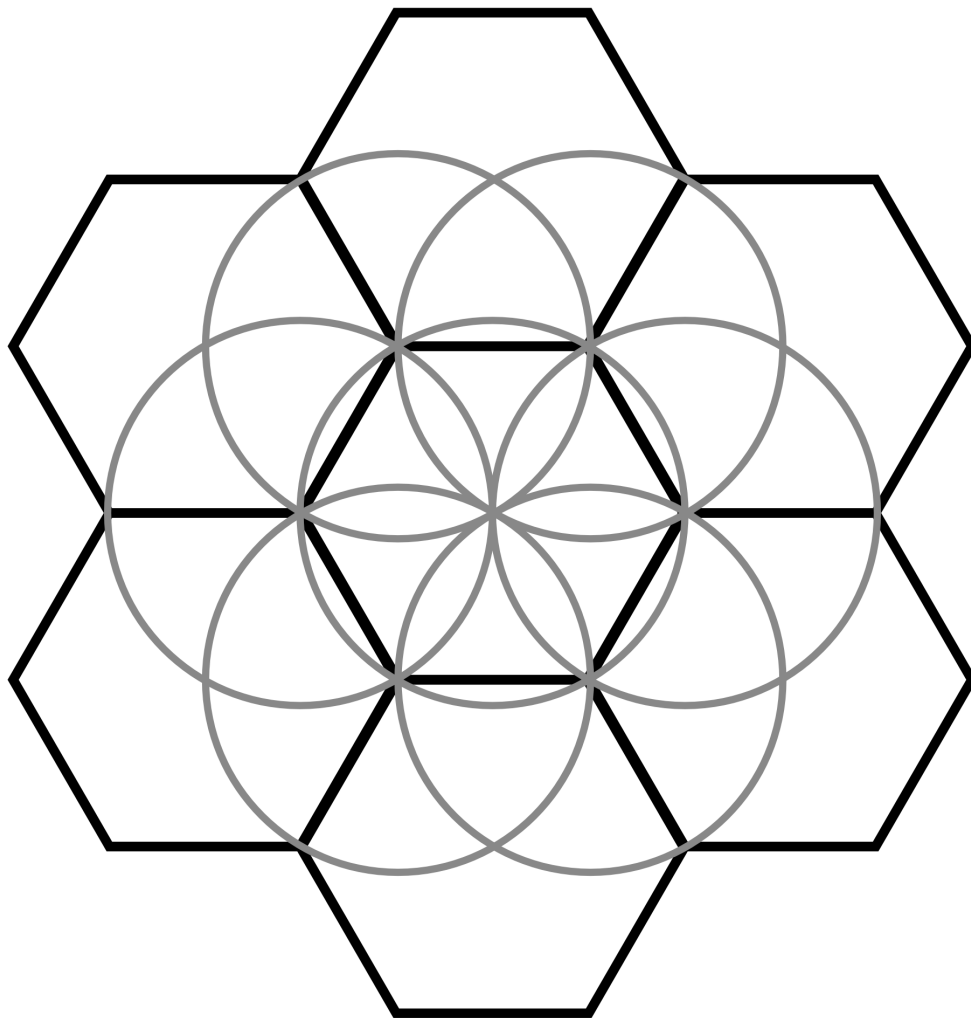# Hex Theory — a short primer

> *"Behind it all is surely an idea so simple, so beautiful, so compelling that when—in a decade, a century, or a millennium—we grasp it, we will all say to each other,* **how could it have been otherwise? How could we have been so stupid for so long?***"*

— John Archibald Wheeler

What it is

A simple way to look at complex things: each "thing" (a system) acts like a **hub with six possible interfaces**; one interface usually connects "up" to a larger system, leaving **five** for "outward" connections. This **1-up + 5-out** motif repeats across scales (like a **seed-of-life** / hex pattern), so you can map whole worlds by walking the same rule.

The core pattern: 5 · 6 · 7

- **6 (interfaces):** Think of a node with up to six "ports." In 2D you can picture it as a **hex**, in 3D as a **cube** (six faces).
- **5 (children):** In a hierarchy, one port is "used" by the **parent** connection, leaving **five** outward ports for child subsystems.
- **7 (the cluster): 1 center + 6 neighbors** gives a seven-piece cluster—the familiar **seed of life** image (one circle surrounded by six).

This is a **lens**, not a law: it gives you a consistent way to slice and understand systems.

Three familiar examples

We pick a **center**, identify **1 up** (the supersystem), and then name **~5 outward** sub-regions or roles. You can recurse inside any child and repeat.

1. **Hand**
   - **Center: Palm** (it directly connects to everything the hand does).
   - **1 up:** Wrist/arm.
   - **~5 out: Five digits** (thumb + four fingers).
   - **Why it fits:** The palm truly is the hub; the wrist is the bridge "up."
2. **Face**
   - **Center: Mid-face / expressive mask** (the zone coordinating eyes/nose/mouth movement).
   - **1 up:** Head/brain/neck (the supersystem).
   - **~5 out (one reasonable grouping):**
     1. Left eye/cheek region

2. Right eye/cheek region

3. Auditory/temporal region (ears, temple)

4. Nasal/olfactory axis (nose/sinuses)

5. Oral/jaw region (mouth, tongue, jaw)

- **Tip:** If you choose a different but consistent grouping, you still get a hub with ~5 main interfaces.

3. **Whole body**

- **Center: Torso** (circulation, core organs, support).

- **1 up: Self/brain** as the supervising supersystem (control/identity).

- **~5 out:** Head + Left Arm + Right Arm + Left Leg + Right Leg.

- **Note:** If you group by internal organ systems instead of limbs, the 1-up/5-out still works at a nearby level (e.g., reproductive system appears as a child at the torso level or as a distinct "port" in a 1+6 view).

#ideas/phaneron