

## **The Hierarchy Problem as Natural Consequence**

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The hierarchy problem asks why gravity is approximately  $10^{36}$  times weaker than electromagnetism. It is one of the deepest unsolved questions in physics, and the field's dominant response has been to solve it by adding structure — extra spatial dimensions, supersymmetric partner particles, new fields, new symmetries. The assumption underlying every one of these approaches is that gravity's weakness is a deficiency to be corrected by discovering additional physics. The weakness is treated as the thing that needs explaining. What if the weakness is not the thing that needs explaining. What if it is the explanation.

Consider the possibility that gravity is not a weakened version of something stronger. Consider that gravity is the minimum coupling — what a medium produces in response to mere presence, before any additional structure contributes a stronger layer. Under this framing, gravity is weak because it is the baseline. It is what the interaction looks like when nothing beyond presence itself is involved.

Electromagnetism is not the norm from which gravity deviates.

Electromagnetism is the addition. It is what the coupling looks like once charge resolution, directional structure, and orientation-specific interaction are layered on top of the baseline. The hierarchy between them is not a problem to be solved. It is the natural consequence of a layered coupling structure in which one layer is the floor and the other is built on top of it.

I am not a physicist. This question is being asked from outside the discipline's vocabulary, which is precisely what makes it available. The structural question — is the framing of the problem the obstacle to solving it? — is not a physics question. It is a framing question.

Physics has spent decades asking what additional structure would make gravity stronger. The question asked here is whether gravity's weakness requires no additional structure at all, because it is what the interaction produces at its minimum, before structure is added.

This is a conceptual reframe, not a mathematical proof. It produces a specific quantitative requirement: the observed hierarchy ratio must follow from the two-layer coupling structure when expressed formally. That calculation has not been performed. Until it exists, this is a

structural proposal, not a physical claim. The reframe does not replace the need for formal development. It reorients what the formal development is looking for — not new particles or dimensions that explain why gravity is weak, but a mathematical expression of why the minimum coupling is what it is.

The hierarchy problem may not be a problem. It may be a description of the minimum coupling, misread as a deficiency because the discipline expected the answer to come from adding structure rather than recognizing what was already there.