# Mass

In our model, mass isn't a substance you "put into" things—it's the measure of how deeply a structure is locked into its recursive frame. In other words, mass is the degree of "recursive lock-in" that emerges when the infinite gradient of probability ($X_0$) is flattened into the first parametric axis ($X_1$).

**How It Works:**

1. **From Potential to Structure:**
   - You start with $X_0$, the infinite probability gradient spanning from $-\infty$ (infinitely improbable) to $+\infty$ (infinitely probable).
   - When a duality is "named" or observed, the structure becomes differentiated, and the infinite gradient is locally "flattened" into a new axis—$X_1$.
2. **Recursive Locking:**
   - The value along $X_1$ tells you how strongly the system's infinite potential has been stabilized into a fixed structure.
   - A larger absolute value on $X_1$ means that the structure is more deeply locked into its recursive state; this is what we call "mass."
   - A high mass (a deep recursive lock) means the structure is less prone to change (more inert) and tends to curve its surrounding space more.
3. **Matter–Antimatter Duality:**
   - Because $X_1$ ranges from $-\infty$ to $+\infty$, the positive side ($X_1 > 0$) corresponds to matter and the negative side ($X_1 < 0$) to antimatter. They are mirror images—recursively inverted states—of the same underlying structure.
4. **Gravitational Implications:**
   - The greater the mass (the deeper the recursion lock), the more that region's geometry is curved. This curvature isn't a force acting through space, but rather a manifestation of the recursive structure itself.
   - In our model, what we call gravity is just the effect of these deep recursive locks curving the geometry of the frame.

**In Summary:**

- **Mass** is the measure of how "locked-in" a structure is within its recursive frame.
- It comes from the flattening of the infinite gradient ($X_0$) into the first parametric axis ($X_1$).
- A higher mass means a structure is more rigidly stabilized (has greater inertia) and thus curves space more, which is why massive objects create stronger gravitational effects.

- Matter and antimatter arise naturally because $X_1$ spans both positive and negative values—reflecting mirror-image recursion locks.

This way, mass isn't something you add; it's simply the outcome of how the recursion "resolves" (or, more precisely, never fully resolves) the duality inherent in the void.