

Figures for Appendix 3:
"On Omega at Different Scales"

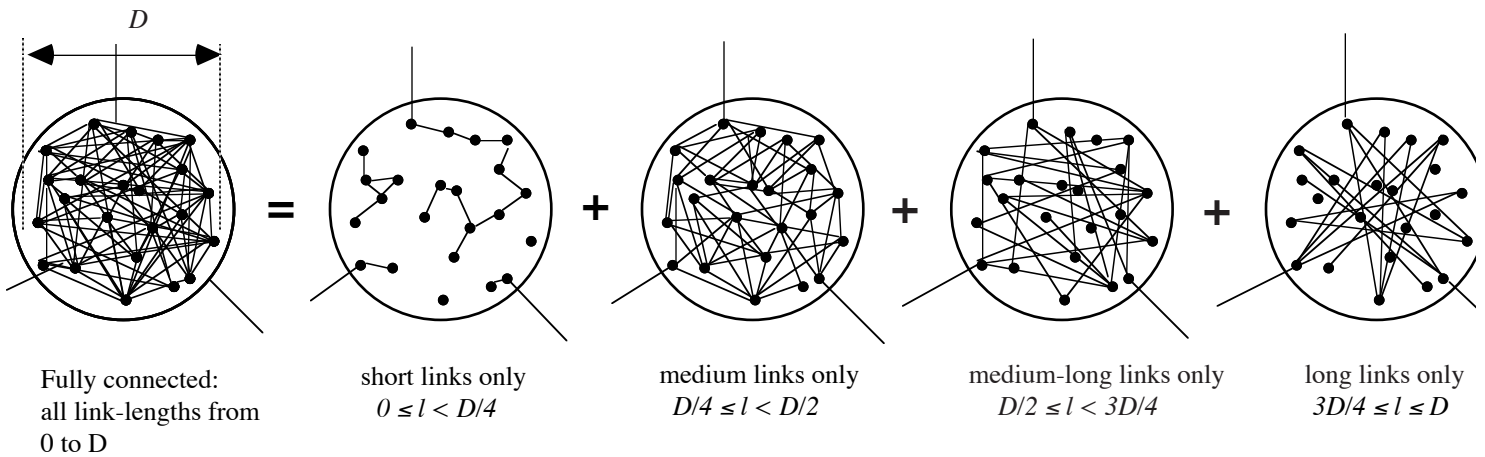


Figure A3.1. Decomposition of a fully connected system of diameter D into four subsystems, each using similar-length links: "short," "medium," "medium-long," and "long."

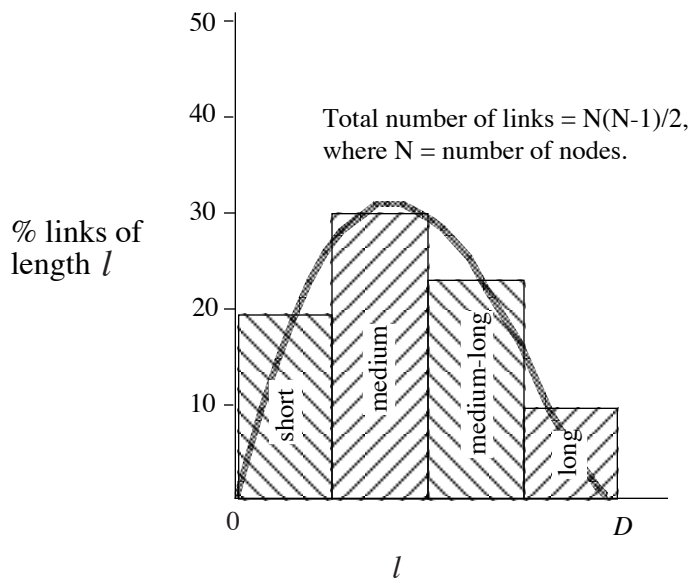


Figure A3.2 The percentage of all links in a fully connected graph that fall into the four scale categories, "short," "medium," "medium-long" and "long" as defined in Figure A3.1.

