

Aesthetic Experience, Neurology and Cultural Memory*

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Abstract

Neuro-aesthetics is a new scientific field in the field of research on the perception of beauty as well as the creation of art. This science deals with the connection between areas of the human brain and nervous systems with the perception of beauty. Neuro-aesthetic researchers and theorists consider the perception of beauty to have a biological basis. Aesthetics refers to the knowledge of how the senses are used to know. The purpose of writing this article is to review and introduce Don DeLillo's view on art and Aesthetics in the book *Mao II* and to extend the references in aesthetic education. This research is trying to determine the scope of this science and to express the challenges that are on this claim. The result of this research, which was carried out by examining the results of neuro-aesthetic tests and criticisms and opinions of theorists, shows that artistic perception is not mere visual perception, but variables such as historical, cultural factors, and conceptual understanding of the work are influential in artistic understanding.

Keywords: neuro-aesthetics; aesthetic experience; cultural memory; *Mao II*; perception process.

Experiência Estética, Neurologia e Memória Cultural

Resumo

A neuroestética é um novo campo científico dentro das pesquisas sobre a percepção da beleza e a criação artística. Esta ciência trata da conexão entre a percepção da beleza e algumas áreas do cérebro humano e do sistema nervoso. Pesquisadores e teóricos da neuroestética consideram que a percepção da beleza tem uma base biológica. A estética refere-se ao conhecimento da maneira em que os sentidos são usados para alcançar saberes. O objetivo deste artigo consiste em apresentar a visão de Don DeLillo sobre arte e estética no livro *Mao II* e dele extrair as referências ligadas à educação estética. Esta pesquisa está tentando determinar o alcance desta ciência e determinar os desafios dela procedentes. As conclusões da pesquisa, realizada a partir da análise de resultados de testes neuroestéticos e com base nas críticas e opiniões de diversos teóricos, mostram que a percepção artística não constitui uma mera percepção visual. De fato, variáveis como fatores históricos e culturais, assim como o entendimento conceitual das obras, têm óbvia influência sobre a compreensão artística.

Palavras-chave: neuro-estética; experiência estética; memória cultural; *Mao II*; processo de percepção.

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Experiencia estética, neurología y memoria cultural

Resumen

La neuroestética es un nuevo campo científico que investiga la percepción de la belleza y la creación artística a través de la conexión entre las áreas del cerebro humano y los sistemas nerviosos con la percepción de la belleza. Los investigadores y teóricos de la neuroestética consideran que la percepción de la belleza tiene una base biológica. El término «estética» hace referencia a la forma en que se utilizan los sentidos para conocer. El propósito de este artículo es revisar e introducir la visión de Don DeLillo sobre el arte y la estética en el libro *Mao II* y extraer las referencias en la educación estética. Esta investigación intenta determinar el alcance de esta ciencia y dejar constancia de los desafíos que existen en esta afirmación. El resultado de esta investigación, para la cual se examinaron los resultados de pruebas neuroestéticas y las críticas y opiniones de teóricos, muestra que la percepción artística no es simplemente una percepción visual, sino que variables como los factores históricos y culturales, y la comprensión conceptual de la obra influyen en la comprensión artística.

Palabras clave: neuroestetica; experiencia estética; memoria cultural; *Mao II*; proceso de percepción.

Expérience esthétique, neurologie et mémoire culturelle

Résumé

La neuro-esthétique est un nouveau champ scientifique au sein des recherches sur la perception de la beauté et sur la création artistique. Cette science traite du lien entre la perception de la beauté et certaines zones du cerveau humain et du système nerveux. Les chercheurs et théoriciens de la neuro-esthétique considèrent que la perception de la beauté a une base biologique. L'esthétique fait référence à la connaissance de la manière dont les sens sont mis à contribution pour acquérir des savoirs. Le but de cet article est de présenter le point de vue de Don DeLillo sur l'art et l'esthétique dans le livre *Mao II* et d'en extraire les références afférentes à l'éducation esthétique. Cette recherche tente de déterminer la portée de cette science et de poser les enjeux en procédant. Les conclusions de cette recherche, réalisée à travers l'examen des résultats de tests neuro-esthétiques et sur la base des critiques et opinions de théoriciens, montrent que la perception artistique ne constitue pas une simple perception visuelle, et que des variables telles que les facteurs historiques et culturels, ainsi que la compréhension conceptuelle des œuvres, influent sur la compréhension de l'art.

