

Notes on Evans & Didelez (2023)

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This document collects my notes on [Evans and Didelez \(2023\)](#). They propose a new parameterization of the distributions of interest, termed **frugal parameterization**, which consists of three pieces: the joint distribution of the treatment and covariates $p_{ZX}(z, x)$, the causal distribution of interest $p_{Y|X}^*(y|x)$, and a dependence measure between the outcome and the treatment conditional on the covariates $\phi_{YZ|X}^*$. In sequential treatment models (see [Evans and Didelez, 2023](#), Figure 2), this parameterization can avoid the so-called **g-null paradox** ([Robins and Wasserman, 1997](#)).

References

- Evans, R. J. and Didelez, V. (2023). Parameterizing and Simulating from Causal Models. *Journal of the Royal Statistical Society Series B: Statistical Methodology*, page qkad058.
- Robins, J. M. and Wasserman, L. (1997). Estimation of effects of sequential treatments by reparameterizing directed acyclic graphs. In *Proceedings of the Thirteenth Conference on Uncertainty in Artificial Intelligence*, UAI'97, page 409–420, San Francisco, CA, USA. Morgan Kaufmann Publishers Inc.