



Research Paper

Comparing the Faculty of Estimation in Islamic Philosophy with the Limbic System in Neuroscience

Zohre Salahshor Sefid Sangi^{*1} , Asma Moini Panah² 

¹ Assistant Professor, Theological Education Department, Farhangian University, Tehran, Iran

² Master of Chemical Engineering, Transition Phenomena, Ferdowsi University of Mashhad

***Corresponding Author:** Zohre Salahshor Sefid Sangi
Address: Farhangian University, Tehran, Iran

Email: z.salahshoor@cfu.ac.ir
Tel: 09154229454


[10.22080/jre.2024.26994.1198](https://doi.org/10.22080/jre.2024.26994.1198)

Received:
April 14, 2024
Accepted:
August 5, 2024
Available online:
December 1, 2024

Keywords:

The estimative faculty, Limbic system, Perception, Brain, Meanings

Abstract

The estimative faculty is one of the concepts that has been addressed as evidence of partial meanings in Islamic philosophy. This faculty is functionally comparable to the limbic system in neuroscience, although the limbic system is functionally distinct from the estimative faculty. The limbic system plays an important role in the neural mechanisms related to emotions and memory. In Islamic philosophy, the estimative faculty is also responsible for the perception of emotions such as fear and love. Therefore, although there is a different name for the perception of meanings in neuroscience and Islamic philosophy, its definition is common. Of course, the commonality is not limited to the definition, and the functions of the estimative faculty in philosophy are also confirmed by neuroscience. According to Islamic philosophy, especially the philosophy of Mulla Sadra, neuroscience data about the limbic system is acceptable, but Mulla Sadra specifies that perception occurs after these stages. Based on this question that is raised in this research, according to the findings of neuroscience, can I use the theories of Islamic philosophy regarding the perceptions of the estimative faculty. Therefore, in this article, an attempt is made to compare and examine the strength of Islamic philosophy's theories about the estimative faculty with the findings of neuroscience using a descriptive analytical method.

According to Islamic philosophers, the perception of minor meanings, such as a mother's love for her child, is shaped by the estimative faculty. The perception of these same meanings has also been discussed in neuroscience. According to neuroscience findings, the perception of these meanings occurs in the limbic system of the brain.

Therefore, due to the functional similarity between the estimative faculty in Islamic philosophy and the limbic system in neuroscience, this article attempts to examine the similarities and differences between the estimative faculty and the limbic system. Because the discussion of perception is common in philosophy and neuroscience, the findings of these two sciences can lead to a deepening of the discussion of perception in both fields.

Therefore, the question raised in this research is: Given the findings of neuroscience, can we still use the theories of Islamic philosophers regarding the function of the estimative faculty? Of course, since the estimative faculty perceptions are not limited to the material dimension, the question also arises as to whether the theories of Islamic philosophers, especially Mulla Sadra's theories, are still valid as evidence for

Extended Abstract

1. Introduction

Human cognition and consciousness, as a complex phenomenon, have always been the focus of the attention of thinkers and philosophers. If this knowledge and consciousness is in the form of sensory images, it is formed by the external senses that receive information from the surrounding world, and if it is in the form of intangible meanings, it is perceived by the estimative faculty.



the abstract nature of the estimative faculty perceptions, given the findings of neuroscience. Although Mulla Sadra denied the existential independence of the estimative faculty and considered the estimative faculty to be a level of intellect and referred to it as the home intellect. However, in Sadr's philosophical system, the truth and reality of the the estimative faculty as one of the psychic perceptions has never been denied, and only this power has a non-independent place and identity in this philosophical system, while the powers of sense, imagination, and reason have found an independent place and identity. Therefore, what is important in this article is the function of this power, and its independence or lack of independence has no bearing on this discussion.

Therefore, in this article, the natural foundations of the estimative faculty are examined from the perspective of Islamic philosophers and experimental scientists in order to measure the strength of Islamic philosophical theories on the estimative faculty with the findings of neuroscience.

2. Method

The research method in this study is analytical-comparative and the primary data was collected by the library method

3. Results

The the estimative faculty is one of the concepts that has been addressed as evidence of partial meanings in Islamic philosophy. This faculty is functionally comparable to the limbic system in neuroscience, although the limbic system is functionally distinct from the the estimative faculty. The limbic system plays an important role in the neural mechanisms related to emotions and memory. In Islamic philosophy, the estimative faculty is also responsible for the perception of emotions such as fear and love. Therefore, although there is a different name for the percep-

tion of meanings in neuroscience and Islamic philosophy, its definition is common. Of course, the commonality is not limited to the definition, and the functions of the estimative faculty in philosophy are also confirmed by neuroscience. In general, the estimative faculty perceptions can be divided into four categories: perception of partial meanings, perception of forms, making incorrect partial judgments, and disrupting the functioning of some of the soul's faculties. These perceptions are explained in neuroscience by the limbic system.