Mots-clés : neuro-esthétique ; expérience esthétique ; mémoire culturelle ; *Mao II* ; processus de perception.

审美体验、神经学与文化记忆

摘要

神经-美学是研究美的感知和艺术创作领域的一个新的学科。这门学科处理人脑区域和神经系统与美的感知之间的联系。神经美学研究人员和理论家认为人类对美的感知具有生物学基础。从生物学角度来说，神经美学主要研究人类如何使用感官来发现美的存在并尝试认识它。这篇文章的目的是介绍唐·德里罗 (Don DeLillo) 在《毛二世》一书中所阐发的艺术和美学观念，并且为美学教育提供一些参考。本项研究试图确定这门学科的范围，并表明这门学科的难度与挑战。通过检验神经美学测试的结果和理论家的批评，我们的研究结果表明艺术感知不仅仅是视觉感知，它是一种变量，一种基于历史、文化因素和对艺术的概念理解的变量。

关键词: 神经美学; 审美体验; 文化记忆; 《毛二世》; 感知过程

Introduction

Several reasons have played role in the phenomenon of “reaction to beauty”; including that the sense of aesthetics leads to the stimulation of emotions to know more. In addition, art and aesthetics have an effect in solving moral and value issues such as oppression, deviance, selfishness, aggression, and addiction that the contemporary world is facing, and also have artistic functions such as carrying social ideas and showing human nature, laying the groundwork for order. Social is conveying human feelings and attracting people to each other. Throughout the history of mankind, beauty has always been one of the inseparable parts of human needs; In the distant past, in order to overcome the hostile and confusing world that surrounded him, prehistoric man used to draw his surroundings on the walls of the cave (GREER, 2010; RAMACHANDRAN; HIRSTEIN, 1999) and today, the pursuit of beauty in all dimensions of life flourishes has done. However, reviewing the process of thinking about the category of beauty can be considered as a path that started from certainty and ended up with uncertainty so that in each chapter of this notebook, the concept becomes more complicated and seems to be far from human reach.

Considering that beauty is one of the transcendental needs of man and acts as a stimulus for his prosperity, it affects the level of health, longevity, and overall biological efficiency of individuals; Also, the biological models compiled in recent years indicate the importance of this concept on the evolutionary process of the human brain, one cannot be indifferent to this category in literary works, that is, a platform that is experienced by a wide range of people every day. At the same time, with the formation of human societies, this concept has gained importance at a higher level, and it becomes a valuable and purposeful phenomenon at the level of society.

Recently researches have focused on the Aesthetics of the brain, the issue that a cognitive or aesthetic experience is actually a part of perception was raised in (PEARCE et al., 2016) and later the book “Middle Ages” confirmed this hypothesis (CARRARO et al., 2022; JAMALPOUR; YAGHOABI-DERAB, 2022a). As Xu e Zhao (2023) has been discussed that there is not any aesthetic theory based on the activity of the brain and is complete, let alone profound. Since all visual arts are expressed through the brain and therefore must be imagined, implementation and perception to follow its rules; In other words, the "laws of the brain" are the common heritage of humans, and as a result, a basic title of commonality should be assumed to build any theory of aesthetic perception.

Method

Neuro-aesthetics is a term that was first used by Samir Zaki and it deals with the neural bases of understanding art and beauty (JAMALPOUR; YAGHOUBI-DERAB, 2022b; REYBROUCK; BRATTICO, 2015). Neuro-aesthetics is now emerging as a new university discipline, which includes different areas of literature, music, painting and in general all areas that evoke intense emotions and often a pleasure. This field is one of the sub-branches of neurophilosophy, in which research has faced many problems due to the many theories proposed in it and the ambiguities of artistic experiences. One of the challenges of this field is to understand aesthetics in a way that is compatible with the basis of neuroscience.

The aesthetic experience exists in a singular, unique shape that permits varieties between visual, aural, and linguistic arts can be related to particular districts of the brain and identifiable neurological forms. The issue here in neurobiological terms is the extent to which brain capacities can be localized. Over the informative gap, in stylish terms the address is whether particular, univocal markers can be distinguished to delineate scholarly from nonliterary wonders or aesthetic from nonaesthetic encounters. The aesthetic experience is achieved through the association between art, technology, and terrorism.

