

How the Systems Were Mapped to the Tesseract

A structural walkthrough of the Thirty-Two Winds cartography — what is forced by geometry, what is an empirical observation, and what is an interpretive construction.

0. Before anything is “mapped”: the forced skeleton

Nothing in this project is placed on a blank canvas. Everything is hung on a figure whose structure is fixed by mathematics before any symbol is assigned. Keeping that distinction visible is the whole discipline of the project, so it is worth stating the forced facts first.

A tesseract (4-cube) has, by deductive necessity:

- **16 vertices** — every 4-bit string from `0000` to `1111`.
- **32 edges** — an edge joins two vertices that differ in exactly one bit, so the count is $E_4 = 4 \cdot 2^3 = 32$. This “32” is not chosen; it falls out of the dimension count.
- **24 square faces, 8 cubic cells.**
- A **center** at $[\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}]$ that is radially equidistant (exactly one edge-length) from all 16 vertices — Buckminster Fuller’s “vector equilibrium.” It is **not** an edge, vertex, face, or cell. It is a categorically different object: the **N+1 position**, the 33rd thing that is not one more of the 32.

The vertices stack into layers by **Hamming weight** (how many 1-bits): `1 – 4 – 6 – 4 – 1`. The six weight-2 vertices form the “equator,” and their mutual distance-2 relations trace an **octahedron** — the cross-sectional shadow of the tesseract. (Those octahedral links are distance-2 relations, not tesseract edges; they are a secondary, derived structure.)

Everything below is an attempt to lay a symbolic system over some part of this fixed skeleton — the 4 axes, the 32 edges, the 16 vertices, or the 1 center — and to ask whether the systems, once laid down, agree with each other.

Throughout, the project uses a three-tier **Ledger** (borrowed from the accompanying essay *The Witness at the Center*) to label every claim:

Tier	Meaning	Example
Forced	Mathematical necessity, true a priori	"A tesseract has 32 edges."
Observed	Empirical/structural, convention-dependent	"The Standard Model has ~32 free parameters."
Interpretive	Cultural/symbolic construction, a choice	"The Hero rides this edge."

The interesting claim of the project is not that any one symbol belongs on any one edge. It is that **the same forced skeleton keeps accepting independent systems, and those systems keep agreeing at the joints.**

1. The four axes → the four “parallel classes” of edges

The first mapping is the cleanest, because the target structure is forced.

The 32 edges fall into **4 groups of 8** with zero ambiguity: an edge is defined by which single bit flips along it, so bit-1 edges, bit-2 edges, bit-3 edges, and bit-4 edges partition the 32 edges into four “parallel classes” of 8. (**Forced.**)

The project then names those four classes (**Interpretive**), and the names are chosen to reproduce a fourfold that recurs across the author’s larger work (the “Reality Atlas” of three Minds and a Bridge):

Axis (bit)	Name	Faculty	“Mind”	Colour
Axis 1	A Posteriori	Evidence / outward action (Persona)	World Mind	red
Axis 2	A Priori	Form / intelligibility (Anima-Animus)	Universal Mind	blue
Axis 3	A Spiritus	Spirit / felt meaning (Shadow)	Soul Mind	violet
Axis 4	A Viviori	Continuity / lived duration	Bridge Path	green

The fourth axis is deliberately the one Jung “had no term for” — lived temporal duration — and it is given the role of the integrator among the three classical faculties. This matters later: the essay argues this fourth axis is precisely what a formal system (or an AI) cannot occupy from the inside.

So: **the fourfold division is forced; the labels are interpretive**, and they were chosen to line up with a philosophical scheme the author uses everywhere else.

2. The archetypes → the 32 edges

Each of the **32 archetype cards** is assigned to exactly one edge. Because the axes already carve the edges into four bundles of eight, each axis carries **eight archetypes**:

- **A Posteriori (World / evidence):** Hero, Warrior, Guardian, Rescuer, Adventurer, Judge, Rebel, Ruler.
- **A Priori (Universal / form):** Visionary, Sage, Creator, Monastic, Magician, Seducer, Seeker, Sacred Marriage.
- **A Spiritus (Soul / spirit):** Fire-Bringer, Mystic, Lover, Orphan, Trickster, Destroyer, Jester, Renewer.
- **A Viviori (Bridge / duration):** Child, Sacrifice, Caregiver, Mentor, Victim, Healer, Elder, Samsara.

The assignment of a specific card to a specific edge is **interpretive**, and the project says so plainly. The ledger flags **three debatable placements** — The Monastic, The Sacrifice, and The Renewer — and notes **three “alchemical imports”** whose positions are chosen for geometric elegance rather than forced by the psychology:

- The Fire-Bringer is placed incident to the origin vertex `0000`.
- The Renewer and The Samsara are placed incident to the all-ones vertex `1111`.
- Fire-Bringer and Renewer sit on **complementary (antipodal) endpoints** — the first act of theft-of-fire and the last act of renewal mirror each other across the whole figure.

