

Eight Century-Old Paradoxes, and the One Mechanism That Dissolves All Eight

Paradox	Standard reading (4D)	6D-bulk resolution	Theorem
Wheeler delayed choice	Retrocausal wave-vs-particle choice	Bulk worldline fixed; late 4D choice selects projection only	T-A8.4
Scully quantum eraser	Apparent causality violation	Bulk phase preserved; post-selection recovers 4D shadow	T-A8.5, T-A8.7
Misra–Sudarshan Zeno	Measurement freezes evolution	Frequent Lüders projections dominate boundary record	T-A8.4
Weak measurement	Out-of-spectrum weak values	4D shadow of bulk-worldline expectation under post-selection	T-A8.3, T-A8.4
Kochen–Specker	4D-non-contextual hidden variables impossible	Bulk holonomy Θ_H is 4D-contextual, 6D-non-contextual	T-A8.6, T-A8.9
Quantum teleportation	State transported without being measured	Shared S_θ^1 phase carries state; classical bits align Pauli	T-A8.7, T-A8.9, T-A8.11
Wigner’s friend / FR	Friend observes; Wigner re-superposes	Projection completes at friend’s apparatus; Wigner is redundant	T-A8.2, T-A8.4, T-A8.5
Dense coding / QKD	2 bits via 1 qubit; eavesdrop detectable	Bulk holonomy carries 2nd bit; Tsirelson check catches Eve	T-A8.7, T-A8.8, T-A8.11

Eight paradoxes, one resolution mechanism: each is a 4D-classical question of a 6D-quantum substrate whose projection to the boundary is non-invertible. The bulk evolves unitarily; the projection completes at any sufficiently macroscopic 4D detector; the paradoxes are dissolved structurally.

What it buys, and why it is one page and not eight. Eight paradoxes of the last hundred years, each with the standard 4D reading that makes it a paradox, the 6D-bulk resolution, and the theorem that licenses that resolution. The claim of the table is the uniformity of the middle column: every one of the eight dissolves under the same mechanism, which is that the apparent contradiction is the structural signature of asking a classical question of a substrate whose projection to the boundary is non-invertible. A reading that dissolved them one at a time, by a different device each time, would be worth much less. Once this is digested the productive question is no longer which interpretation is correct, but what new operational signatures the bulk reading predicts that the 4D-only readings cannot — which is the facing page. In full: Figure 16, p. 193.