



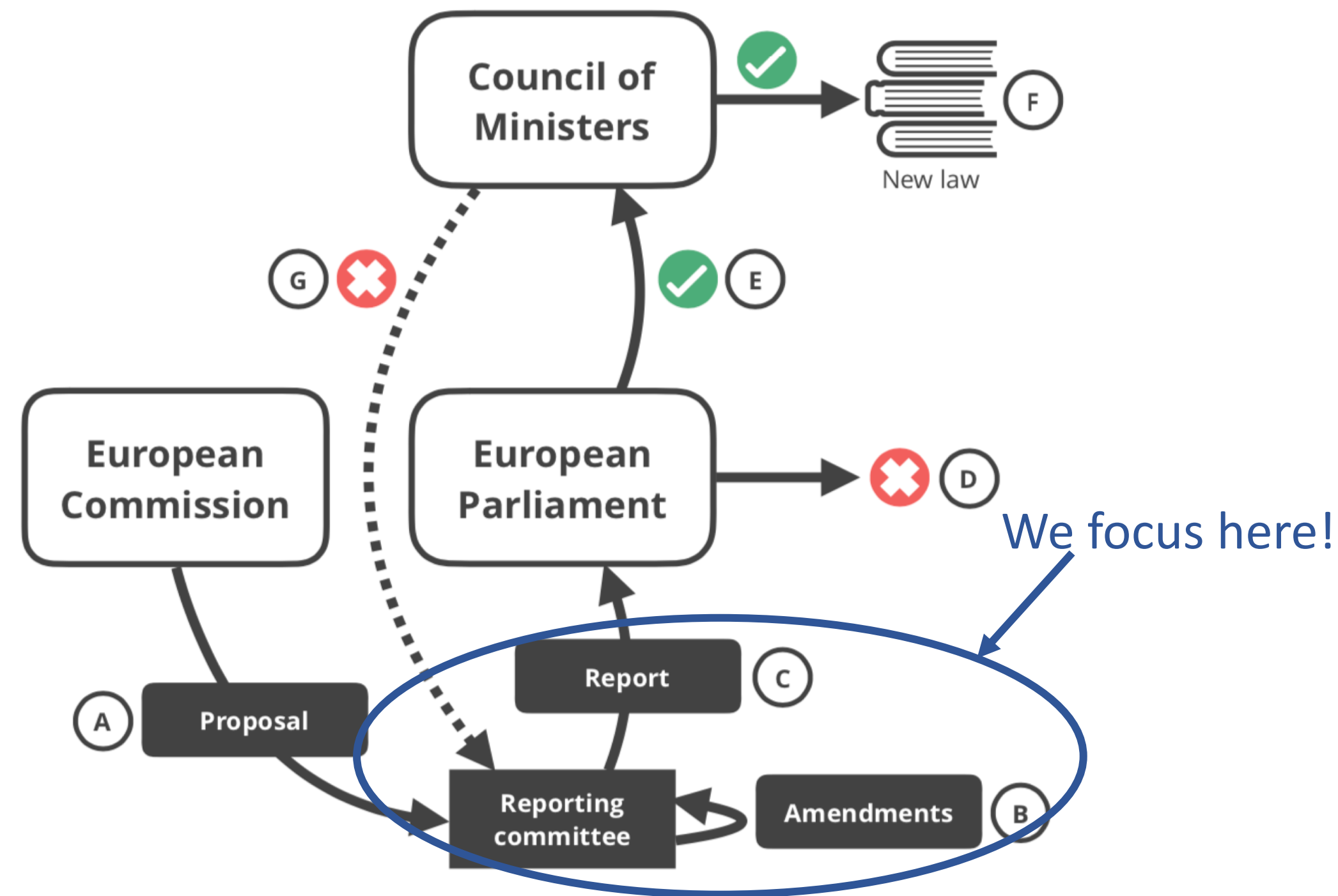
### Peer Production Systems

Law-Making is Peer-Production



European Parliament (EP)

### European Law Making



### Research Questions

Can we **predict** amendment acceptance?  
What **factors** are correlated with amendment acceptance? Can we **quantify** their influence?

