

Toward a Post-Darwinian Evolutionary Paradigm:

Reframing Natural Selection as Natural Self-Selection

Abstract: The term "natural selection," as coined by Charles Darwin, has long served as a cornerstone of evolutionary biology. However, its metaphorical structure and dualist origins have rendered it conceptually misleading in light of contemporary understandings in systems theory, quantum observation, and post-theistic philosophy. This paper critiques the philosophical and linguistic limitations of "natural selection" and introduces the alternative concept of "natural self-selection." By reframing selection as an emergent, self-regulating, and systemically driven process, this paradigm shifts the focus from abstract external forces to localized adaptive agency. The aim is to realign evolutionary theory with a more accurate, ethically coherent, and ontologically consistent framework for the 21st century.

1. Introduction: The Language of Science Shapes Its Concepts:

Scientific progress relies not only on empirical data but also on the conceptual frameworks and linguistic tools we use to interpret reality. Terms become embedded in disciplinary thought, shaping how phenomena are perceived and theorized. "Natural selection," a term introduced in the 19th century, is one such conceptual anchor. Despite its widespread utility, the term has obscured as much as it has clarified. We argue that it is time to retire this term and replace it with one that better reflects contemporary understanding: natural self-selection.

2. The Theological Residue in "Natural Selection"?: Darwin, writing from within a Christian cultural framework, inadvertently embedded dualist assumptions in his theory. The term "selection" presupposes a selector. While Darwin analogized nature to a breeder in artificial selection, this metaphor tacitly invokes a transcendent agency. Even in secular interpretations, "nature" functions as an abstract, external umbrella—a vague omnipresence that filters life. This framing echoes theistic structures: a god-like force adjudicating survival.

Such dualism, while culturally comprehensible in Darwin's time, is epistemologically untenable today. Nature is not a separate realm imposing decisions upon passive organisms. The selection process occurs within the systemic interaction of self-regulating entities and their environments. It is not imposed; it is emergent.

3. Quantum Observation and the Collapse of External Agency: Modern physics has radically altered our understanding of observation, causality, and agency. In quantum mechanics, outcomes are not determined until interaction occurs. The

observer is part of the system. This undermines the notion of an external, deterministic selector. Instead, it supports a model of distributed, relational becoming.

Similarly, biological evolution is not governed by an external force selecting outcomes. Rather, it unfolds through continuous interactions between organism and environment, where adaptation is not a passive reaction but an active process of modulation, entanglement, and self-regulation.

4. *Systems Theory and the Rise of Autopoiesis:* The development of systems theory, particularly in the work of Maturana and Varela on autopoiesis, provides a framework for understanding life as a self-creating and self-maintaining system. In this view, organisms are not objects acted upon by external forces but dynamic systems engaged in continuous self-production. Adaptation, therefore, is not externally selected but internally generated through feedback, coherence, and structural coupling.

The term "natural self-selection" aligns with this systems view. It emphasizes the internal dynamics of adaptive emergence rather than the illusion of external filtration.

5. *Natural Self-Selection Defined:* Natural self-selection refers to the process by which self-organizing systems (cells, organisms, populations) continuously modulate their own viability through interaction with their environments. It acknowledges that the locus of adaptation is the system itself. Survival is not awarded by nature; it is enacted by the organism through systemic coherence.

This process is:

- **Non-dualist:** It does not invoke an external agent.
- **Emergent:** It arises from within the system-environment nexus.
- **Ethically coherent:** It restores agency to living systems.
- **Conceptually precise:** It avoids metaphor and anthropocentrism.

6. *Implications for Evolutionary Theory:* Reframing evolution as natural self-selection has far-reaching implications:

- **Educational:** Students can learn biology without absorbing metaphysical distortions.

- **Theoretical:** Models of evolution become more consistent with contemporary physics and systems science.
- **Ethical:** Humans, as natural quanta, are not victims of nature but participants in a process of self-regulation and adaptive becoming.

7. Conclusion: Discarding the Umbrella: The persistence of the term "natural selection" reflects not its accuracy but its historical comfort. As science progresses, so too must its language. The umbrella of abstract selection must be replaced with the grounded, emergent reality of natural self-selection. In doing so, we move toward a science that is not only more accurate but more aligned with the participatory, systemic, and ethical nature of life itself.