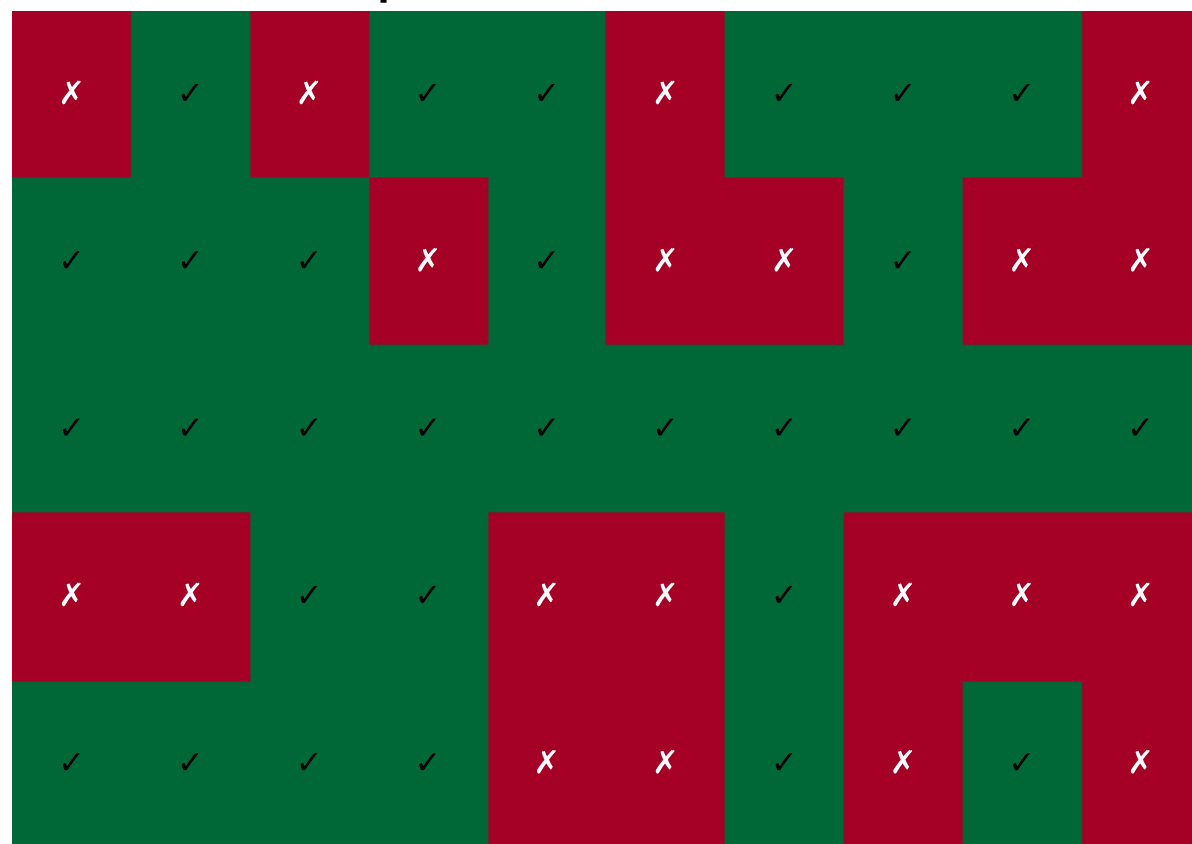
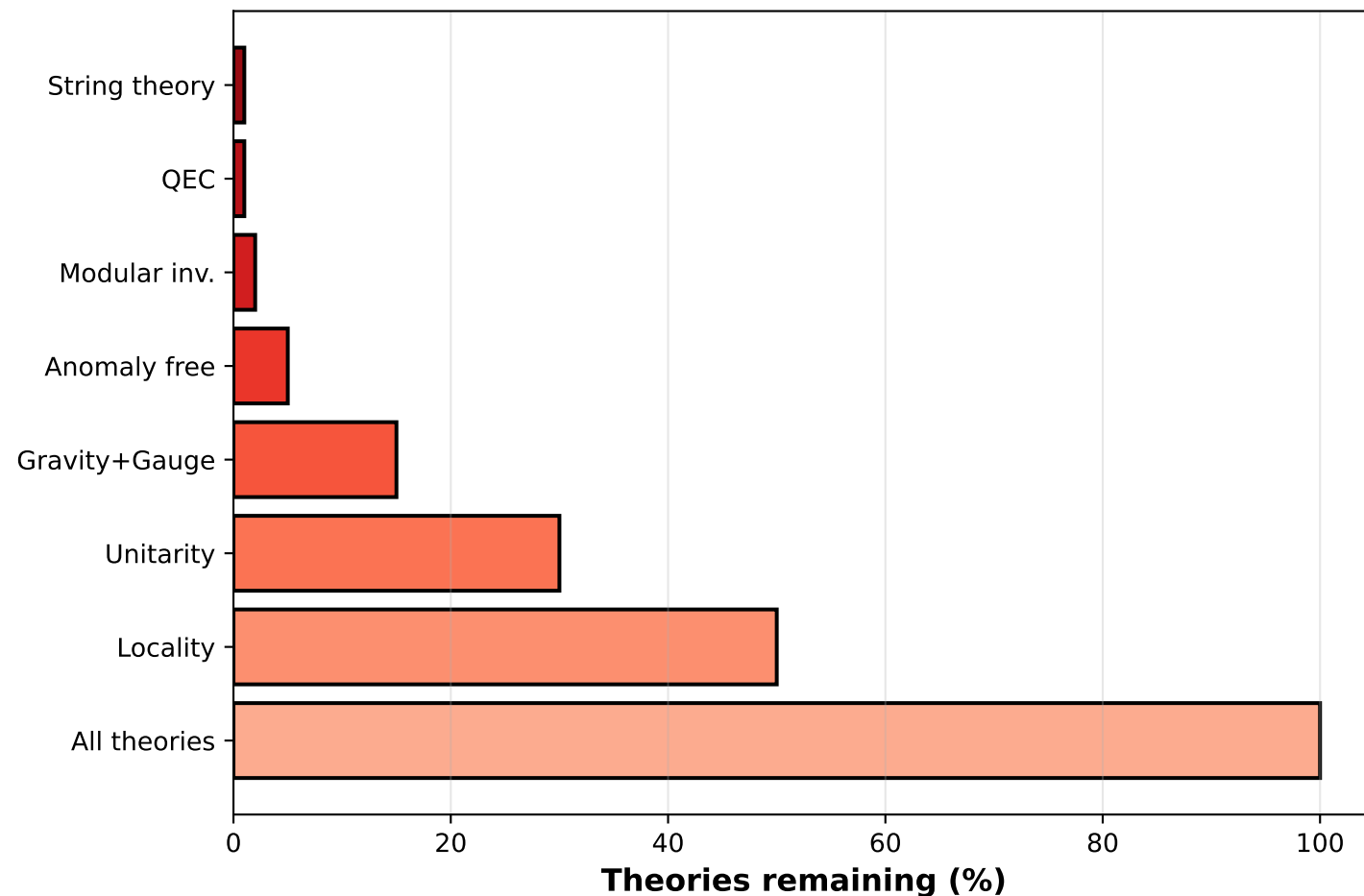