According to Islamic philosophy, especially the philosophy of Mulla Sadra, neuroscience data about the limbic system is acceptable, but Mulla Sadra specifies that perception occurs after these stages. Mulla Sadra's point is that perception is not limited to the material aspect of man. Mulla Sadra believes that the form perceived through the estimative faculty is not that which is found in cellular communication; rather, it is a form that is absent from this world and is ultimately created in the ecstasy of the soul. Therefore, Sadr al-Mutalahin believes that the truth of feeling and perception of the soul is an abstract form of matter, and that the brain and physical matters play a role in the perception of partial meanings as numerical causes. Also, the use of neuroscience-based disorders, such as brain injuries that lead to the loss of some perceptions, does not imply a material explanation for this sensation. These errors prove nothing more than that parts of the brain are involved in the perception process, but whether this part is the processing center or the information pathway is not determined by these errors. Because the effect does not occur in the absence of the cause, whether complete or incomplete. Therefore, brain damage does not prove the completeness of the brain in perception.



References

- Andrea E. Cavanna, Michael R. Trimble. (2006). The precuneus: a review of its functional anatomy and behavioural correlates, *Brain*, 129(3):564–583.
- Armony, J. L. (2013). Current Emotion Research in Behavioral Neuroscience: The Role(s) of the Amygdala. *Emotion Review*, 5(1), 104–115.
- Brodal, per, *The Central Nervous System*, 5th edition, USA: University Oxford press, 2016.
- Ibn Sina, (1404 AH), *al-Taliqat*, Beirut, Al-Alam al-Islami School.
- Ibn-Sina, (1375), *Al-Isharat wa al-Tanbihat*, first edition, Qom: Al-Balagheh Publishing House.
- Ibn-Sina, (1404 AH), *Al-Shifa* (Al-Tabiyayat), Qom: Ayatollah Al-Marashi School.
- Ibn-Sina, (2007), *Treatise on the Nature of the Soul*, Introduction and Research by Fuad Al-Ahwan, Paris: Dar Babylon.
- Joseph, R. (1990). The limbic system. Emotion, laterality, unconscious mind. In A. E. Puente and C. R. Reynolds (series editors). *Critical Issues in Neuropsychology*. Neuropsychology, Neuropsychiatry, Behavioral Neurology. Plenum, New York.
- Joseph, R. (1992). The limbic system: Emotion, laterality, and unconscious mind. *Psychoanalytic Review*, 79(3).
- Miller LA, Lai R, Munoz DG. (1998). Contributions of the entorhinal cortex, amygdala and hippocampus to human memory. *Neuropsychologia*. 36(11). 1247-56.
- Pazhuhande Najafabadi, Hossein, Kurd Firuzjaei, Yar Ali, Soleimani Amiri, Askari, (2017) “Investigating the ontological and epistemological dimensions of the the estimative faculty from the perspective of Avicenna and Mulla Sadra”, *Islamic Wisdom*, Year 4, Issue 1, pp. 9-30.
- Pickave, Martin, Shapiro, Lisa, (2012), *Emotion and Cognitive Life in Medieval and Early Modern Philosophy*, Oxford University Press.
- Sadr al-Mutalahin, (1354), *Al-Mabda and Al-Maad*, Tehran: Iranian Hikmat and Philosophy Association.
- Sadr al-Mutalahin, (1360), *al-Shawahid al-Rabubiyah in al-Manahij al-Attawiyah*, correction and commentary by Seyyed Jalal al-Din Ashtiani, second edition, Mashhad, Al-Jama'i publishing house.
- Sadr al-Mutalahin, (1981 AD), *Al-Hikama al-Mutaaliyyah in al-Asfar al-Aqliyyah al-Araba*, Beirut: Dar Ahya al-Tarath.
- Sadr al-Mutalahin, (1984), *Mafatih al-Ghayb*, first edition, Tehran, Cultural Research Institute.
- Salari, Yaser, Nejati, Mohammad, (1400), "Analysis and Study of the Existential and Functional Independence of the estimative faculty ", *Mind*, No. 87, pp. 163-184.
- Shahrzouri, Shams al-Din, (1993), *Commentary on the Wisdom of the Illumination*, first edition, Tehran, Institute of Cultural Studies and Research.
- Suhrawardi, Shahabuddin, (1996), *Collection of Works of Sheikh Ishraq*, second edition, Tehran, Institute of Cultural Studies and Research.
- Trimble, M. R. (1993). Neuropsychiatry or behavioural neurology. *Neuropsychiatry*,



Neuropsychology, & Behavioral Neurology, 6(1), 60–64.

Tusi, Khwaja Nasir al-Din, (1375), *Sharh al-Isharat wa al-Tanbihat with al-Muhamakamat*, Qom: Nashr al-Balagh.

Tusi, Khwajah Nasiruddin, Hali, (1371), *Al-Jawhar al-Nazid*, edited by Mohsen Bi-

darfar, fifth edition, Qom: Bidar Publications.

Tyng, C. M., Amin, H. U., Saad, M. N. M., & Malik, A. S. (2017). The influences of emotion on learning and memory. *Frontiers in Psychology*, 8:1454.