**Skills** of law-makers and **controversy** of laws?  
Text **inserted** or **deleted**?  
**Nationality** or **political group** of the authors?  
...etc.

### Data

Scraped from EP website  
Extensive & rich dataset

Both metadata and amendment text

2 legislatures  
10 years  
~200,000 amendments

### Conflicting Edits Model

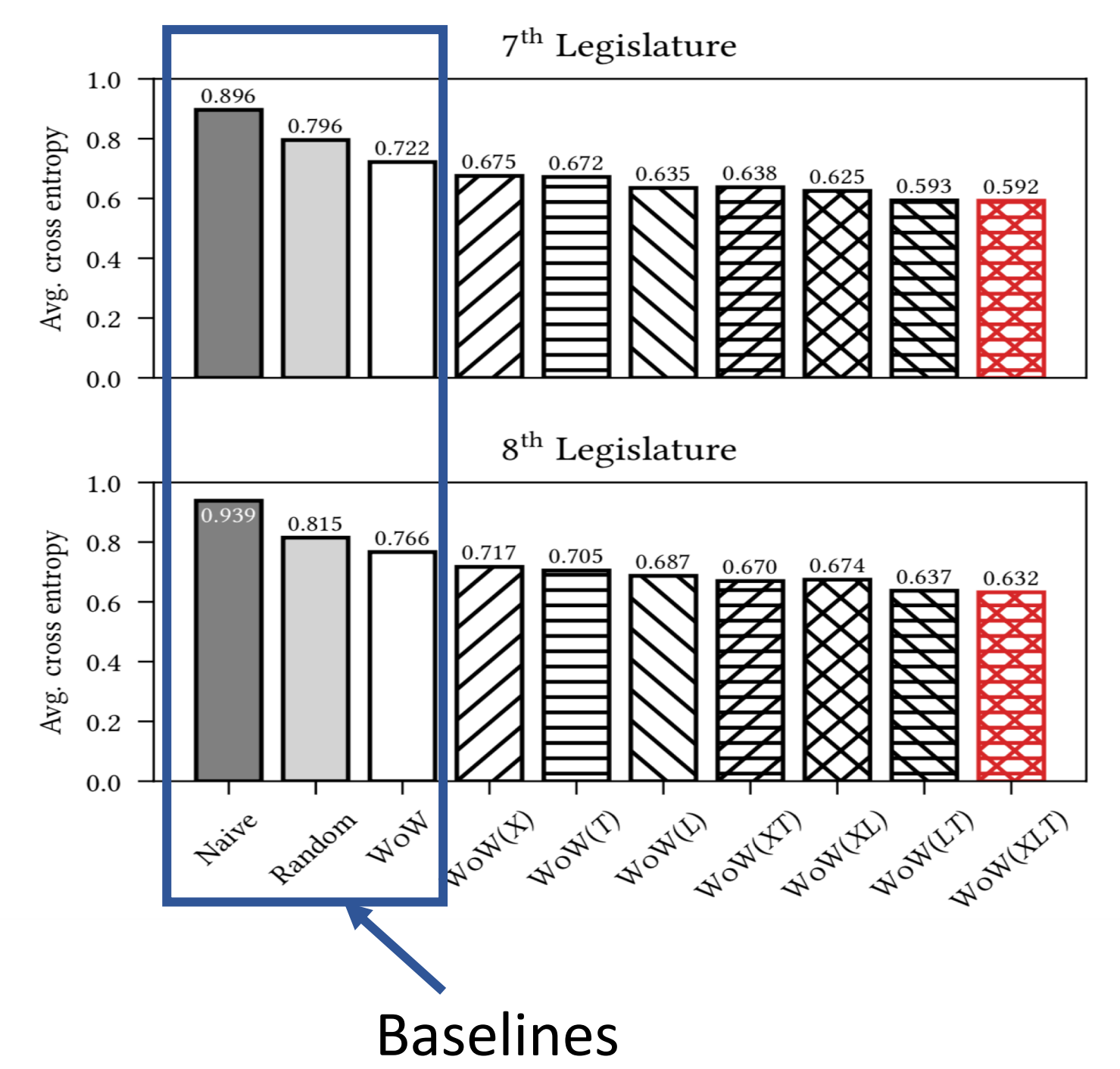
At most 1 edit accepted per conflict

<p><b>Amendment 802</b> Lidia Joanna Geringer de Oedenberg, Catherine Stihler, Victor Negrescu Article 13 – title</p> <p><i>Text proposed by the Commission</i></p> <p>Use of protected content <i>by</i> information society service providers <i>storing and giving access to large amounts of works and other subject-matter uploaded by their users</i></p>	<p><i>Amendment</i></p> <p>Use of <i>copyright</i> protected content <i>uploaded by users of</i> information society service providers</p>
<p><b>Amendment 803</b> Tadeusz Zwiefka, Bogdan Brunon Wenta Article 13 – title</p> <p><i>Text proposed by the Commission</i></p> <p>Use of protected content by information society service providers storing and giving access to <i>large</i> amounts of works and other subject-matter uploaded by their users</p>	<p><i>Amendment</i></p> <p>Use of protected content by information society service providers storing and giving access to <i>significant</i> amounts of <i>copyright</i> protected works and other subject-matter uploaded by their users</p>