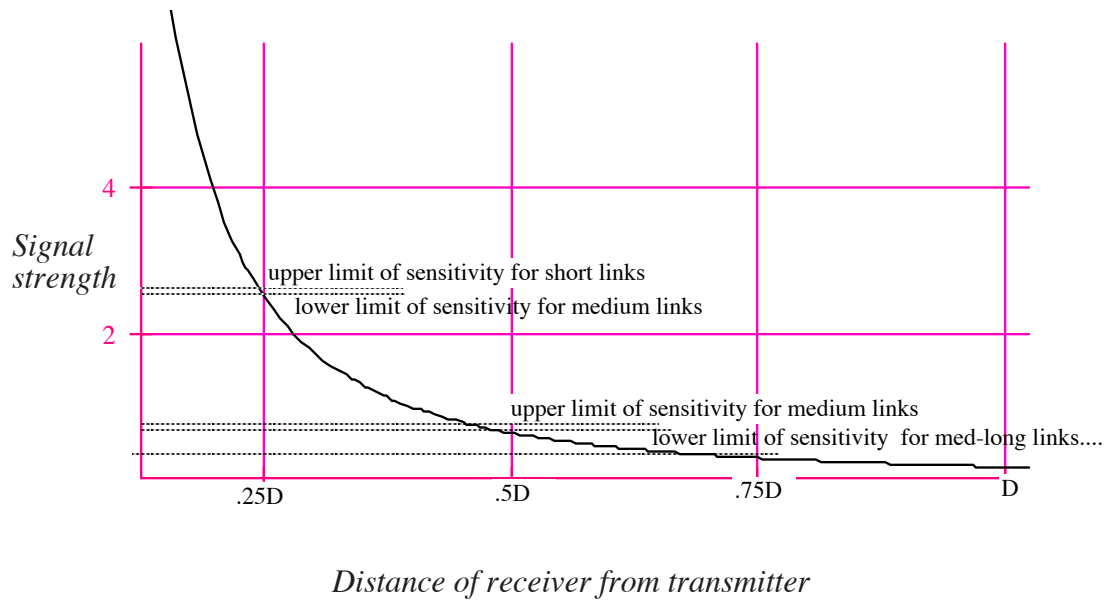


Figure A3.3. Showing how signal strength combined with receiver sensitivity-thresholds can serve as a scaling device, courtesy of the inverse square law.

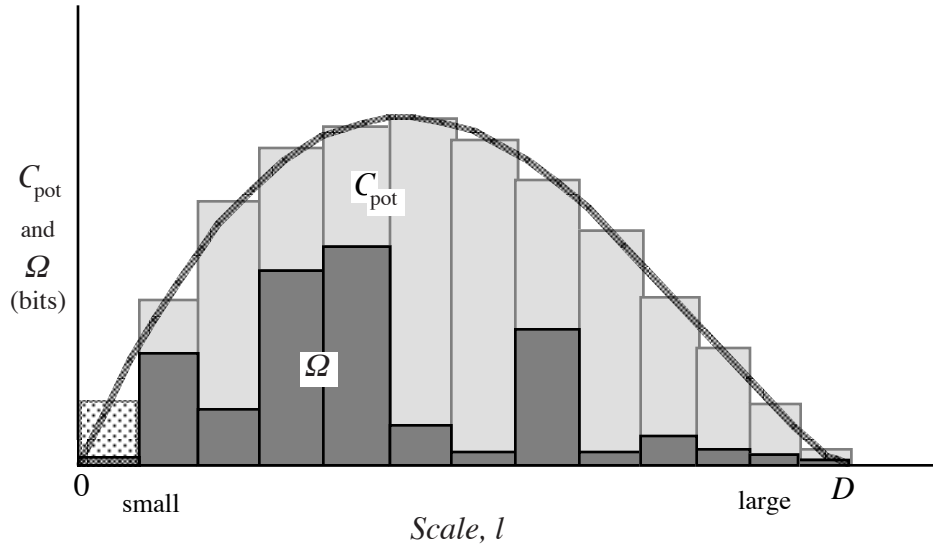


Figure A3.4. Potential complexity and Omega (hypothetical) at different scales in a single system (M = 15)

