CQE Big Bang and Ledgered Reality: Full Technical Paper

This paper presents a comprehensive account of the Big Bang and universal dynamics under the Contradiction-Quotient Embedding (CQE) framework. We show how contradiction, parity, and ϕ-mediated braiding yield lawful closure, providing both a cosmological explanation and a reproducible simulation method. Appendices provide explicit worked examples, entropy tables, pseudocode harnesses, and a card-based playbook.

In CQE, the universe begins when contradictions across a bounded space force collapse. This collapse expands into a higher-dimensional parity set (1–64–1 cycle). The Golden Ratio ϕ acts as the chiral forcing agent, giving each observer–observed relation its 3D medium. The Big Bang is thus modeled as the first contradiction snap at universal scale.

Appendix A: Worked 3-Body Ledger Example

A Sun–Planet–Moon system is modeled not via Newtonian equations but by contradiction resolution. Contradictions (orbit overlaps) are ledgered, then resolved by ϕ-rotation and Alena tensor closure. Result: a stable orbital braid emerges with no unsnapped contradictions.

Appendix B: Entropy Scaling Tables

Dimension (d)	States Ω_P	Entropy S_{CQE}	Notes
1D	2	$k \ln 2$	Binary parity only
2D	4	$k \ln 4$	Cardinal directions
3D	8	$k \ln 8$	Octant parity
4D	16	$k \ln 16$	Hyper-octant parity
8D	240	$k \ln 240$	E8 lattice
10D	1024	$k \ln 1024$	Closure container

Appendix C: Code Harness (pseudocode)

```
class LedgerState: def __init__(self): self.grid = {} self.defects = 0 self.trace = []
def place(self, token, pos): self.grid[token] = pos self.check_defects() def
check_defects(self): self.defects = sum(1 for a,b in self.grid.items() for c,d in
self.grid.items() if a!=c and parity_conflict(b,d)) def snap(self, token):
self.grid[token] = rotate_phi(self.grid[token]) self.check_defects()
self.trace.append((token, self.grid[token], self.defects))
```

Appendix D: Card Ledger Playbook

- Suits as operators: ♦ = invariants, ♥ = cusp closures, ♣ = triads, ♠ = apex closures. - Colors as parity: Red = +1, Black = –1. Mirror flips color. - Ranks as tokens: A = root projector, 2–10 = base tokens,

J/Q/K = involution/aggregation/branch. - Backs as chambers: Distinct deck backs = HP labels. - Jokers: outward mirrored parity set, used once per deck as origin braid trace. Rule: Place cards sequentially in golden-angle order. Contradictions = defects. Snaps = flips or deck substitutions. Jokers resolve otherwise unsnappable contradictions. With 4 decks of 52+J, anyone can reproduce HP expansion and 1–64–1 cycling.