3 Edits  
 $\emptyset \rightarrow$  “copyright”  
 “by”  $\rightarrow$  “uploaded...of”  
 “storing...users”  $\rightarrow \emptyset$

2 Edits  
 “large”  $\rightarrow$  “significant”  
 $\emptyset \rightarrow$  “copyright protected”

### Prediction Results



WoW(XLT) Model of Edit Acceptance

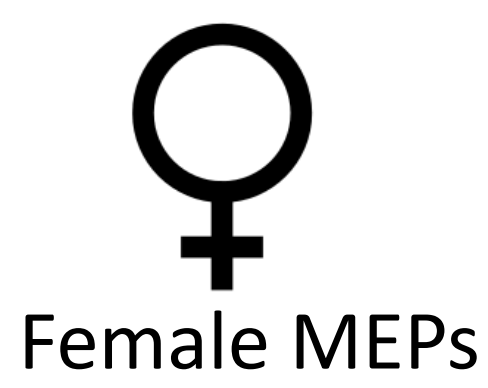
$$p(a \text{ accepted}) = \frac{\exp(s_a^T w_E + x_a^T y_i + r_a^T w_T)}{\sum_{c \in C} \exp(s_c^T w_E + x_c^T y_i + r_c^T w_T) + \exp(d_i^T w_D + r_i^T w_{T'} + b)}$$

X – eXplicit features, L – Latent features, T – Text features

### Interpretation of Feature Weights

#### eXplicit Features

Higher Chance of Acceptance for



Female MEPs



Latvian MEPs



MEPs from Centre-right

Short insertions

Rapporteur’s Edits

Edits with Justification

#### Text Features

Acceptance

Title: “customs”, “fisheries”, “general budget”

“any other”  $\rightarrow \emptyset$   
 “human rights”  $\rightarrow \emptyset$   
 $\emptyset \rightarrow$  “should”  
 $\emptyset \rightarrow$  “inserted”  
 $\emptyset \rightarrow$  “positive”

Rejection

Title: “market”, “framework”, “greenhouse gas”

“firearms”, “terrorist”, “fingerprint”  
 $\emptyset \rightarrow$  “must”  
 $\emptyset \rightarrow$  “deleted”  
 $\emptyset \rightarrow$  “negative”

#### Latent Features

t-SNE plot

