Notes on
Chapter 5: Assessing evidential strength with the likelihood ratio

Marcello Di Bello and Rafal Urbaniak

1 paper: "Likelihood Ratio as Weight of Forensic Evidence: A Closer Look" by Lund and Iyer

It is relevant for our work in three ways:

1) The authors show the LR varies depending on priors in virtually any realistic case of forensic identification evidence. So I think we might need to revise some of the claims we make in the chapter on likelihood ratios.

2) They also argue that likelihood ratios are dependent on specific modelling assumptions and so they cannot be given alone, but in a range of possible values paired with modelling assumptions, against claims made by Taroni etc. I am wonderin whether Rafal's approach to "weight of evidence" can capture some of the observations they make about the need to take into account modeling assumptions.

3) They give two realistic examples of forensic identification evidence – glass evidence and fingerprints – which are quite instructive and described with sophistication. I think we would benefit from incorporating their examples somewhere.

Rafal's response (as discussed August 18, 2022):

- mere equivalence does not entail epistemic ordering
- toy models don't usually employ the disjuncts (think about citizens in a city), if they do, separate LRs are given and dependence is indicated (like, DNA match depending on race)
- putting together with LR is easy in toy model BNs which are modular