience, educated the modern viewer to understand the world and art through a dynamic, vibrant lens.

KEYWORDS: Natural light, tone division, impressionism, social pedagogy, early modernity

Introduction

Understood as a historic age and as the spirit of Western society and culture, modernity marks the fracture between the ancient and medieval past and a new phase of renewal of the spirit, which, according to some authors, started with the Renaissance. This historical division of the European West into Antiquity, Middle Ages and Modernity seems to date back to the early Renaissance, when Petrarch, in the 14th century, introduces the notion of "dark ages", to mark the difference, also by means of a metaphor of light, between the bright light of Antiquity, the night of oblivion associated with the Middle Ages, and the exit, in his time, from the shadows toward a bright future. (Călinescu, 2005)

According to Berman (1982), the phase of modernity which started and took shape with the Renaissance inaugurates three chronologically distributed stages. Berman distinguishes between Early Modernity, which began in the 15th century with the

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Renaissance and which lasts until the French Revolution in 1789; Classical Modernity, from the end of the 18th century to the beginning of the 20th century, in 1900 and Late Modernity, which spreads from the first decade of the 20th century to the '80s of the 20th century. This periodization and characterization of Modernity is also endorsed by Peter Osborne in the article *Modernity is a Qualitative, Not a Chronological, Category: Notes on the Dialectics of differential historical time* (1992).

Apart from chronological boundaries, modernity remains a state of spirit, a quality, a "strategic, stylistic and programmatic idea" (Danto, 2003, p. 5-13), which marks the break with the values of the past, proclaiming new forms and strategies in approaching the surrounding world. In this analysis we will refer to various aspects of Modernity: social and political, cultural and philosophical, the scientific aspect and the issue of secularization. Particular attention will be paid to modernity in art, seeking to clarify how the issue of light relates to all these directions, and how it is influenced by them. In what follows we will deal with aspects of classical, but especially of late modernity, according to the periodization mentioned above.

Aspects of modernity: individualism, the role of technology and the loss of aura

In order to understand the secularization process, one of the essential aspects of Modernity, we must look at it as Heidegger did in 1938 when he defined the modern age as the post-medieval historical period (1998). Understood as an emancipation or as an "escape from religion" (Gauchet, 2006) secularization involves breaking with Christian doctrine, in particular, which was dominant in European conscience, culture and even politics until the 19th century. The rationalist and doubt revolution promoted by Descartes may be seen as the starting point for this process. It will be continued by the separation between Church and State, between religion and politics, which provided "the resort of a glorification of politics" (Gauchet, 2006, p.6).

Another significant aspect of modernity, concerning the issue of the individual but also of secularity, is the emergence of a new type of individualism that aims at a new relationship between the state and the citizen, between the public and the private. In this overview of modern transformations, it is also important to point out that the individual's private rights, or what we will come to know as human rights, became paramount.

Beyond the social, political, or religious aspects of the Western modern world, we must also mention the scientific and technological aspects that have fundamentally changed the course of history, both on an individual and on a collective, generally human level. Understanding the modern world cannot be achieved by disregarding the progress in science, which covers various fields of activity in parallel. We will detail some of the aspects related to the nature of light and the progress concerning the development and spread of electric light in one of the following chapters, but now we will attempt to briefly

mention some of the cultural ideas related to technological progress.

Martin Heidegger stated in the essay *The time of the world image*, in 1938, that "modern science is part of the essential phenomena of the modern age" and "the first in rank among phenomena of equal significance is the technology behind the machine" (Heidegger, 1998, p.33). Heidegger did not understand it "as a mere practical usage of the modern mathematical science of nature," but rather, to him, the machine was "a self-sufficient transformation of practice, so that it required the use of the mathematical science of nature" (Heidegger, 1998, p.33). Furthermore, "the machine remains the most visible descendant so far of the essence of modern technology, which essence is identical to that of modern metaphysics" (Heidegger, 1998, p.33). For the German philosopher, the essence of technology is not developing machines, but establishing a new way of relating to the world, where nature and in general the world itself seem a manipulable and quantifiable object. The establishment of a *representation* relationship plays a fundamental role in setting up this rapport, in other words, a relationship between the subject Descartes identified with thinking and the object understood as something foreign, exterior and inert, thus subject to the subject's shaping power. It could be said, therefore, that with Descartes, modernity enshrines in the history of humanity a new way of understanding the relationship between man and the world, which consists in the desire for domination and possession of nature as of something foreign.

