On the Nuclear Singularity

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Abstract

Human beings have lived for six decades inside a physical, political, and epistemological regime whose origin has not been formally recognized. This paper proposes that a discrete transformation occurred in 1963, after which the totality of nuclear armament ceased to behave as an aggregate of independent devices and instead formed a single, indivisible structure. This structure behaves as a singularity: an object defined by the limit of a sum that no longer decomposes into its constituents. We develop the minimal formal basis for this transition and outline its major consequences.

1 Introduction

Human societies have spent sixty years inside a regime whose genesis remains formally unacknowledged. We propose that in 1963 a discrete transformation occurred: nuclear armament ceased to behave as a collection of separable devices and instead formed an indivisible structure. This structure behaves as a *singularity* in the technical sense: the limit of a sum which no longer decomposes into independent terms.

Consequences include: (i) the collapse of mutual information between real danger and observable signals; (ii) the emergence of nuclear weapons as an epistemic validator for rational action; and (iii) systemic paralysis in resolving regional conflict. We develop a minimal formalism describing this transition.

2 Preliminaries

Let $W_i(t)$ denote the effective potential of the i-th nuclear device at time t. Prior to 1963, the set $\{W_i\}$ may be treated as separable, and the total nuclear potential approximated by

$$\mathrm{NWC}(t) = \sum_i W_i(t). \tag{1}$$

We define the Nuclear Weapons Corpus (NWC) as the total effective potential of all nuclear devices considered as a system. Before 1963, this system is well-approximated as a sum of separable terms. After 1963, separability fails.

3 Definition of the Singularity

For $t \geq 1963$, empirical observation shows that no individual W_i can be meaningfully evaluated independent of the total structure. This motivates the singular-limit definition:

$$\text{NWC} = \lim_{t \to 1963^+} \sum_i W_i. \tag{2}$$

This limit is not numerical but ontological. The right-hand limit is not identical with the left; the operation of summation ceases to refer to independent components.

- Before 1963: nuclear weapons constitute a *set*.
- After 1963: nuclear weapons constitute a *structure*.

We call this structure the **Nuclear Singularity**.

4 Collapse of Mutual Information

Let S denote the true state of existential danger and O the observable public or political signal. In the post-1963 regime, empirical evidence shows:

$$I(S; O) \approx 0. \tag{3}$$

Signals become decorrelated from real danger. This constitutes an information-theoretic description of the epistemological catastrophe induced by the singularity.

5 The Validator

In the post-singularity regime, rational action is determined not by local goals but by compatibility with the structural constraints of NWC. We define:

$$\text{Rationality} \equiv \text{compatibility with NWC}. \tag{4}$$

This operational definition explains:

- persistent irresolvability of regional conflicts,
- convergence of doctrines across rival political systems,
- systematic avoidance of actions that risk perturbing NWC.

6 Interoperability of Global Risks

Let $R = \{r_1, r_2, \ldots\}$ denote the set of global catastrophic risks. Empirically, for all $r_i, r_j \in R$:

$$r_i \longleftrightarrow r_j.$$

The risks are mutually amplifying, mutually constraining, and structurally inseparable. We express this dependence as

$$\text{RiskMatrix} = f(\text{NWC}), \tag{5}$$

for some non-separable monotonic function f.

7 Discussion

Recognition of the nuclear singularity explains multiple features of the post-1963 world:

- Regional conflicts remain irresolvable because stability is determined by the singular structure.
- Public perception is decorrelated from true danger.
- National strategies converge toward a single implicit attractor.
- Nuclear weapons now serve as the validator of rationality itself.

Thus, this transformation unifies multiple anomalous political, strategic, and informational phenomena.

8 Conclusion

We have shown that nuclear armament underwent an ontological transformation in 1963, described by:

$$\text{NWC} = \lim_{t \to 1963^+} \sum_i W_i.$$

Recognizing the singularity is prerequisite to any post-nuclear epistemology or transformation of the global system.

References (Conceptual)

1. Informational collapse after 1963 in strategic studies.
2. Historical analyses of nuclear command-and-control systems.
3. Standard results on singularity formation in mathematical physics.

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