The Nuclear Singularity: A Scientific One-Page Explainer (Revised)

1. What the Nuclear Singularity Proposes

In the history of nuclear weapons, 1963 marks a phase transition: nuclear weapons stop functioning as separable national arsenals and instead form one global, interdependent system. This system is called the Nuclear Weapons Corpus (NWC).

2. Variables and Definitions

W■, W■, …, W■ — individual nuclear weapons.

N(t) — total number of nuclear weapons at time t.

C(t) — degree of coupling among nuclear weapons at time t.

I(S;O) — mutual information between S (strategic intention) and O (operational outcome).

3. The Singularity Definition

NWC = lim(t→1963■) Σ W■

After 1963, all nuclear weapons behave as a single entity.

4. Why 1963?

Cuban Missile Crisis reveals unpredictability.

Fail-deadly automation links arsenals.

Command-and-control systems interlock globally.

Deterrence becomes a system property.

5. Collapse of Predictability

Before: I(S;O) > 0 — strategy influences outcome.

After: I(S;O) ≈ 0 — outcomes become structurally autonomous.

6. The Validator

Rationality = compatibility with the properties of the Nuclear Weapons Corpus.

7. Cross-Coupling With All Global Risks

RiskMatrix = f(NWC, R1, R2, …)

All catastrophic risks become nonlinear and interdependent.

8. Core Conclusion

Weapons become one weapon.

Strategy loses predictive power.

Risks become coupled.

All nuclear policy becomes system dynamics, not geopolitics.