Results and discussion

Biological perspective

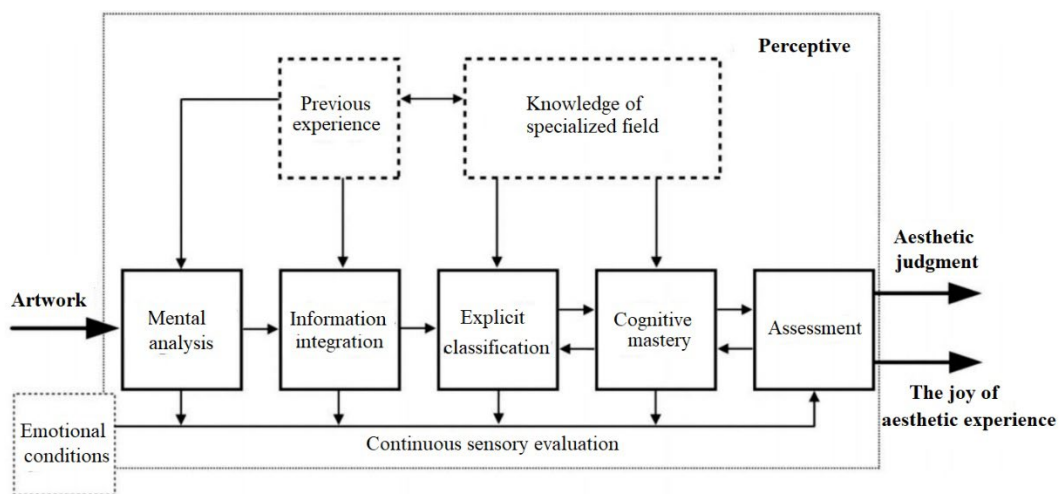
Since the Second World War, many efforts and researches have been made to find out the ways in which the human brain may work; and based on this, significant experimental data have been obtained that confirms this basic hypothesis that the human mind is constantly involved in processing the information received from the world. However, the debate that still remains without a precise answer is whether the human mind is sensitive to the qualitative aspect of information as it is sensitive to the quantitative aspect of information. In fact, what still needs to be pondered is the existence of a biological basis for the justification of qualitative evaluations in the human mind (LEDER; NADAL, 2014); In other words, the question that still hasn't received a precise answer is that to what extent the anatomy and physiology of the human brain are responsible for the specific type and breadth of experiences known as an aesthetic experience.

Perceptual perspective

In this point of view, more is focused on explaining the process of perception in humans and recognizing the experiential place of aesthetics in it, because the pursuit of beauty in the human mind begins with the explanation of the process of perception. By being in the environment continuously and using his senses, man receives signals from existing environmental stimuli, after these signals are transmitted in the form of code and through the nervous system to the brain, their rereading by man leads to the formation of a reaction and subsequently, behaviors appear from him.

The question raised here is that the aesthetic experience takes place at which stage of the above-mentioned process? This issue, which is an aesthetic experience, includes all the processes that deal with the interaction of our perception with a beautiful phenomenon, shown in Figure 1. Based on this, when we encounter the so-called beautiful phenomenon, the sensory information received from it by nerve channels transmitted to the brain. It checked their brains, after integrating and classifying this information, then compares them with the previous observations, if this information matches the concepts that has classified in the mind and in a meaningful category, they have been filed as “beauty criteria” to be consistent, the perceiver interprets and evaluates the mentioned phenomenon as a beautiful phenomenon, and subsequently, it is this evaluation that leads to judgment and aesthetic sense.

Figure 1: Schematic model of aesthetic experience



Source: Authors findings

Gestalt psychological perspective

Humans are complex creatures that have the ability to understand, interpret and react often and intelligently to the issues around us. But let's not forget that on the other hand, we are in an environment where it is not possible for us to understand all its complexities. Therefore, it is natural to make a choice from the set of information that we have obtained from a feeling stage; In other words, although in the feeling stage unconsciously and due to limitations in physiological capabilities on the one hand and attention and selection on the other hand, we have received only part of the information of the environment, but in order to be able to understand this raw information It is also necessary to use them and turn them into understandable information for ourselves.

