

Exploration of Facial Expression in Videos and Transcripts of Legal Proceedings

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Background

Legal study from a behaviour perspective

Existing literature in the U.S. studied the court outcome through:

- language and word used by the Justices (do i need reference???)
- vocal and facial characteristics of the Justices

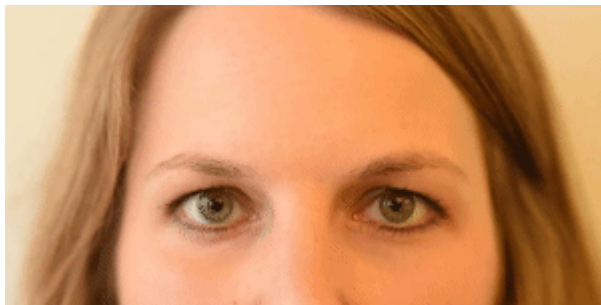
Australia study: Tutton et al (2018):

- using the transcript and AV recordings
- visually inspect the video and compare with the transcript

Face Recognition

- **Paul Ekman** studied Facial Action, which lead to Facial Action Coding System (FACS)
- Study emotion based on the decomposed facial muscles

Example: AU_2



Example: AU_15



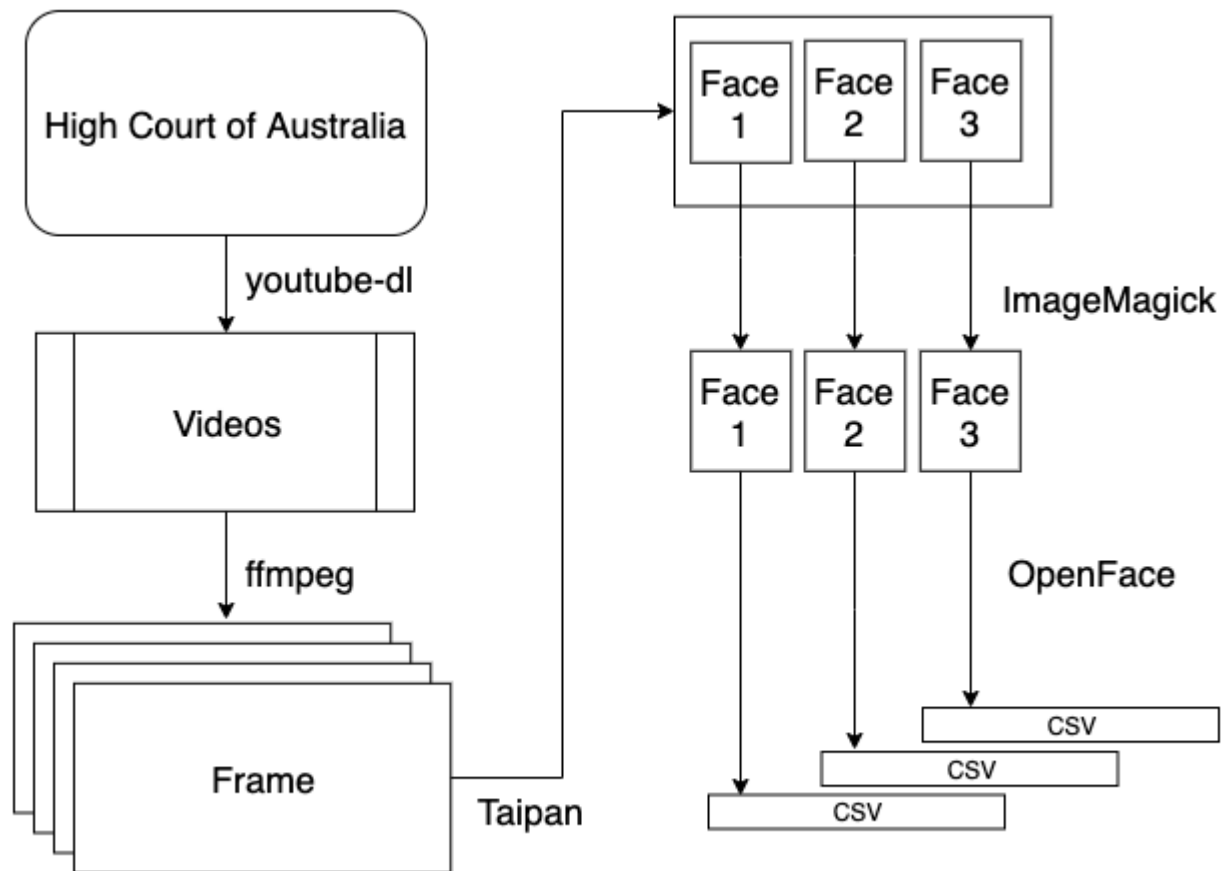
- Kovalchik & Reid (2018) utilise OpenFace to study the emotion of professional tennis players in the grand slam matches