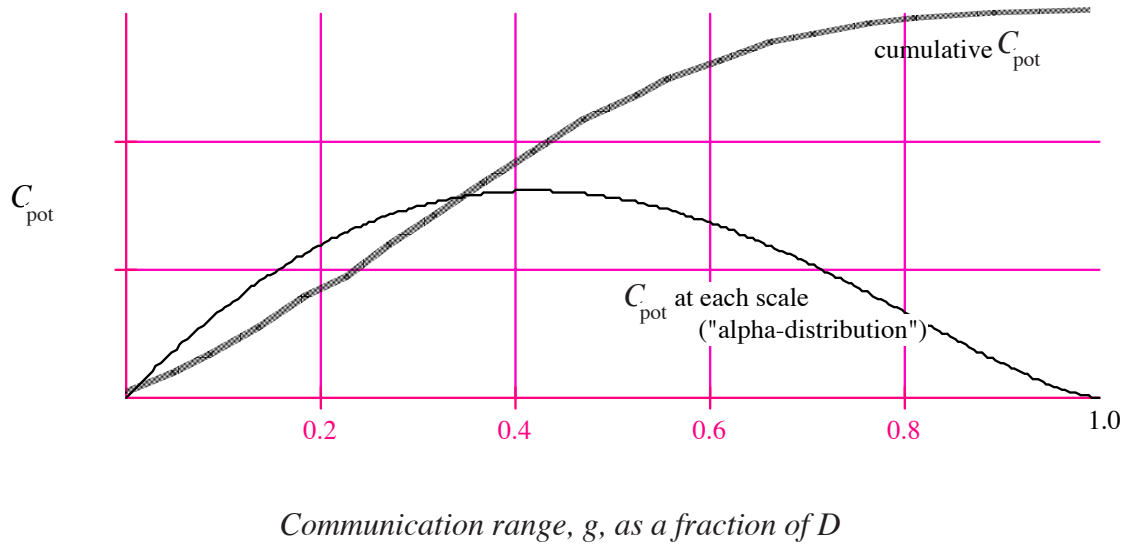


Figure A3.5 How cumulative C_{pot} varies with communication range, g ($M \gg 0$).

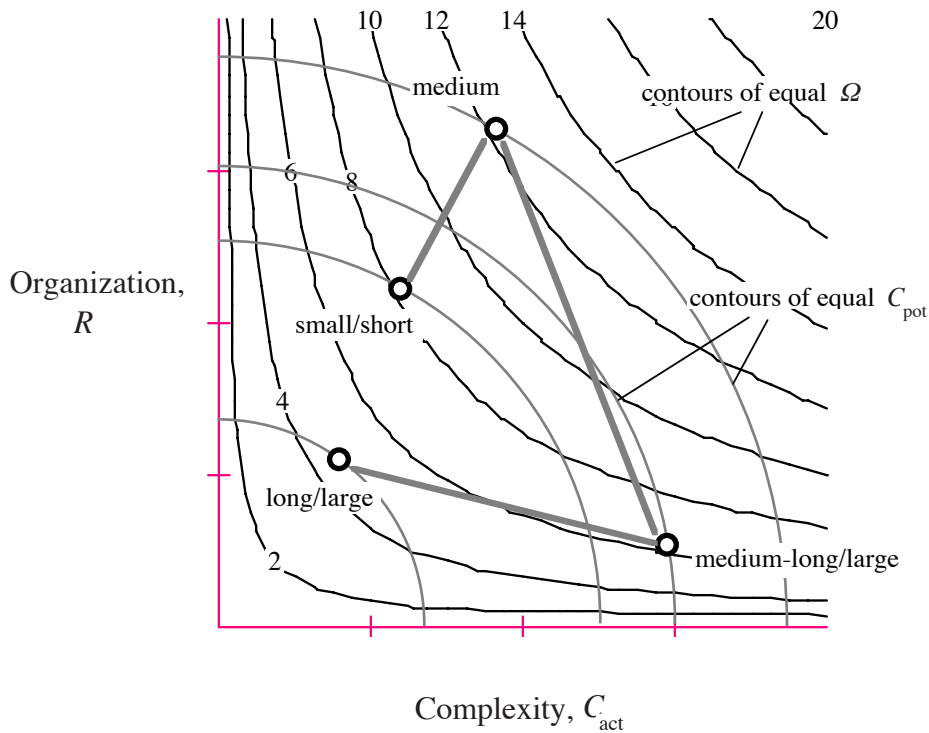


Figure A3.6 Representing Ω at multiple scales in a single hypothetical system on the Ω -surface; one of indefinitely many possible 4-dot patterns describing various systems with $M = 4$

