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to a target state but in minimizing the error when trying to maintain a macroscopic variable (e.g.75s4EARCH

In addition, the error computed theoretically from the activity S found by solving Eq. (8) (symbols) agrees qualitatively with the one obtained numerically from simulations of the full system (solid line), with quantitative agreement except for large values of S. Networks with a homogeneous degree distribution and $= 1$ have the largest controllable range.

values and the range of control strengths that yield stable control. While heterogeneity can be beneficial for robustness to random node failures [34], our results suggest that a more homogeneous degree distribution might be preferable for situations where control of a large range of macroscopic network activity levels is important.

A common critique of the hypothesis that the cerebral cortex may operate near criticality is that critical dynamics are too noisy, as reflected in the large fluctuations in Fig. 1(a). For many aspects of brain function it is easy to imagine that these large fluctuations would cause trouble. However, our primary result here is that the noisy dynamics of criticality are, in fact, easy to control. This suggests that a brain might be able to take advantage of the other functional benefits of criticality while controlling its own noise to remain at a manageable level.

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