Aim

**Employ the facial recognition technology to
detect judicial thinking and thus their
decisions**

Results

Data Processing

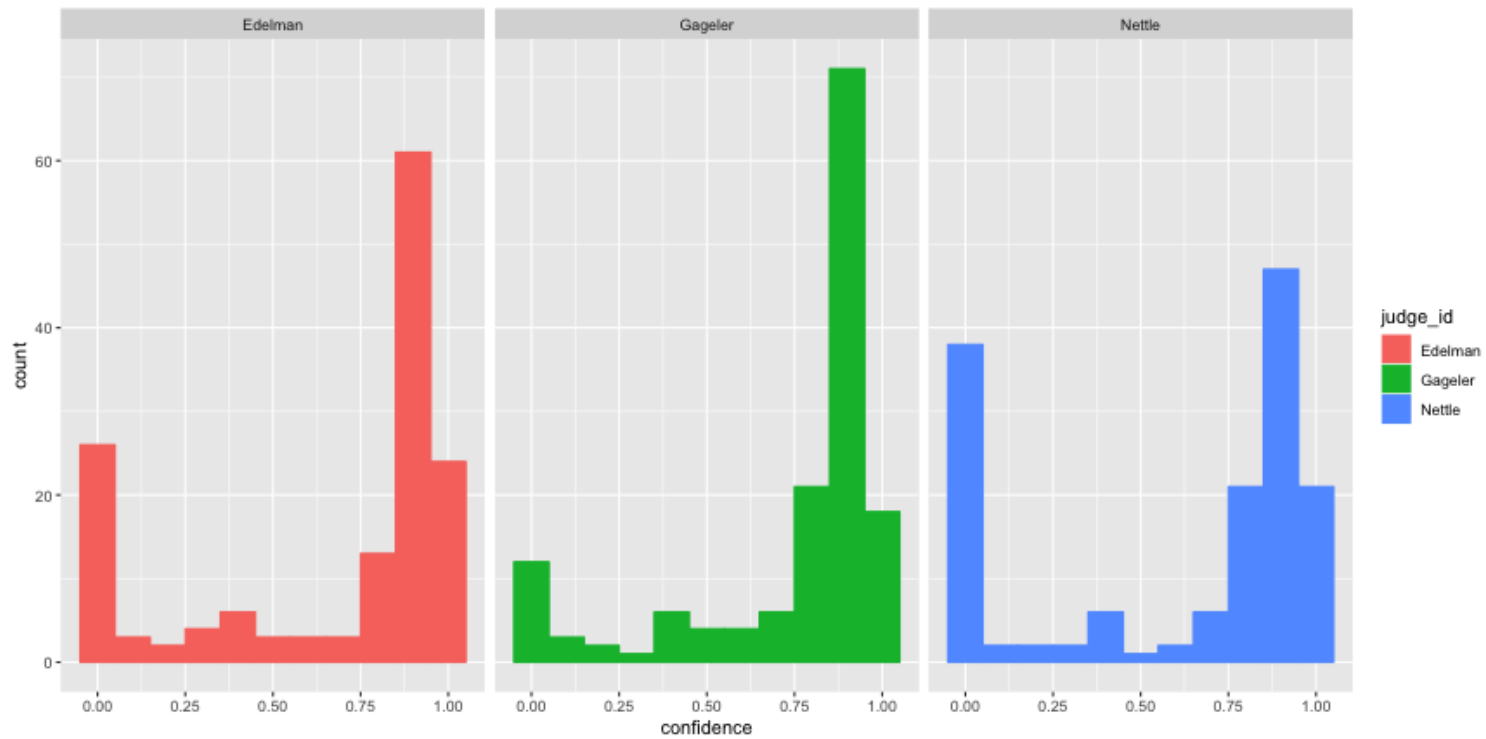


4601 CSVs and 711 variables!

Let's explore some interesting ones

Confidence

How confident OpenFace is in current landmark detection estimate?



confidence = 0.925?



confidence = 0.425?



