- Tuesday, May 16, 2006
  Filling in, wiggly lines, adaptation and aftereffects

  I have recently been studying the following visual phenomena Neon Spreading. When a small red cross is superimposed on intersecting black lines, the red seems to spread out into an illusory disk. Unlike the Hermann grid, neon spreading is relatively unaffected when the black lines are curved or wiggly. This suggests that the Hermann grid, but not neon spreading, involves long-range interactions. Neon spreading can be shown in random-dot patterns, even without intersections. It is strongest when the red crosses are equiluminous with the grey background. Adaptation, Aftereffects and filling in: Direct and induced aftereffects of color, motion and dimming. Artificial scotomata and filling-in: The damn theory is false. Staring at wiggly lines or irregularly scattered dots makes them gradually appear straighter, or more regularly spaced. I present evidence that irregularity is actually a visual dimension to which the visual system can adapt. Conjectures on the nature of peripheral fading and of motion-induced blindness. Some failed experiments on correlated visual inputs and cortical plasticity.

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