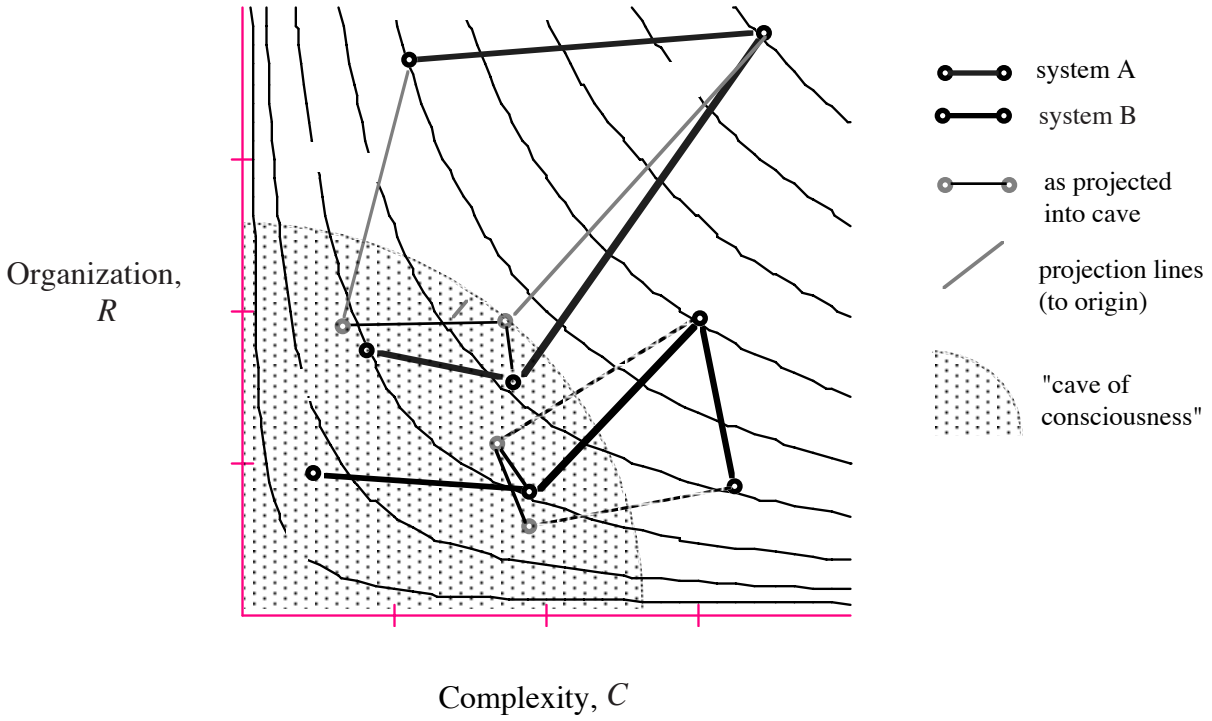


Figure A3.7 Two systems, each represented at four scales, showing scales outside the cave of consciousness projected back in.