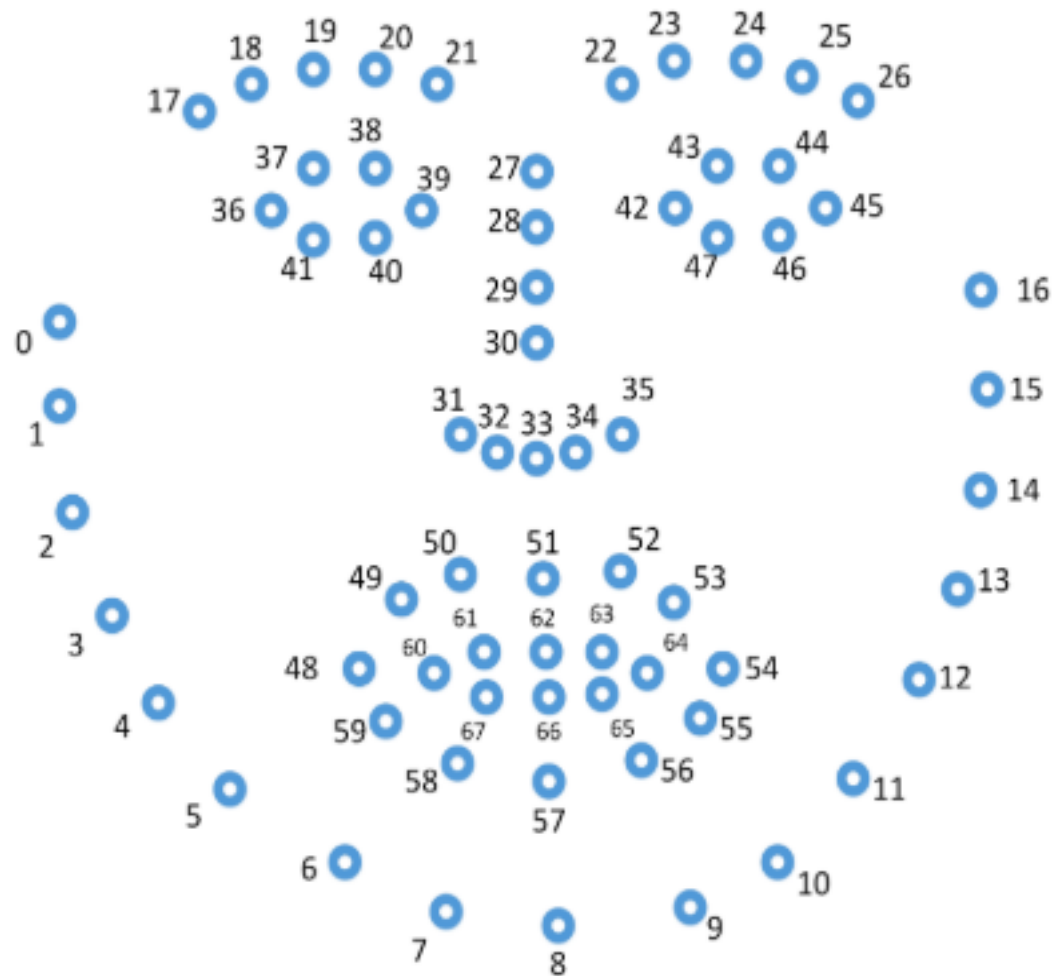
confidence = 0.775?