Heidegger also sees as an essential phenomenon of modern times the fact that "art moves towards the field of aesthetics" and "the artwork becomes an object of experience, and it is evaluated accordingly as an expression of human life" (Heidegger, 1998, p.33).. From this moment on art is no longer a spiritual response or vehicle, bearing metaphors and truths transmitted from a superior spiritual reality, but becomes the object of pure aesthetical contemplation. The light that accompanied the artistic message, which we looked at in a metaphoric key, now becomes volatile, taking on an aesthetic, desacralized form.

The first aspect that Heidegger analyses is that of modern science, which is fundamentally different from its ancient or medieval meaning, by introducing some new building elements: research and experiment (Heidegger, 1998, p.34-35). Modern science transforms into research by employing a method that incorporates a new element, distinct from the old science that solely relied on observing and recording facts, specifically through experiments (Heidegger, 1998, p.38). The predilection for method in the scientific examination of nature (etymologically from the Greek *methodos*, a word designating "the firm road as opposed to aimless wandering" (Bejan, 2004, p.69) also entails the modification of the view on truth, understood from now on as certainty. With Immanuel Kant, the method becomes "the form of science, that is, of systematic knowledge based on firm rules" (Bejan, 2004, p.70).

While from a metaphysical point of view, modern research provides the framework

for conceiving man as the center of the world, a concept which will strengthen the modern tendency towards subjectivism and individualism (Heidegger, 1998, p. 45), the electronic civilization places the whole modern era within the framework of a global interdependence (McLuhan, 1975). The evolution in communications, the increased efficiency of transportation, the emergence of cinema and television, the progress in areas such as quantum mechanics or electronics, will be the premises for rethinking society using new benchmarks.

Analyzing the reproducibility of the artwork in the modern age, the symptom of a new cultural age, Walter Benjamin (Benjamin, 2002) notes as early as 1936 that the mechanical reproduction of an artwork, although it has a long history dating to antiquity, when techniques of multiplying artifacts were already known, at the beginning of the 20th century attains a level from which this process will lead to a profound change in the reception of artworks and the status of art as an object. The substitution of unrepeatable events or facts, whether cultural or not, with mass phenomena typical of the new century, leads to the loss of the so-called "aura", that is, to separating the object or event from the tradition which gave them authenticity and uniqueness and to their being given to the masses. The loss of the aura thus occurs in a context in which "the wish of the masses (...) to *bring* things *closer* from a material and human point of view (...)" appears (Benjamin, 2002, p. 111). The desire to possess history, the wish for the proximity of facts, persons and objects from the past is realized in the present through the image and its reproducibility.

The destruction of the aura, of the veil that surrounds an object and renders it unique and authentic, is similar to the disintegration of the range of relationships that constitute tradition, and for an artwork the loss of the aura means, in the first place, the loss of its first purpose, that is, of its ritual function. With the secularization of the cult status of painting, the imagination of the viewer is engulfed by the empirical uniqueness of the artist and his creation, and thus authenticity replaces the ritual function of an artwork. From now on, a new value will be added to it, that of being exhibited. The separation of the artwork from its ritualistic role and the emergence of the doctrine *l'art pour l'art* were marked by the emergence of photography, a technique which enables the reproduction of any kind of image, shape, and color (Benjamin, 2002, p. 112-113).

The role of light in Impressionism, Post-Impressionism and Neo-Impressionism

The emergence of the photographic image will result in a rethinking of the very bases of the pictorial image and of the representation of two-dimensional space. The work of Eduard Manet *Le Déjeuner sur l'herbe* (*The Luncheon on the Grass*) did not spark a scandal solely for topical reasons. Combining the level of concrete reality, that is, the landscape and the men dressed according to contemporary fashion, with the mythical level of the

nude which belonged to the classic sphere of topics, was just one of the aspects that produced an important break from the past. Eliminating the third dimension, by flattening space, was a first step toward affirming the pictorial character of an image.

