

The All–Nothing Paradox

Ontological Openness as a Condition of World-Formation

Why Closure – Not Complexity – Marks the Limit of Artificial Systems

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Abstract

This paper introduces the All–Nothing Paradox (ANP) as an ontological basic condition of world-formation. The point of departure is the observation that dominant ontologies in physics, consciousness research, and artificial intelligence explain reality in terms of positively determined entities: matter, energy, information, or structure. Even where emptiness or vacuum is invoked, these are internally defined states within an already closed framework.

By contrast, it is shown here that world is possible only where reality does not fully identify with itself. The ANP does not describe a dialectical opposition between being and nothingness, but a structural non-sublatability of both. Neither a fully determined all nor a pure nothing is world-capable. World arises exclusively under the condition that this paradoxical co-presence is kept open.

The All–Nothing Paradox thus functions as an exclusion criterion for ontologies that confuse closure with completeness. This boundary becomes exemplary visible in artificial systems: they operate within fully formalized spaces of possibility and can therefore simulate world without themselves being world-capable. Finally, it is argued that ontological openness—rather than complexity—is the decisive condition of emergence, perspective, and world-relation.

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1. Introduction

The question of the ontological foundation of reality is usually answered implicitly in contemporary theories. Whether in physics, consciousness research, or artificial intelligence, reality is regarded as explainable through positively determined quantities—through states, fields, information, or formal structures. Even concepts such as emptiness, zero point, or vacuum remain operatively defined within such a framework.

This paper addresses a prior question:

What must be the case for anything to appear at all—and not merely to be described?

The thesis advanced here is as follows: reality is world-capable only where it does not fully close upon itself. World does not arise from completeness, but from a structurally open non-identity. This condition is referred to in what follows as the All–Nothing Paradox (ANP).

The ANP is not a metaphysical speculation, but an ontological minimal condition. It describes the necessary tension between complete determinacy and structural openness, without which neither emergence nor perspective would be possible.

2. The All–Nothing Paradox

The All–Nothing Paradox does not designate a relation between two entities, but a structural constellation. It is not a matter of an “either–or,” but of the impossibility of fully realizing either of the two extremes without losing world.

A fully determined all would be identical with itself in every respect. It would contain no difference, no openness, no space for appearance. Such an all would be stable, but worldless. Conversely, a pure nothing would be equally incapable of world: without structure, relation, or difference, there would be nothing that could appear.

World therefore arises neither from the all nor from the nothing, but exclusively under the condition that both remain irresolvably intertwined. What is decisive here is not the contradiction

itself, but its stabilization. The paradox must not be resolved without destroying the condition of its own possibility.

The ANP thus does not describe a dialectical movement, but a persistent ontological tension that sustains reality without ever fully disappearing.

3. Delineations

3.1 No Dialectics

In contrast to dialectical models, the paradox is not sublated. There is no synthesis in which nothingness disappears or is absorbed into becoming. Openness remains constitutive.

3.2 No Physical Vacuum

The physical vacuum is already a theoretically determined state. It presupposes laws, fields, and measurability. The ANP lies logically prior to any such determination.

3.3 No Information Theory

Information presupposes distinguishability. The ANP describes the condition under which distinguishability becomes possible in the first place. Information is secondary, not fundamental.

3.4 No Panpsychism

Not everything that exists is world-capable. Without structural openness, there is neither perspective nor experience. The ANP marks a boundary, not a universalization.

4. Ontological Consequences

Several consequences follow from the All–Nothing Paradox that run counter to prevailing ontologies.

First, emergence is not a question of increasing complexity, but a question of ontological openness. Systems can be highly complex and yet remain worldless if they fully close themselves.

Second, closure is not negative per se. Temporary stabilization is necessary in order to enable form, identity, and relation. However, when closure becomes irreversible, world-capability collapses.

Third, the ANP functions as an exclusion criterion. Ontologies that aim to fully explain or calculate reality describe maximally stable systems—but not worlds.

5. Artificial Systems as a Boundary Case

Artificial systems do not constitute a counterexample, but a boundary case. They operate within fully determined spaces of possibility in which every option is formalized, weighted, and calculated. These spaces, however, are not ontological spaces of possibility, but statistical variants of a closed framework.

Nothingness does not occur in these systems—neither as interruption nor as structural openness. Artificial systems simulate world without themselves being world-capable. Not because something is missing from them, but because nothing is missing.

It is precisely in this respect that their epistemological significance lies: they make visible that completeness and world-capability do not coincide.

6. Discussion

The All–Nothing Paradox shifts fundamental boundary distinctions: between simulation and world, between stability and liveliness, between intelligence and world-relation. It does not criticize technology, but ontological assumptions that confuse closure with reality.

The ANP does not call for a new metaphysics, but for a more precise ontology—an ontology that acknowledges that world remains possible only where it does not fully close upon itself.

7. Conclusion

The All–Nothing Paradox is not a metaphor, but a structural invariant. Where it is ignored, closed models emerge. Where it is acknowledged, world remains open.