Since Nothing Can’t Exist, Something Does

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May 26th, 2024

Abstract

In this paper, I explore the ontological assertion that the concept of “nothing” is inherently contradictory and that the existence of “something” is a necessary condition. By formalizing this assertion through set theory and logical quantifiers, I aim to provide a rigorous mathematical framework that supports the thesis.

1 Introduction

The nature of existence has been a fundamental question in philosophy and science. The traditional notions of “nothingness” have been challenged by various metaphysical arguments. I propose a mathematical formalization of the idea that “nothing” cannot exist, thereby necessitating the existence of “something.” This work aims to provide a foundational theory that aligns with the assertion.

2 Mathematical Formalization

2.1 Definitions and Axioms

Definition 1: Empty Set (\(\emptyset\))
In set theory, the empty set is defined as the set containing no elements.

\[\emptyset = \{x \mid x \neq x\}\]

Definition 2: Existence (\(\exists\))
The existential quantifier \(\exists\) denotes the existence of at least one element in a given set.

Axiom 1: Non-Existence of Nothingness
I assert that the concept of "nothing" (absolute non-existence) is contradictory. Mathematically, I express this as the non-existence of a set that represents "nothing."

\[
\neg\exists S \text{ such that } S = \emptyset
\]
2.2 Theorem: Necessity of Existence

Given the axiom that "nothing" (absolute non-existence) cannot exist, I infer the necessity of existence.

\[ \exists x \in U \text{ for some universal set } U \]

Proof:
Assume for contradiction that nothing exists, which implies the existence of an empty set \( \emptyset \) representing "nothing." However, by Axiom 1, such a set does not exist. Therefore, the assumption leads to a contradiction, which proves that there must exist at least one element in the universal set \( U \).

2.3 Corollary: Universality of Existence

From the necessity of existence, it follows that the universal set \( U \) is non-empty. This aligns with the philosophical assertion that "something" must exist.

\[ U \neq \emptyset \]

3 Discussion

The formalization presented provides a rigorous foundation for the philosophical argument that "nothing" cannot exist and therefore "something" must exist. By utilizing set theory and logical quantification, I establish a clear mathematical framework supporting this thesis. This foundational understanding has significant implications for various fields, including metaphysics, ontology, and cosmology.

4 Conclusion

I have mathematically formalized the assertion that "nothing" cannot exist, leading to the necessity of the existence of "something." This work bridges philosophical thought with mathematical rigor, providing a novel perspective on the nature of existence.

References