Whereas the old painting, before the middle of the 19th century and beginning with the Renaissance, aimed at creating an illusory space endowed with depth, to be entered as through a door or window into a parallel reality, in the case of Manet, and even more pointedly of the impressionists and post-impressionists, the painting could only be pervaded with the eyes, which stopped at the canvas. In the case of the painting before Impressionism, we are often inclined to see what is in the painting, rather than the painting itself, but with Manet's painting, and then with Monet's, Renoir's, Cézanne's, this relationship will change, and Greenberg perceives this as a feature of modernity where the medium is being critiqued by itself (Greenberg, 2004).

According to Greenberg, with Manet and with the impressionist trend that succeeds him, "the pictorial issue had ceased to be color versus drawing, and it became a matter of the pure versus the adjusted optical experience (...)" (Greenberg, 2004, p. 16). In the name of optics, not of color, the impressionists began to programmatically undermine the use of shadows and models in painting.

It was no accident that this transformation took place with the advent of photography, since when painting could no longer be what it had been. The documentary or illustrative value of painting will be lost to photographic accuracy, but this will open new prospects for pictorial art. It is also noteworthy that the first impressionist exhibition in 1874 took place in the workshop-cum-gallery of a photographer, Felix Nadar. He will always assist and encourage the new group of artists reunited under the name *Société anonyme des peintres, des sculpteurs et des graveurs*.

Discarding the background and the homogeneity of colors, the impressionists will deliberately try to render the paint and the kneading ink on the surface of the canvas recognizable. The awareness of flatness and of the rectangular shape of the painting will reoccur in Cézanne's works, who sacrifices verisimilitude in order to adjust the drawing to the shape of the canvas. These non-mimetic features, as Meyer Schapiro called them, will give rise to images in which the representative features become secondary. (Greenberg, 2004).

From now on, for impressionist artists the question of optics will be a new attempt to capture the reality of light and make it the main issue of painting, as Pierre Francastel pointed out in an analysis concerning light in impressionist painting. Alongside these changes of a formal nature comes a subjective concept of subject matter and how the surrounding world is represented (Francastel, 1977). Émile Zola, quoted by Victor I. Stoichiță, pointed out in an essay in 1866 that painting was an "open window on creation", and on the windowsill a transparent screen is mounted which modifies reality, giving us an image mediated through a human being, a temper or a personality (Stoichiță, 2007).

Analyzing Zola's idea, Stoichiță goes on to note a break from the ancient concept of painting as a window and the development of the "veil" as a metaphor of the artist's personality. Thus, we notice how thinkers, but also artists like Manet, now become aware that reality is constantly veiled by the one that represents it. The filtered, veiled look, the play between the viewer and what is to be seen in a painting, the artist's directing the sight are features of the new type of image (Stoichiță, 2024).

The impressionists gradually change the view on light, from the light that enhances the color or atmosphere of the image, as in the case of romanticism - Eugène Delacroix, John Constable, William Turner or Caspar David Friedrich, to the light that becomes the motif of the entire painting. In 1867 Alexandre-Edmond Becquerel, the winner of the Nobel Prize for Physics, published his study on light, *La lumière, ses causes et ses effets*, and a year later, the young impressionists began painting in broad daylight, in the open air. The eye became, to scientists and artists simultaneously, the organ which was held to be the most sophisticated tool for recording visual sensations (Brettell, 1999). The interests of the impressionists and their successors were in line with the scientific findings on perception, light and color and on the mechanism of sight, and Jules Laforgue systematically records this in 1883 (Francastel, 1975).

Monet is still one of the first examples discussed when impressionism is concerned. We will focus on him, attempting to analyze concretely how light creates an impressionist image. Monet and Pissaro are perhaps the first artists who will deliberately and programmatically eliminate, as early as the 1860s, the use of black, bitumen or burned Siena, learning from Corot or Boudin (Francastel, 1975).

The technique of impressionist painting actually aimed at resembling the "innocence of the eye", as Werner Hoffman (1977) calls it, which does not rely on previous experience and does not insert colors from memory into the image. The fact that the painters left the workshop for the plein-air gave them the opportunity to note the visual impressions of the moment, which depend on the presence of light and on its quality (Hoffman, 1977). Artists begin to see and work in daylight, and this is an important transformation in the role of light in art in the 19th century. The painter will decompose the colors according to the real, diurnal light as they appear before the eyes, and this "technique turns the material universe of perception into a floating state, and the information about the reality presented consists only in potential forms" (Hoffman, 1977, p. 211). For impressionists, color becomes the bearer of light, and the idea to represent the world through light is rooted in optical perception.