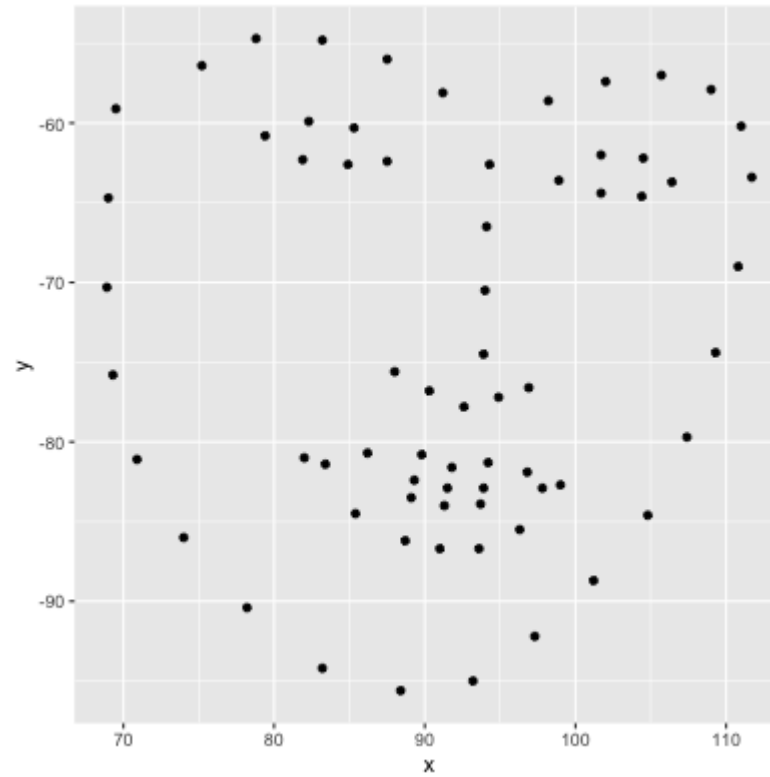


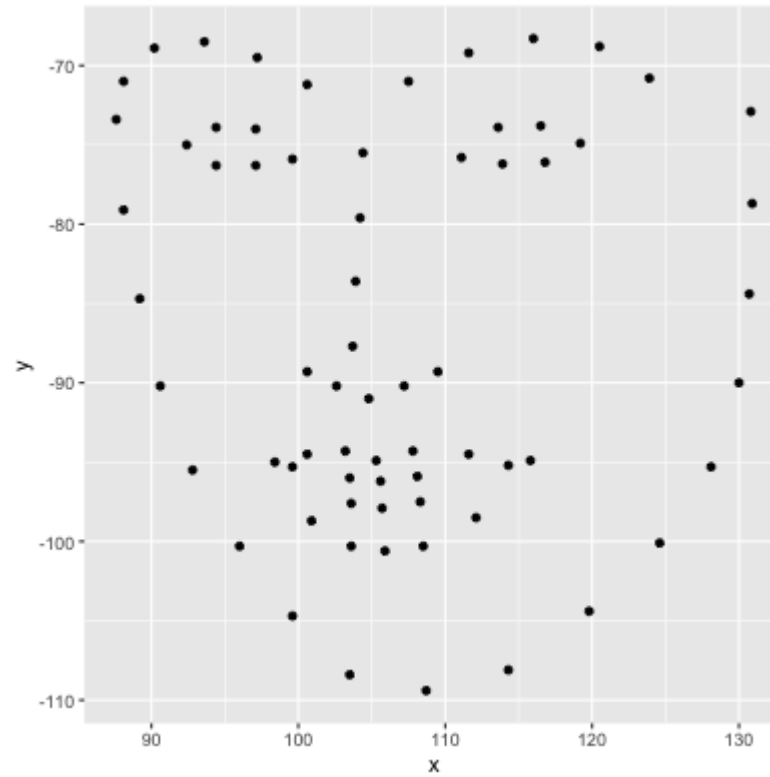
confidence = 0.025?