In fact, at the end of the feeling stage, we are dealing with a lot of different information that has reached the brain from various sensory organs! But how do we organize and integrate this information? How do we separate and classify the ones we need from the mass of information? In the end, how do we turn this information into something meaningful for us? To make the topic clearer, we use an example; In the same way that we organize our messy work room after finishing a heavy project in the end, it is necessary to organize this received information in such a way that we can find it when we return to it (CLARK, 2013); Therefore, due to the fact that the process of perception in the human mind does not take place at once when faced with the signs and information sent from the senses, a person chooses a specific system of information in his mind in a process called “organizing information”.

Cultural Memory and Neuro-Critical Reading of Mao II

Don DeLillo, the writer of the novel *Mao II*, cannot wrap up his late-composed novel nor can he distribute it; in any case, the cause of such idleness stems from the reality that he has come to the understanding that no ways are remaining to affect individuals and their culture through composing. At one point within the novel, Don DeLillo expresses the taking afterward (SCANLAN, 1994):

The novel is used to feed our search for meaning. It was the great secular transcendence. The Latin mass of language, character, and occasional new truth. But our desperation has led us toward something larger and darker. So we turn to the news, which provides an unremitting mood of catastrophe. This is where we find the emotional

experience not available elsewhere. We don't need the novel. We don't even need catastrophes, necessarily. We only need the reports and predictions and warnings.

Don DeLillo includes an extraordinary viewpoint concerning literature and the meaning it manages to spread; that's to say, he accepts that when the masses get to the piece of writing and, in this case, his not distributed later novel, the meaning of the piece gets adjusted and changed and the meaning is not controllable by Don DeLillo himself. Don DeLillo has chosen to lead a life of isolation when he realizes that the masses and their culture will in the long run affect his composing, the fashion of composing, and indeed meaning generation.

At first sight, based on the existence of plurality in this postmodern context, the factors such as new contexts and values, and the changes in the reader's expectations of the old text, the postmodern *Mao II* defines itself in an unstable position with no definite central point. Although the new centers are not supposed to inject new ideologies, the story invents other centers such as the plurality of meanings and the contradiction between the binary oppositions of 'crowd/ privacy' to change the rules of the fixed traditional wordplays to invent new ones. That is the process automatically occurs when this postmodern world is considered natural and acceptable by the rules which poststructuralists are set to be apprehended and meaningful. However, this fact is ignored that meaning only exists throughout our world constructed by our own arbitrary and conventional mediums of communication which are words and signs. One should be aware of the fact that before the construction of conventional reality formed by language, there should be other pure worlds not limited by the strict rules of language. The meaning of the words, and each sign, also have a contradiction. That is the problem of meaning which opens our world toward others, the ones which differ and defer their access.

Conclusion

Neuro-aesthetic researchers and theorists consider the perception of beauty to have a biological basis. In their experiments and studies, by using experimental and scientific methods and surveying participants about visual perception and brain imaging, and using methods such as FMRI, MEG, EEG, MRI, they are trying to determine the physiological response to perception. Discover beauty in humans. This group of researchers often claims that the science of neuro-aesthetics has the ability to discover the origin of aesthetic

pleasure in the brain, as well as to answer the problem of artistic perception, creating art, and determining its criteria. The achievements and results of these experiments have had contradictions and shortcomings so far, which show that scientists have not yet reached a coherent theory. This research is trying to determine the scope of this science and to express the challenges that are on this claim. The result of this research, which was carried out by examining the results of neuro-aesthetic tests and criticisms and opinions of theorists, shows that artistic perception is not mere visual perception, but variables such as historical, cultural factors and conceptual understanding of the work are influential in artistic understanding. Considering what has been said, it can be concluded that the comprehensive definition of cognitive aesthetic experience should be obtained from all design goals, because "cognitive aesthetic pleasure" results from satisfying the set of these goals and not just an external manifestation. In this way, people get pleasure from a work whose structure, in the first place, provides the current patterns of behavior and the physiological comfort they need well; In the next place, the work will be aesthetically pleasing if it provides pleasant sensory experiences for people by using all the tools of form, function and meaning, has a pleasant perceptual structure and evokes pleasant symbols for them.

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