Francastel notices two aspects of Monet's originality. The first is to set the effect by means of reality, an aspect that we are directly interested in in this study. The second is giving up on replicating the vision of the viewer in a painting. The way light is represented will obviously take these two aspects into account (Francastel, 1977).

Whereas the Venetian, Dutch or Flemish painters had throughout the 18th century

systematically studied the variations of light on objects or within a given space, Monet had a more superficial notion of light. But the fact that he translates reality into effect will give him the opportunity to address the plenitude of natural light intuitively. Being without an academic education and independent of any technique learned (Francastel, 1977), Monet will be able to translate the sensations of light in an un-mediated manner. It is the relation between light and color that changes with Monet and with his impressionist colleagues. Light is no longer a passive element, which enhances the color shades or creates illusory volumes, it becomes an active agent whose presence will dominate the entire image. Its effects shall constitute the starting points of some of Monet's serial works.

Haystacks (1890-1891), *Rouen Cathedral* (1892-1894) or *The Houses of Parliament* (1900-1905) are cycles of works based on the same visual and landscape motif, captured at different times of the day, when the quality and quantity of light cause variations in the color shades and in the atmosphere captured. Light becomes the unit which binds these images in the subsidiary. Light also encompasses and at the same time dissolves the image, providing the conceptual element that unifies all the images of the same lens. The whole series was intended to transform the effects of light independent of the shapes and objects existing in the image. Observing light consists in capturing the diversity of its intensity, a variable which shows that in nature there is no absolute color but only universal light (Zaharia, 1999). Monet's late writings confirm that the topics of his paintings are "draped in light" rather than in defined forms (Brettell, 1999).

Monet's *The water lilies*, the series achieved between 1899 and 1923, proves the artist's ability to gradually essentialize natural forms and allow the light effect to take over the entire image. The mirroring effect contributes to the chromatic mirage but also to the spatial ambiguity that is being created. Putting up rectangular and very long canvases in museums such as the Museum of Modern Art in New York, on walls surrounding the viewer on all sides, leads to the notion of spatial installation being associated with these paintings. The process of chromatic sublimation (Hoffman, 1977) used by Monet is, in fact, typical of all his colleagues. Camille Pissaro, Auguste Renoir, Edgar Degas would be just a few artists who sought to capture light and its effects on the chromatic level through the direct experience of the subject. We briefly mention Degas here, as a special example in comparison with the impressionists' open-air painting. He captures an equally active light as part of indoor scenes. For example, in *Dancer with a bouquet, greeting the audience* (1878), the artist attempts to create the entire image out of sources of light. The rather weak lighting of the auditoriums could have allowed for the solution of a chiaroscuro, but the painter will opt for a powerful lighting by placing the character directly in front of the lamp below the stage. The shadows are no longer black but purple, and the white will dominate the whole composition, typical of gas light which bleaches everything around it (Zaharia, 1999). The technique of the pastel must also be mentioned:

it is used in this work and generally enables impressionists to reproduce the rarefied aspect of air and light.

The Neo-impressionists based their work on the principle of the division of colors. The main theorist of the movement was Paul Signac who will explain in the book *From Eugene Delacroix to Neoimpressionism*, that to divide is to ensure all the benefits of luminosity, from color to harmony: through the optical mixing of pure pigments, by separating the various elements, such as the local color, the lighting color, by balancing these elements and choosing the proportionate side-line according to the size of the painting: "Division is a complex system of harmony, an aesthetic rather than a technique. To divide is to seek the strength and the harmony of color, representing colored light through its pure elements. (...) The separation of the elements and optical mixing ensure purity, that is the luminosity and intensity of the shades of color." (Signac, 1971, p. 86)

The end of the 19th century also opens up the new field of the psychology of visual perception, optics and the analysis of visual relationships between light and color. In fact, older research was resumed, for example research by Michel Eugène Chevreul, from 1839 (*The law of simultaneous contrasts*), and physicians like Hermann von Helmholtz or O. N. Rood conduct new experiments in this respect (Zaharia, 1999).