Facial landmarking







Transcript Analysis: Interruptions

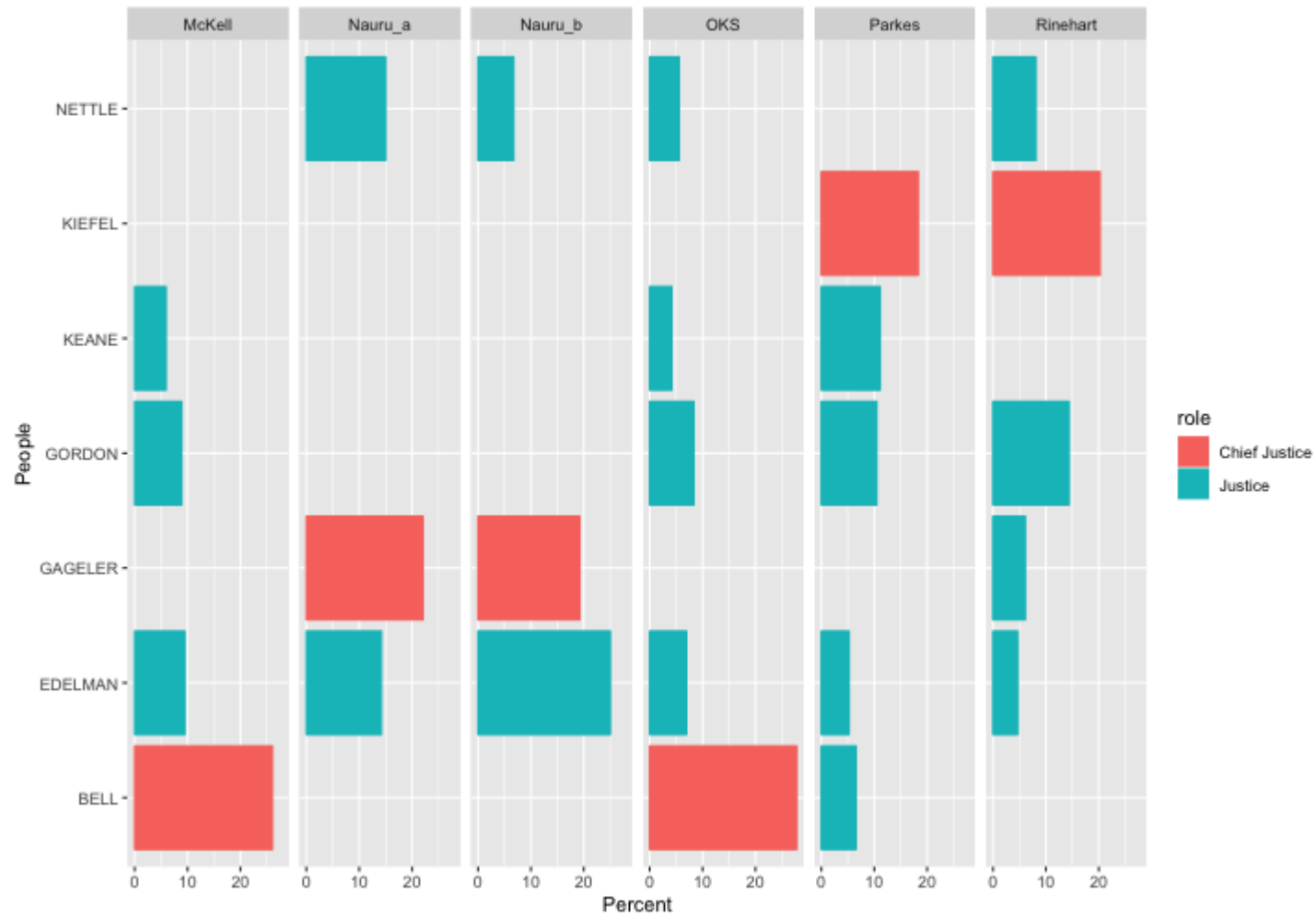
GAGELER J: Part 43 takes us immediately to Part 42 and I understand that Chapter 1 is necessary under 42.05.4 and then following service of the notice of appeal there is a requirement for the entry of an order which is something that can occur under the provisions of Part 9 to which you have drawn our attention.

MR MERKEL: A number of things, your Honour, but at the outset the process that was adopted takes us not to order 42 but order 13 and the only proceeding in the Court as at the 15th day when the appeal is filed, full stop, is the commencement of a proceeding, then it must follow that the passage of time which I do not think it is contended by Nauru is not any central precondition for an appeal which takes us to personal service. That is the first problem.

