### Souvenir H: Solving Induction Is Showing Methods with Error Control

How is the problem of induction transformed if induction is viewed as severe testing? Essentially, it becomes a matter of showing that there exist methods with good error probabilities. The specific task becomes examining the fields or inquiries that are – and are not – capable of assessing and controlling severity. Nowadays many people abjure teaching the different distributions, preferring instead to generate frequency distributions by resampling a given random sample (Section 4.6). It vividly demonstrates what really matters in appealing to probability models for inference, as distinct from modeling phenomena more generally: Frequentist error probabilities are of relevance when frequencies represent the capabilities of inquiries to discern and dis-criminate various flaws and biases. Where Popper couldn't say that methods probably would have found *H* false, if it is false, error statistical methods let us go further. (See Mayo 2005a.)

The severity account puts forward a statistical philosophy associated with statistical methods. To see what I mean, recall the Likelihoodist. It's reasonable to suppose that we favor, among pairs of hypotheses, the one that predicts or makes probable the data – proposes the Likelihoodist. The formal Law of Likelihood (LL) is to capture this, and we appraise it according to how well it succeeds, and how well it satisfies the goals of statistical practice. Likewise, the

severe tester proposes, there is a pre-statistical plausibility to infer hypotheses to the extent that they have passed stringent tests. The error statistical methodology is the frequentist theory of induction. Here too the statistical philosophy is to be appraised according to how well it captures and supplies rationales for inductive-statistical inference. The rest of our journey will bear this out. Enjoy the concert in the Captain's Central Limit Lounge while the breezes are still gentle, we set out on Excursion 3 in the morn.