

## **Reader Report**

Reading: Shalizi (2019)

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I am a fan of Shalizi's writing. Reading this manuscript feel more like reading well explained philosophy book rather than statistics. Similar to what we discussed in class last week, chapter 21 explained the basic structure of a causal graph. It demonstrated the difficulties of making causal estimations, as well as crystallized the goal of "causal inference as: "make the causal premises as weak and general as possible, thus limiting what we take on faith." I very much enjoyed that saying.

Chapter 22 covered a range of topics: probabilistic conditioning vs causal conditioning, identification and confounding, as well as various strategies such as backdoor criterion, front door criterion, and instrumental variable. I find the discussion on probabilistic conditioning versus causal conditioning particularly interesting. I often thought Bayesian inference is somewhat similar to causal inference. They both have the ethos of deriving inference bearing in mind there's certain unobserved ground truth. The table on page 492, clearly illustrated the contrast between these two approaches. In particular, I find the analogy of "surgically-altered DAG" as a way of representing causal graph quite inspired.