In the article *Les Impressionnistes en 1886* (included in *Œuvres*, Gallimard, Paris, 1948) Félix Fénéon looks in detail at the work of Georges Seurat *Un dimanche après-midi à l'île de la Grande-Jatte*, showing how the division of colors becomes an expression of extreme luminosity, something the impressionists started, and the neo-impressionists pursued. Replacing the chromatic mix with optical mixing has the advantage of achieving a transparent and vibrant atmosphere (Fénéon, 1948).

Representing a common scene from the Parisian *loisir* at the end of the century, a scene Seurat studied over a longer period, the composition retained the attention of his contemporaries especially by the way he treated light and color. It is Fénéon who, after seeing this painting, will provide the name for the new trend by adding the suffix to neo-impressionism. Seurat opposes to impressionist spontaneity a methodical, rigorous, and minute treatment by means of which he adds small touches of color to obtain optical mixing on the retina of each viewer. Thus, Seurat turns a technique into an interactive image, in which the contribution of the viewer, whether voluntary or not, is essential to the completion of the image proposed by the artist. As for light, it is divided into each shade of color. The prismatic decomposition of light in primary and secondary tones gives the whole composition the appearance of an extremely bright image. Although Seurat does not use white, he is able, by decomposition, to present light in a new form through its constituent elements. Thus, we can state that *the scientific pointillism* promoted and applied by Seurat or Signac will provide a new way for light to manifest itself in painting.

Post-impressionism will initiate a new register as far as the interest in the representation of light is concerned. The representation of light is associated either with

the technique of *synthetism* in the work of Paul Gauguin, or divided into kneading inks conferring it its own volume in the case of Vincent Van Gogh, or linked to drawing and to geometric volumes in the work of Paul Cézanne. The stylistic characteristics of post-impressionism included the belief in the emotional and aesthetic value of color, independent of form and composition and the acceptance of the artificiality of painting, as a subjective image of the artist's vision (Brettell, 1999).

Cézanne was aware that light existed independently of objects and that it modified not only the colors but also the shapes of objects, but it did not destroy them, and painters were not doomed to capture only its fleeting aspects (Francastel, 1977). Unlike Monet, he also differentiates between real light and pictorial light. Thus, the representation of real light cannot be perfectly achieved on the compositional level, because the reason for his painting has always been a debate between technique and natural phenomena (Hoffman, 1977). The artist conceives space in a geometric and calculated manner and attempts to recover all the spontaneity of his age via the classic landscape. In this geometric space light becomes uniform, clear, and precise.

However, through color Cézanne will eliminate the very idea of shadow. Using the warm-cold contrast, he will manage the shadows through cold color tones rather than darker ones. At the same time, he sought to consolidate the perception data by keeping them out of the reach of light, that is, to maintain the forms separate from the atmospheric or light conditions.

The paintings of Van Gogh, which translate light into physical form, are a notable example. By watching the concentric details of stars or lamps we can touch the light source. Van Gogh brings us closer to light precisely by rendering it palpable, concrete. In *Starry Night*, the artist captures the sky that the stars dominate with their power of emanation. This is a real, not an abstract representation nor one separated from its environment. It is a representation that, while continuing to be subjective, draws on the overall concept of light propagation. In Van Gogh's works light flickers, it moves perpetually, halfway between visual perception and conventionalism.

Conclusions

Light turns modern painting into another kind of image. With the filtered look and the flatness of the image we are within the scope of a painting in which the artist attempts to recreate a world. It is not the three-dimensional world and space, but the subjective world that tries to lead us further away from the concrete vision. And all these transformations occur against the background of rethinking light and color in themselves. That is why, although painting is not the subject of this study, we thought it appropriate to show how the representation of light, of the atmosphere created by daylight, was a factor in this essential process for the emergence of modern art.

We thus observe how the generation of Impressionist artists presents us with a

true pedagogy of light, how it teaches us to look through light, through our own eyes that perceive light as a constitutive, fundamental element of understanding the entire world around us. We see not only light but everything it highlights, through its immediate presence and the details it reveals.

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