bioRxiv preprint doi: https://doi.org/10.1101/2024.02.29.582822; this version posted March 4, 2024. The copyright holder for this preprint (which was not certified by peer review) is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under aCC-BY-NC-ND 4.0 International license.

Appendix A. Supplement

а

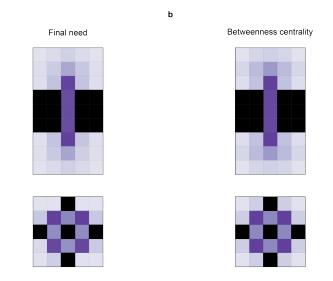


Figure A.6: Need metric captures important elements of environment topology. (a) Examples of final need, reproduced from Fig. 2. (b) Betweenness-centrality computed for the bottleneck chamber (top) and the community graph maze (bottom).

bioRxiv preprint doi: https://doi.org/10.1101/2024.02.29.582822; this version posted March 4, 2024. The copyright holder for this preprint (which was not certified by peer review) is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under aCC-BY-NC-ND 4.0 International license.

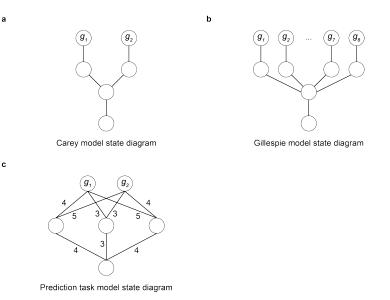


Figure A.7: State diagrams for the simulations in Sections 3.2 and 3.3. (a) State diagram for our model of Carey et al. [35] (b) State diagram for our model of Gillespie et al. [32] (c) State diagram for our model of the prediction task in Section 3.3. Numbers indicate distances (e.g., the left bottleneck state requires four steps to reach g_1), which are implemented through intermediate states (not shown).