180 WHY WE SHOULD ALL BE BAYESIANS (AND OFTEN ARE WITHOUT REALISING IT)

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Most epidemiologists write their methods and results sections as frequentists and their introduction and discussion sections as Bayesians. In their methods and results sections, they "test" their findings as if their data is the only data that exists. In the introduction and discussion, they discuss their findings with regards to their consistency with previous studies, as well as other issues such as biological plausibility. This creates some tensions, for example, when a small study has findings which are not statistically significant but which are consistent with prior knowledge; or when a study finds statistically significant findings which are inconsistent with prior knowledge. Thus, in practice, almost all epidemiologists profess to be frequentists, but in practice are qualitative Bayesians. In some (but not all) instances, things can be made clearer if we also formally include Bayesian methods in the methods and results sections of our paper, that is, if we act as quantitative as well as qualitative Bayesians.