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## The Road Not Taken: more dimension-4's before EFT

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The LHC has not discovered any New Physics beyond the anticipated  $h(125)$  boson, pushing the SUSY scale to multi-TeV, and new ideas abound for out-of-the-box searches, or Effective Field Theory with high cutoff scale. But, have we exhausted dimension-4 operators involving sub-TeV particles that are not exotic (non-XLP)? We advocate the existence of an extra Higgs doublet that possesses extra Yukawa couplings, where emergent mass-mixing hierarchies and alignment have well-hidden their effects so far.  $\mathcal{O}(1)$  extra Higgs quartics can induce first order electroweak phase transition and imply sub-TeV spectrum. The extra Yukawa couplings, led by  $\rho_{tt}$  and  $\rho_{tc}$  that can be  $\mathcal{O}(1)$ , can drive electroweak baryogenesis, while  $\rho_{ee}/\rho_{tt} \propto \lambda_e/\lambda_t$ , the ratio of standard electron and top Yukawa couplings, can tame electron EDM. Finding these extra Higgs bosons via  $cg \rightarrow tH/A \rightarrow tt\bar{c}, t\bar{t}$  and  $cg \rightarrow bH^+ \rightarrow b\bar{t}\bar{b}$  processes (plus processes allowed by Higgs boson splittings) at the LHC, and pushing the flavor frontier to break the flavor code, would usher in a new Higgs/flavor era. SUSY may still be realized at a higher scale, possibly related to the Landau pole of the scalar sector.

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