

Abstract Submitted
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Haunted Quantum Entanglement: Two Scenarios DOUGLAS SNYDER — Two haunted quantum entanglement scenarios are proposed that are very close to the haunted measurement scenario in that: 1) the entity that is developing as a which-way marker is effectively restored to its state prior to its being fixed as a w-w marker, and 2) the entity for which the developing w-w marker provides information is restored to its state before it interacted with the entity which subsequent to the interaction begins developing as a w-w marker. In the hqe scenarios, the loss of developing w-w information through 1 relies on the loss of a developing entanglement. In scenario 1, the photon initially emitted in one of two micromaser cavities and developing into a w-w marker is effectively lost through the injection of classical microwave radiation into both of the microwave cavities after the atom initially emits the photon into one of the micromaser cavities, exits the cavity system, and before this atom reaches the 2 slit screen. The atom is restored in both of the two new scenarios to its original state before it emitted a photon by an rf coil situated at the exit of the micromaser cavity system. In scenario 2, the cavity system and everything from the atom source forward to the cavity system is enclosed in an evacuated box. After the atom that emits the photon exits the cavity system and before it reaches the 2 slit screen, the cavity system opens (and the photon escapes in the evacuated box) and then the box is opened and the photon escapes into the environment.

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