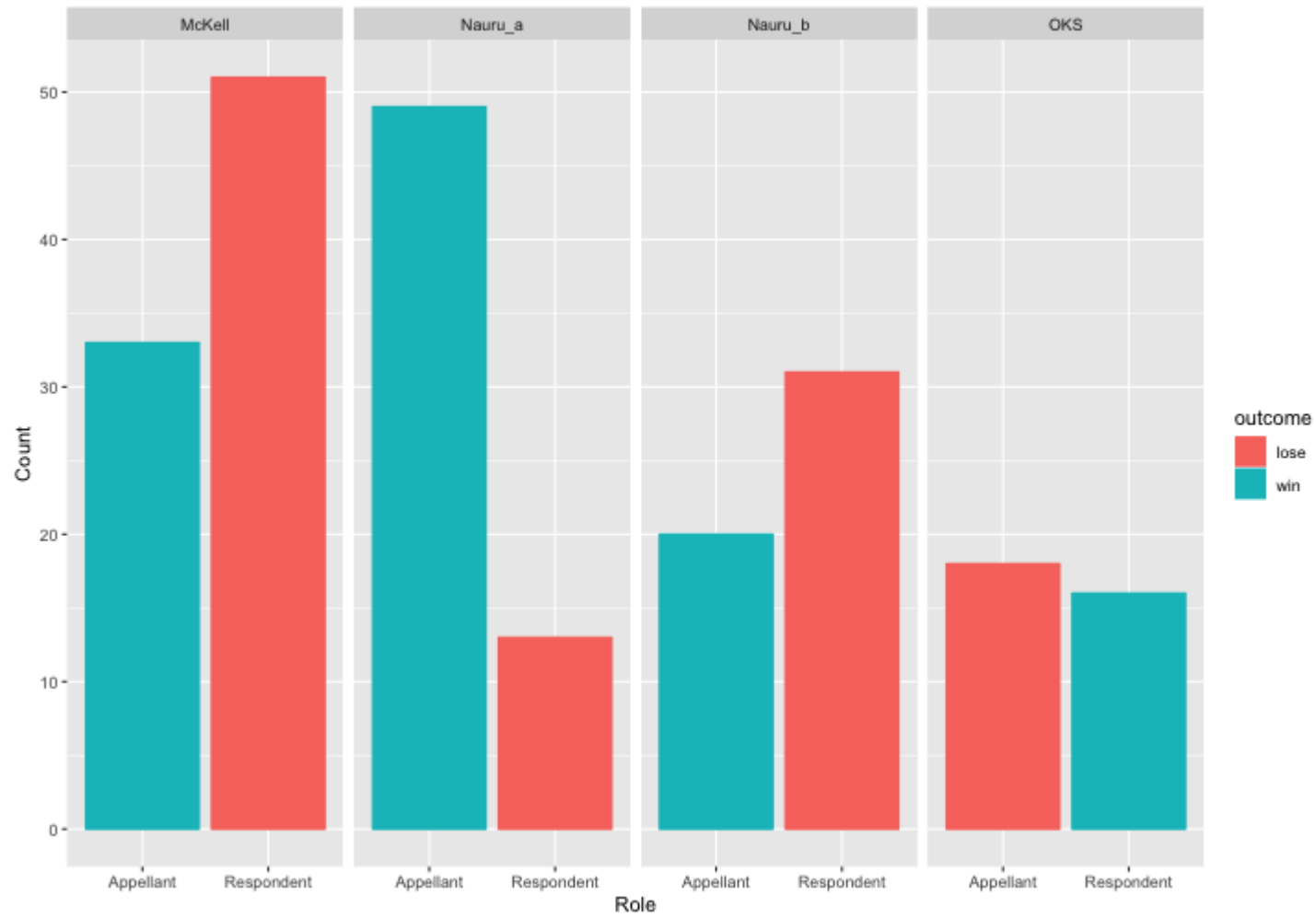
EDELMAN J: That, then, comes back to your original answer to Justice Gageler, though, that it is a process that is commencing a proceeding.

MR MERKEL: If the notice of appeal is filed and that is commencing a proceeding even though it is a different pathway than the summons under 13, I accept that. I will come to a second reason which is a separate point, but we do say that it is an essential element of the case sought to be put by Nauru that is instituted by the filing of the notice on the 15th day and the issue of the summons on the same day.

Transcript Analysis: Justices



Transcript Analysis: Appellant & respondent



Questions?

Slides created via the R package **xaringan**.