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Abduction: An Argumentative Process or an Instinctive Mechanism?

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Abstract

There are various theories regarding the logical structure of abduction. Peirce, the logician who introduced this type of reasoning, placed it alongside deductive and inductive reasoning. However, the logical form and inferential process involved in abduction remain unclear, leading to questions about whether abduction is truly an argumentative process. In this article, we aim to support this perspective by demonstrating that Peirce's writings implicitly suggest that abduction is instinctive, and if abduction is indeed instinctive, it cannot be considered an argument. Additionally, drawing on the views of earlier thinkers such as Avicenna, we argue that abduction may be related to the faculty of estimation, which is common to both humans and other animals. This perspective helps explain why animals can transcend mere sensory data and engage in something akin to forming natural or causal hypotheses. Furthermore, findings from contemporary experimental psychology indicate that the human mind employs multiple systems for decision-making and judgment, not all of which are argumentative. For instance, Daniel Kahneman identifies two decision-making systems in humans: the first is non-argumentative and evolutionary, while the second is logical. Based on examples of abduction, it can be considered a process belonging to System 1 of the mind, which operates quickly and non-argumentatively.

Keywords: Abduction, Argumentative Process, Instinct, Estimation Faculty, System 1 and System 2 of the Mind.

Introduction

The central question of this article is whether abduction constitutes a form of reasoning or if it is driven by instinct. If abduction is indeed a product of instinct, its origins should be traced back to evolutionary processes, reflecting adaptations developed over millions of years of living beings. Conversely, if abduction involves argumentation, then reasoning would be an integral component of the process. In this article, we will explore the conditions under which abduction may not be regarded as an argumentative process.

Research Findings

Researchers exploring the nature of abduction face a crucial dilemma: is abduction a result of an argumentative process or a product of instinctive, non-argumentative insight? In an argumentative process, a set of propositions is involved, with one serving as the conclusion derived from reasoning and the others functioning as premises intended to establish the truth and certainty of the conclusion. In contrast, an instinctive or non-rational process does not follow such a structured approach. Some scholars propose at least three ways to justify the existence of abductive instinct in animals, enabling them to transcend sensory

information and grasp general laws of nature: (1) reasoning based on the adaptive nature of animals in their environment; (2) reasoning based on the principle of Synechism; and (3) reasoning based on the laws of nature and divine wisdom. In the peripatetic tradition, which builds on Aristotle's ideas, the faculties of the soul were categorized into several levels: sense, imagination, estimation (wahm), and reason. The concept of estimation (wahm) is particularly significant as it pertains to the stage where specific meanings, not yet universal, are understood. Furthermore, estimation (wahm) is a cognitive power shared between humans and other animals. This interpretation of cognitive abilities is not confined to the Eastern-Islamic tradition but is also reflected in medieval and Western philosophy, as noted by Deborah Black in her reference to the "Avicennian paradigm." Examples of estimation (wahm) include a sheep's instinctive fear of a wolf and a child's recognition of its mother's affection. Consequently, it appears that abduction may be associated with the function of estimation (wahm) rather than wisdom. In psychology, there is evidence supporting the non-argumentative nature of abduction. Psychologists suggest that decision-making and judgment involve two distinct systems in the mind. System 1, which is evolutionary and non-argumentative, operates quickly and intuitively, while System 2 is logical, deliberate, and involves multiple steps. If abduction is part of System 1, it operates outside the realm of logical reasoning, making efforts to formulate its logical structure potentially futile.

Conclusion

This article aims to question the argumentative nature of abduction. If abduction is driven by instinct or evolutionary mechanisms, or if it is guided by a non-rational cognitive faculty, then its formulation would differ fundamentally from that of deductive or inductive arguments. The difficulty in demonstrating the logical structure of abduction arises because, particularly in its moderate form, abduction involves more than just reasoning and the rational aspects of the mind. Thus, the process of abduction may not align with traditional notions of logical argumentation.

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