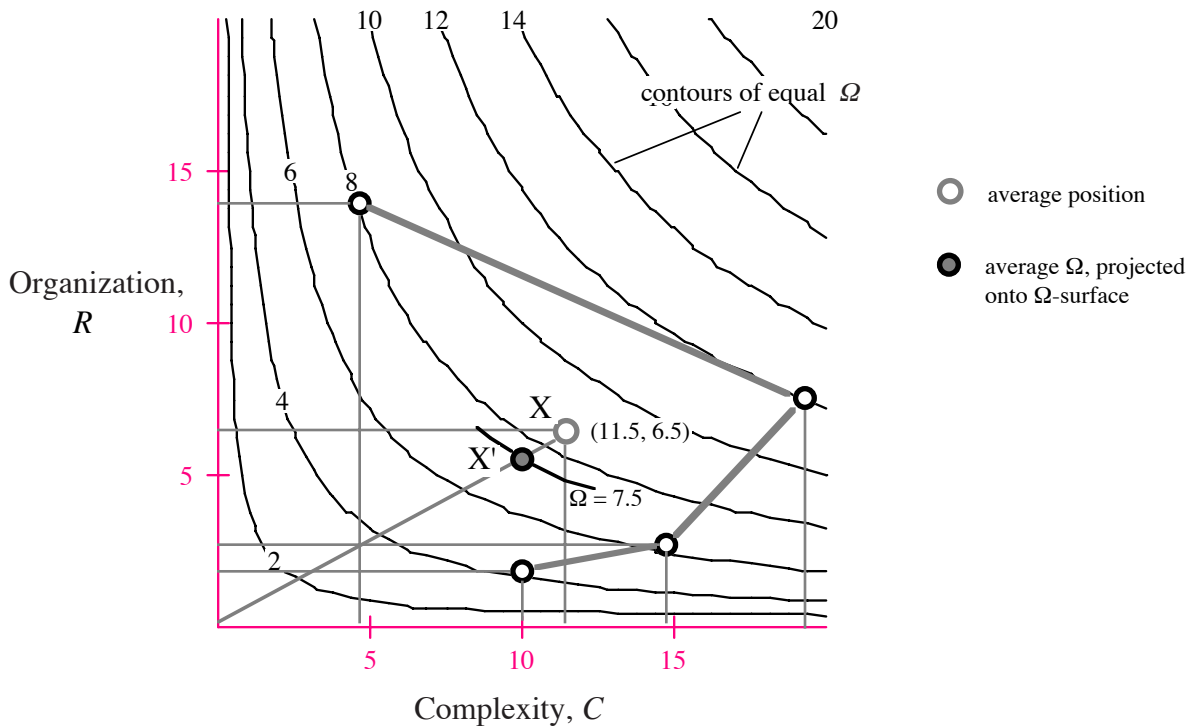


Figure A3.8 Representing the average magnitude of Ω appropriately on the Ω -surface.

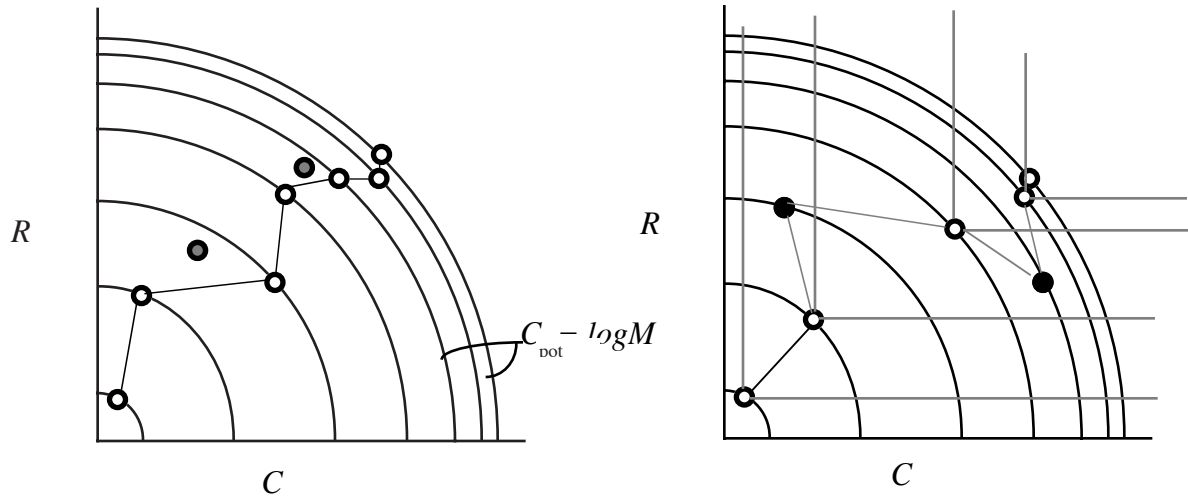


Figure A 3.9 An array of dots on the Ω -surface (contours not shown) representing increasing magnitudes of $C_{\text{pot}} = \log 22M$ (M being the group-length analyzed) of a single linear string of N symbols. The gray dots are impossible because of the Bohr-Pauli rule. The black dots are impossible because of the subsumption rule.

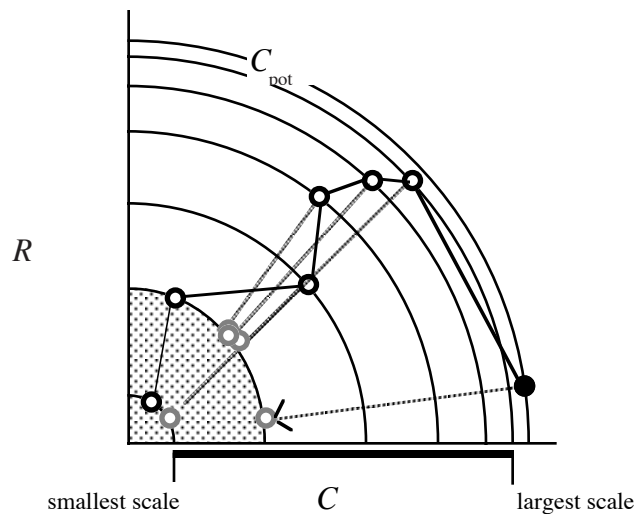


Figure A 3.10 The black dot represents a scale larger than the whole, which thus can break the subsumption rule. It too is projected back into the "cave of consciousness" (shaded area).