Within each axis, the eight archetypes are paired into four **polarity pairs**. The project is careful to call these pairs a reading aid, not a claim that the geometry forces opposition. **(Interpretive.)**

The important structural fact: **the archetype is the identity of the edge**. Every other symbolic system that lives “on the edges” — the I Ching, the Kabbalah paths, the physics constants — is joined to the archetypes by sharing the same edge. The archetype name is literally the join key in the data. That is why cross-system correspondence is even possible: the systems are not independently indexed, they are all indexed through the edges the archetypes already name.

3. The hexagrams → the 32 edges, read in both directions

This is the most elegant mapping in the project, and it answers the user’s question directly: **yes, the hexagrams correspond to the archetypes — they ride the same edges — but they use a degree of freedom the archetypes do not.**

Here is the forced structure. An I Ching hexagram is **6 bits** (six broken/solid lines), so there are $2^6 = 64$ hexagrams. Now look at the edges: there are **32 undirected edges**, but each edge can be **traversed in two directions** ($0 \rightarrow 1$ or $1 \rightarrow 0$). That gives $32 \times 2 = 64$ **directed edges**. (**Forced.**)

64 directed edges = 64 hexagrams. The counts match exactly, and not by luck — both are 2^6 in disguise.

The mapping then assigns to each edge a **King Wen pair**:

- **Forward traversal** ($0 \rightarrow 1$) → the **odd** hexagram (1, 3, 5, ... 63).
- **Reverse traversal** ($1 \rightarrow 0$) → its **even** successor (2, 4, ... 64).

This reproduces the **traditional King Wen pairing** of the Book of Changes, in which hexagrams come in couples (1&2, 3&4, ...). And the type of each couple, recorded in the data's `pairType` field, matches the classical relationship between the two hexagrams:

- **“inversion”** — the second hexagram is the first turned upside-down (a 6-bit reversal). Most pairs are like this.
- **“complement”** — the second is the line-for-line opposite (every line flipped). This is exactly the case for the **8 self-inverse hexagrams** that look the same upside down and therefore must pair by complement instead.
- **“dual”** — both relationships hold at once.

Worked examples from the data:

- The Creator edge carries `100010 / 010001` — a bit-reversal pair → **inversion**.
- The Sacred Marriage edge carries `111111 / 000000` — Hexagram 1 (The Creative) and Hexagram 2 (The Receptive), the pure yang / pure yin poles → **complement**.

The specific King Wen number assigned to a specific archetype edge is **interpretive**; the 64-hexagram/6-bit structure and its directional doubling are **forced**. To keep the interpretive layer honest, each edge also stores a **fit** rating — **Strong / Good / Soft** — grading how well the archetype's meaning matches its hexagram pair, plus a `note` giving the rationale. The project is telling you, edge by edge, how confident it is in the correspondence.

So how do archetypes and hexagrams correspond? The archetype names the edge (its undirected identity); the hexagram pair names the edge's two motions (its directed identities). An archetype is a place; a hexagram is a passage through that place. The 32 becomes 64 exactly when you let time (direction) into the picture — which is a small, quiet echo of the fourth axis, duration.

4. The vertices → MBTI types

The 16 vertices get the 16 **MBTI types**, via a 4-bit convention (called convention “G12” — explicitly “one of 384 possible conventions,” i.e. openly interpretive):

Bit	0	1
bit 1	Introvert	Extravert
bit 2	iNtuition	Sensing
bit 3	Feeling	Thinking
bit 4	Perceiving	Judging

Once the convention is fixed, a **forced harmony** appears for free: the tesseract’s **antipode** operation (flip all four bits) becomes “invert all four MBTI dichotomies.” So the vertex opposite **ENFP** (1000) is **ISTJ** (0111) — the exact type-theoretic opposite. Every diagonal of the tesseract is an MBTI mirror-pair:

Vertex	Type	Antipode vertex	Antipode type
1000	ENFP	0111	ISTJ
1010	ENTP	0101	ISFJ
1100	ESFP	0011	INTJ
1111	ESTJ	0000	INFP

(...and so on for all 8 diagonals.)

The choice of convention is interpretive; the antipodal symmetry it unlocks is forced by the geometry. This is a recurring pattern in the project: **an interpretive labeling is judged good precisely when it makes a forced symmetry mean something.**

Crucially, each vertex record also lists its **four incident edges** — one per axis — and on each of those edges it names both the **archetype card** and the **King Wen hexagram pair**. So a vertex is not an isolated point: it is the **crossing of four archetype-edges, each bearing a hexagram**. A “type” (a person) sits where four mythic-and-oracular currents intersect, one from each of the four faculties. That is the single densest cross-system junction in the whole model.