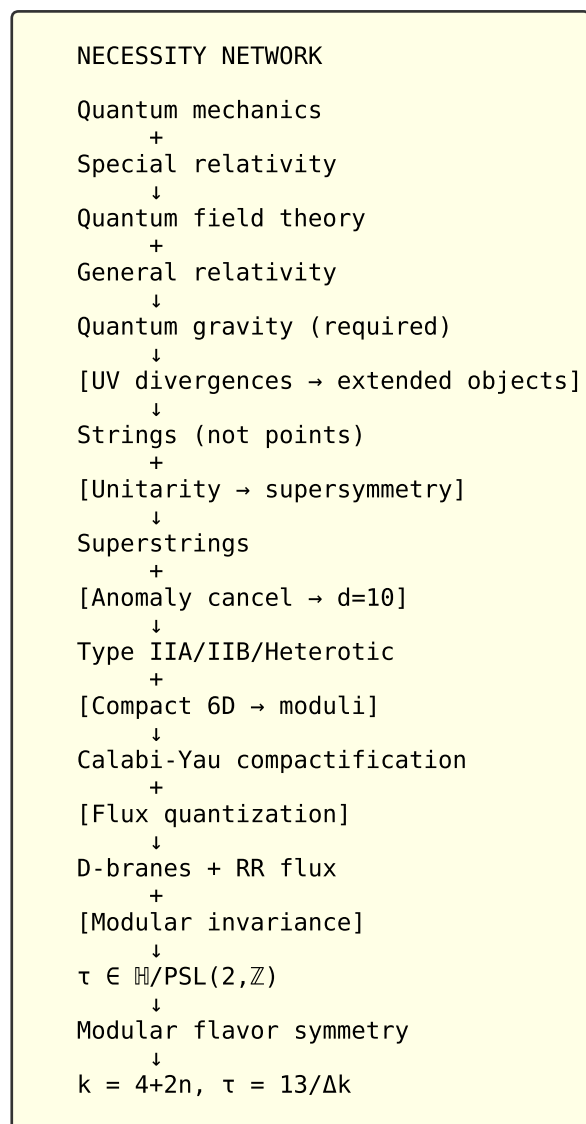
A: Requirement Satisfaction Matrix



B: The Elimination Funnel



C: From QM+GR to Flavor



UNIQUENESS THEOREM

CLAIM:

String theory is the unique consistent quantum theory of gravity with:

- Locality
- Unitarity
- Gauge forces + gravity
- Anomaly cancellation
- Modular structure
- Error correction (holography)

PROOF:

All alternatives fail ≥ 1 requirement (see matrix Panel A)

CONSEQUENCE:

Flavor geometry is NOT phenomenology. It is REQUIRED by quantum consistency.

$k = 4+2n$: flux quantization (required)
 $\tau = 13/\Delta k$: modular parameter (required)
 A_4 symmetry: from $\text{PSL}(2, \mathbb{Z})$ (required)

Zero phenomenological input.
Pure mathematical necessity.