Open source can adapt quickly to the world - e.g., mixed models

- Mixed models give a good balance of Type I and Type II error - operate over individual data points rather than aggregate data, allow for unbalanced designs, combinations of continuous and categorical fixed effects, modelling of multiple random effects and covariates associated with those effects. Allows for modelling assuming sample under Gaussian and other (e.g., Gamma, binomial) distributions.

- Go to package in R is `lme4` - arguably responsible for increased statistical rigour in psycholinguistics.

- This open source approach to mixed models is much more advanced/easier than what can be done using proprietary software (e.g., SPSS).

Open source makes reproducible workflows easier to share - design guidelines for analysis scripts by Marijn van Vliet

1. Each analysis step is one script

2. A script either processes a single recording, or aggregates across recordings, never both

3. One master script to run the entire analysis

4. Save all intermediate results

5. Visualize all intermediate results

6. Each parameter and filename is defined only once

7. Distinguish files that are part of the official pipeline from other scripts

https://arxiv.org/pdf/1904.06163.pdf