5. The philosophical vertices → the same 16 vertices

The philosophical scheme (the “Quadrature of Quaternities,” drawn from the author’s Keystone material) is laid onto the **same 16 vertices** — and here is the key point the user asked about: **it is keyed to the vertices through the MBTI type**. The philosophical categories are not independently placed and then discovered to agree with MBTI; they are locked to MBTI vertices by construction. They line up 1:1 because they are built on the same index.

The 16 philosophical categories, with their domain groups:

Vertex (MBTI)	Philosophical category	Domain group
ENFP	A Priori	A — Manifestation
ESFP	A Viviori	A — Manifestation (core)
ESTP	A Posteriori	A — Manifestation
ISFP	A Spiritus	A — Manifestation
ENTP	Teleology	B — Metaphysics
INFP	Cosmology	B — Metaphysics
INTP	Metaphysics	B — Metaphysics (core)
ISTP	Ontology	B — Metaphysics
ENTJ	Qualitative	C — Epistemology
INFJ	Quantitative	C — Epistemology
INTJ	Epistemology	C — Epistemology (core)
ISTJ	Mathematical	C — Epistemology
ENFJ	Dynamics	D — Phenomenology
ESFJ	Phenomenology	D — Phenomenology (core)
ESTJ	Stages	D — Phenomenology
ISFJ	States	D — Phenomenology

The four domain groups (A, B, C, D) map to four philosophical frames:

Manifestation, Metaphysics, Epistemology, Phenomenology. And notice the shape: three of these are “outer” domains, each a quaternity of four categories with one **core** vertex, and the fourth domain (**Manifestation / A Viviori**) is the integrating domain — again a **3 + 1** grammar. The scheme even ties this to **Hamilton’s quaternions** (one scalar + three vectors, $i^2 = j^2 = k^2 = ijk = -1$): three differentiated parts held by a fourth of a different kind.

Do the philosophical vertices line up with the MBTI vertices? They line up perfectly — but the honest reason is that they were pinned to the MBTI vertices, not independently discovered there. The genuinely interesting claim is the shape they were pinned into: a **3 + 1 quaternity-of-quaternities** that echoes the tesseract’s own “three cubes + one integrator” and its “three faculties + one bridge.”

6. The Tree of Life ↔ the physics constants (the cosmology lens)

This is the “how were the Tree-of-Life items correlated with the physics parameters?” question. The answer is: **they are not correlated with each other directly — they are each correlated with the same edge, and therefore with each other by transitivity.**

The cosmology lens pairs **each of the 32 edges** with:

- **one Kabbalah path/sephira** (numbered 1–32 — the “32 Paths of Wisdom” of the Sefer Yetzirah, drawn with a warm amber Hebrew glyph), and
- **one physics parameter** (numbered 1–32, drawn with a cool cyan Elder Futhark rune).

The join key is, once again, the **archetype name** — the edge’s identity. So a given edge simultaneously carries an archetype, a hexagram pair, a Hebrew path, and a physics constant. The Kabbalah↔physics “correlation” is really: **both were hung on the same archetype-edge**. The project is explicit that this is an interpretive layering, not a claim that a particular sephira is a particular constant.

Why 32 physics parameters? This tracks **Tegmark’s count of the free parameters of the Standard Model plus cosmology** — roughly 32 dimensionless numbers that the theory does not predict and must be measured. (**Observed, not forced — the exact count depends on how you bookkeep the parameters.**) The accompanying essay even groups the 32 onto the tesseract’s own sub-structure:

- **inner cube — 12 edges → the fermions** (Yukawa couplings: electron/muon/tau, the six quarks, three neutrinos);
- **connecting struts — 8 edges → the mixing** (CKM angles, the CP-violating phase, neutrino mixing);
- **outer cube — 12 edges → the macro-structure** (force coupling constants, Higgs coefficients, dark-energy density, spectral index and its running).

$12 + 8 + 12 = 32$. The 12/8/12 split of a tesseract’s edges into inner-cube / struts / outer-cube **is forced**; the assignment of specific physics parameters to those groups is **interpretive/observed**.

And the capstone: **both** the Kabbalah set and the physics set have a **33rd card**, and both put it at the **center**, not on an edge:

- Kabbalah’s 33rd = **Da’at**, the “hidden,” non-sephira (glyph $\emptyset$);
- Physics’ 33rd = **“The +1 · Consciousness”** (rune X).

Both traditions independently reserve a 33rd position of a different logical type — a “knowledge that is not a sephira,” a “parameter that is not a parameter” — and both land it on the tesseract’s center. **That coincidence of 32-plus-a-different-33rd across two utterly unrelated traditions is the single most-cited resonance in the project.** The essay is careful to call it a striking resonance, not a cosmic law.

