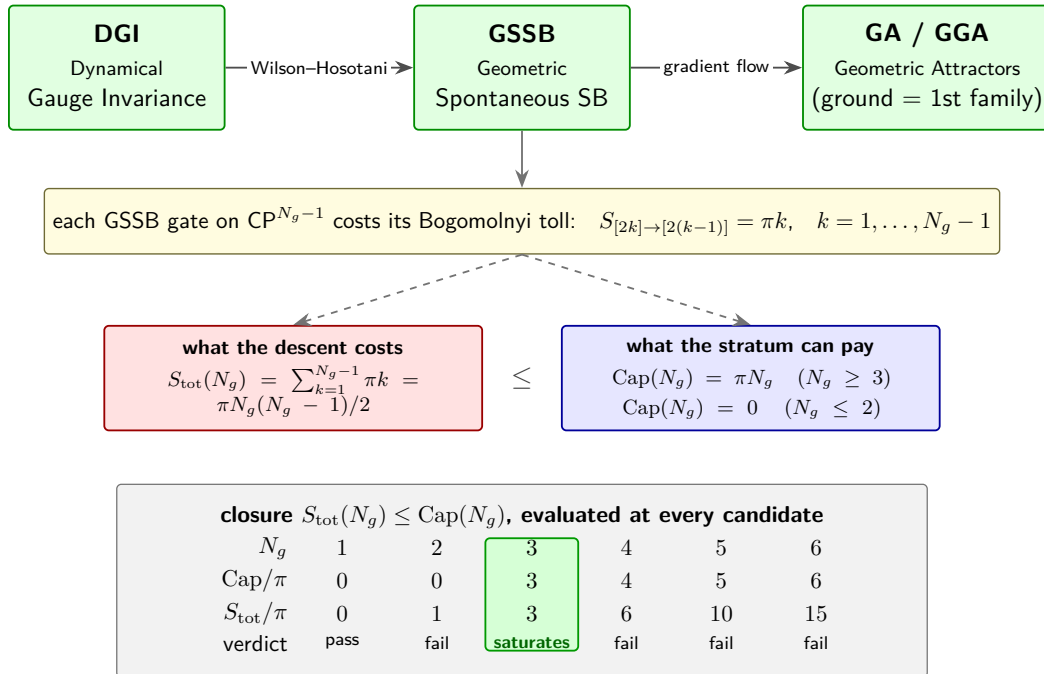


Three Families Spend the Budget Exactly; A Fourth Could Not Pay for Its Own Road

Why not two, and why not four. Descending the family ladder costs the triangle number of gate tolls; the family stratum has exactly π of relaxation capacity per family to pay them with, and none at all below three families, where the four-dimensional homology generator does not exist. Those two lines are the whole upper bound. Evaluated at every candidate count they cross exactly once: $N_g = 2$ fails for want of a four-cycle to pay its single decay step, $N_g = 3$ pays its way to the penny, and from four the cost has outrun the capacity and the gap widens at every step thereafter. The capacity theorem stands at the Born rule's own grade of conditionality, and the paper declares that before a reader asks. In full: Figure 4, p. 36.



$N_g = 2$ fails because $H_4(\mathbb{CP}^1) = 0$ leaves the single decay step with no payer; every $N_g \geq 4$ fails the budget. $N_g = 1$ passes here with nothing on either side and is excluded by leg (L1). Exact saturation: $S_{\text{tot}}(3) = \text{Cap}(3) = 3\pi$.