

**Philosophy 920 – Fall, 2000**  
**Evidential Issues in Evolutionary Biology**  
**Elliott Sober**

Available at University Bookstore:

CI = E. Sober (ed.), *Conceptual Issues in Evolutionary Biology*, MIT Press, 2<sup>nd</sup> ed., 1994.

PB = E. Sober, *Philosophy of Biology*. Westview Press, 1993.

RTP = E. Sober, *Reconstructing the Past*. MIT Press, 1988.

OFA = R. McNeill Alexander, *Optima for Animals*, Princeton UP, 1996.

\* = Other readings available at the Humanities Building Copy Center.

### **Design, Evolution, and Likelihood**

Sober, PB, ch. 1.

Sober, "Introduction to Bayesian Epistemology" (on Sober's web site).

\*W. Paley, excerpt from *Natural Theology*. 1805.

\*S.J. Gould, "The Panda's Thumb" and "Senseless Signs of History." From *The Panda's Thumb*. Norton, 1980.

Sober, PB, ch 2.

\*I. Hacking, "The Inverse Gambler's Fallacy." *Mind*, 1987, 96: 331-340.

\*R. Royall, *Statistical Evidence – a Likelihood Paradigm*. Chapman and Hall, 1998, ch 1-3.

M. Forster and E. Sober, "Why Likelihood?" (on Forster's web site).

### **Testing Hypotheses of Common Ancestry**

E. Sober, PB, ch. 5.

W. Hennig, "Phylogenetic Systematics." in CI.

S. Farris, "The Logical Basis of Phylogenetic Analysis." in CI.

E. Sober, RTP.

\*Sober, "Modus Darwin," *Biology and Philosophy*. 1999, 14: 253-278.

### **Testing Adaptive Hypotheses**

\*A.J. Cain, "The Perfection of Animals." In J. Carthy and C. Duddington (eds.),  
*Viewpoints in Biology*, vol. 3. London Butterworths, 1964, pp. 36-63.

S. Gould and R. Lewontin, "The Spandrels of San Marco and the Panglossian Paradigm." In CI.

J. Maynard Smith, "Optimization Theory in Evolution." In CI.

R. McNeill Alexander, *OFA*, excerpts.

Sober, PB, ch 3,5.

\*W. Mitchell and T. Valone, 1990, "The Optimization Research Program – Studying Adaptations by their Functions." *Quarterly Review of Biology* 65: 43-52.

\*Mark Ridley, *The Explanation of Organic Diversity*, Oxford University Press, 1983, pp. 1-44.

\*S. Orzack and E. Sober, "Adaptation, Phylogenetic Inertia, and the Method of Controlled Comparisons." unpublished mss.