7. Second-order harmonies

The user's deepest question: **are there harmonies between the systems and the geometry, or between the systems themselves, beyond the first-order mappings?** Yes — and they cluster into three families.

7a. The N+1 (3+1 / 32+1) grammar repeats fractally

The same shape — a differentiated multiplicity plus one integrating element of a different logical type — recurs at every level, in every system:

System	The “many”	The “+1” of a different type
Tesseract geometry	32 edges	1 center (equilibrium point)
I Ching	64 = 32×2 directed edges / King Wen pairs	the reading itself (the mover)
Standard Model (Tegmark)	32 free parameters	consciousness / the measurer
Kabbalah	32 Paths of Wisdom	Da’at (the hidden 33rd)
MBTI	16 types (vertices)	the Self at the center
Philosophy (quads)	3 outer domains × quaternities	Manifestation / A Viviori (integrator)
Faculties	3 Minds (a-priori/a-posteriori/a-spiritus)	the Bridge (a-viviori)
Hamilton	3 vector units i, j, k	1 scalar
Axes	3 classical faculties	the 4th, duration

This is not eight coincidences; it is **one grammar seen eight times**. The project's central intellectual move is to notice that “32 differentiated things + 1 integrator of another kind” is the forced structure of the tesseract, and then to observe how many inherited symbol-systems already have that shape. The forced part is the geometry; the interpretive part is claiming the resemblance is meaningful; the honest label (per the essay's own inventory) is **“striking resonance, not derivation.”**

7b. Antipodal symmetry is preserved across systems

The tesseract's “flip all four bits” operation is a single forced symmetry, and every system laid on the vertices/edges respects it:

- **MBTI:** antipode = all four dichotomies inverted (ENFP ↔ ISTJ).
- **Archetypes:** the alchemical imports are placed so that Fire-Bringer (at 0000) and Renewer (at 1111) sit on complementary endpoints — first-fire and last-renewal are antipodes.

- **I Ching:** the 8 self-inverse hexagrams pair by **complement** (all six lines flipped) precisely where inversion would be a no-op — the oracle’s own bookkeeping agrees with the geometry’s, using bit-complement exactly when bit-reversal fails.

One geometric operation, three independent systems, same behaviour. That is a second-order harmony between systems, mediated by the geometry.

7c. Direction / duration ties the layers together

The jump from **32** → **64** (archetypes → hexagrams) happens by adding direction to each edge. The jump from a static type to a lived life happens by adding duration — the fourth axis, A Viviori. And the “+1” center is repeatedly characterized (in fiction, in physics, in Kabbalah) as the position that **cannot be reduced to one more item of the 32** — the witness, the measurer, the reader, Da’at, consciousness. The recurring moral is structural, not mystical: **a system rich enough to describe itself always needs one position of a different logical type that the system cannot contain** (the essay reaches for Gödel/Tarski analogically here). The tesseract forces such a position into existence — the center — and every symbolic overlay ends up using it the same way.

8. Summary: what is forced, what is chosen, and why it hangs together

- **Forced by mathematics:** 16 vertices, 32 edges, 4 parallel classes of 8, the 12/8/12 inner-strut-outer split, $64 = 32 \times 2$ directed edges, the antipodal symmetry, and the center as an $N+1$ object of a different logical type.
- **Observed / structural:** the Standard Model’s ~32 free parameters; the Sefer Yetzirah’s 32 Paths; the King Wen pairing rule of the I Ching. These were found already having the right cardinality.
- **Interpretive (openly labeled):** which archetype rides which edge; which King Wen number, which sephira, which physics constant, which MBTI convention, which philosophical category. Each interpretive layer carries its own honesty markers — the three debatable archetypes, the **fit** grades on the hexagrams, “one of 384 conventions” on MBTI, and the essay’s explicit Ledger inventory of “what can be proven and what must be lived.”

The reason it all coheres is not that any single assignment is inevitable. It is that **every system is indexed through the same forced skeleton** — the archetypes name the edges, and the hexagrams, Hebrew paths, and physics constants all join through the archetype-named edges, while MBTI and the philosophical quaternities join through the shared vertices. Because the skeleton carries real symmetries (parallel classes, antipodes, the 32/64 doubling, the $N+1$ center), any system faithfully laid on it inherits those symmetries — and then the systems appear to “agree” because they are all speaking the grammar of the same figure.

The project’s own last word is the right one to end on: the deepest claim is **not** that 33 is a magic number, but that any map rich enough to honor consciousness eventually meets a position it cannot put on the map — the witness at the center. The geometry is the compass; the living of it is the lyre.