Assignment 3 (Due April 26 or a few days later)
Part I: choose one, doing all parts (from Excursion 4 Tour I, objectivity)

1. What is the argument against objectivity based on "dirty hands"? (Explain as fully as you can). Should we reject or accept it? Or retain it in part? (222-225)

2. Compare: "how well have you probed" and "how strongly do/should you believe it? In explaining these, bring out some central linguistic ambiguities. (226)

3. How might you respond to the argument to "embrace your subjectivity"? Explain the argument. Do you agree with the position in this section of SIST? (228)

4. What are "objective" (default, non-subjective) Bayesians (230-1 and elsewhere in SIST)? Why are there no "uninformative" priors? Why does J. Berger argue for O-Bayesianism? Why does Kadane argue against it? (230-231)

5. Evaluate the argument
   (i)   that prior probabilities let us be explicit about bias. (232-3)
   (ii)   that prior probabilities allow combining background information.
          (See also "Grace and Amen Bayesians". (413-415))

6. Objectivity in epistemology; (235-236). Evaluate the links between objectivity and
   (i)   Externalism.
   (ii)   Diversity of knowers.

7. In the Farewell Keepsake (436-444) points 1-8 are often taken as central criticisms of statistical significance tests: First explain, and then critically appraise, two of them.

Part II: Power (We will do numerous examples in the seminar)
1. Use the example on SIST p. 142 of SIST of a random sample, n= 100, each from a Normal distribution with mean μ and σ equal to 10. Suppose you're doing a one-sided test T+ with α = .025 (you can round to the 2 SE cut-off):
$$H_0: \mu \leq 150 \text{ vs. } H_1: \mu > 150.$$

Find the power of the test to detect the following alternatives (or discrepancies) from 150:
150, 151, 152, 153, 154
POW(150) = _____; POW(151) = _____ POW(152) = _____; POW(153) = _____POW(154) = _____;

2. Suppose the sample mean misses the cut-off for rejection at the .025 level. According to ordinary power analysis (which does not use the observed sample mean), what can you say about the warrant for $\mu \leq 152$.
3. Now suppose you know the value of this nonsignificant result is $\bar{X}$ = 150. According to a severity analysis, how severely warranted is $\mu \leq 152$?
4. EXTRA CREDIT. Compute the 5 POW assessments in #1 with everything the same except that n = 25. What is the SE now? Comment.