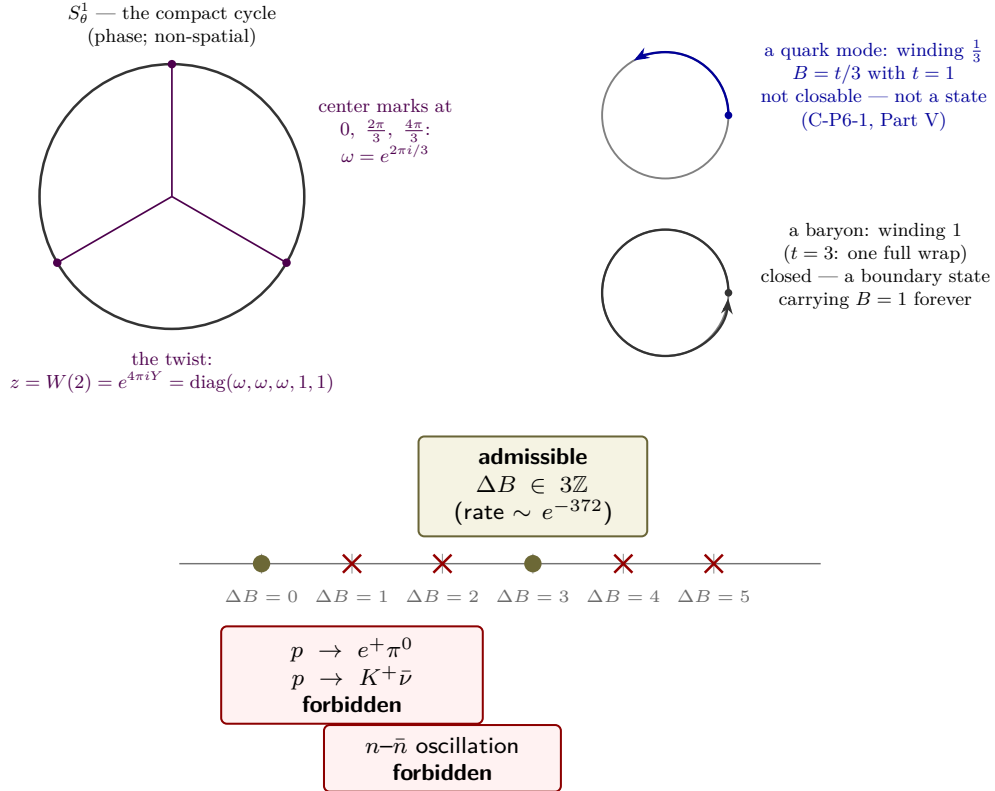


The Door That Forbids One Proton's Death — Is the Door That Permitted All Protons' Births



Every canonical proton-decay mode has $\Delta B = 1$; neutron–antineutron oscillation has $\Delta B = 2$; neither integer is a multiple of three, so both are forbidden outright rather than merely suppressed. The thermal reprocessing of Part X lives at $\Delta B \in 3\mathbb{Z}$ and is unaffected. **A single event in either forbidden class falsifies the framework** — and Hyper-Kamiokande will improve the bound on the first class by about an order of magnitude.

Why the proton is still here, and why there is anything for it to be here with. Above: the lock. The sixth dimension is a compact, non-spatial circle, and the unique quantized twist it admits is $z = \text{diag}(\omega, \omega, \omega, 1, 1)$, the center element of color. Under it a lepton travels a whole lap and closes; a single quark travels a third of a lap and cannot close; only three quarks together come back to where they started. That is what baryon number is in this framework — not a bookkeeping label that happens to be conserved, but a winding number, an integer, and nothing continuous acts on the integers. Below: what the lock decides. Baryon number can change only in multiples of three, so proton decay ($\Delta B = 1$) and neutron–antineutron oscillation ($\Delta B = 2$) are not suppressed but forbidden, while the topological vertex at $\Delta B = 3$ stays open at enormous cost — and that surviving door is the one the early universe used. The eighty-year silence in the mines and the existence of the matter doing the listening are one sentence read twice. In full: Figure 16, p. 107, and Figure 18, p. 111.