[redacted]

Application: Unsupervised Word Translation

Invariant OT

46

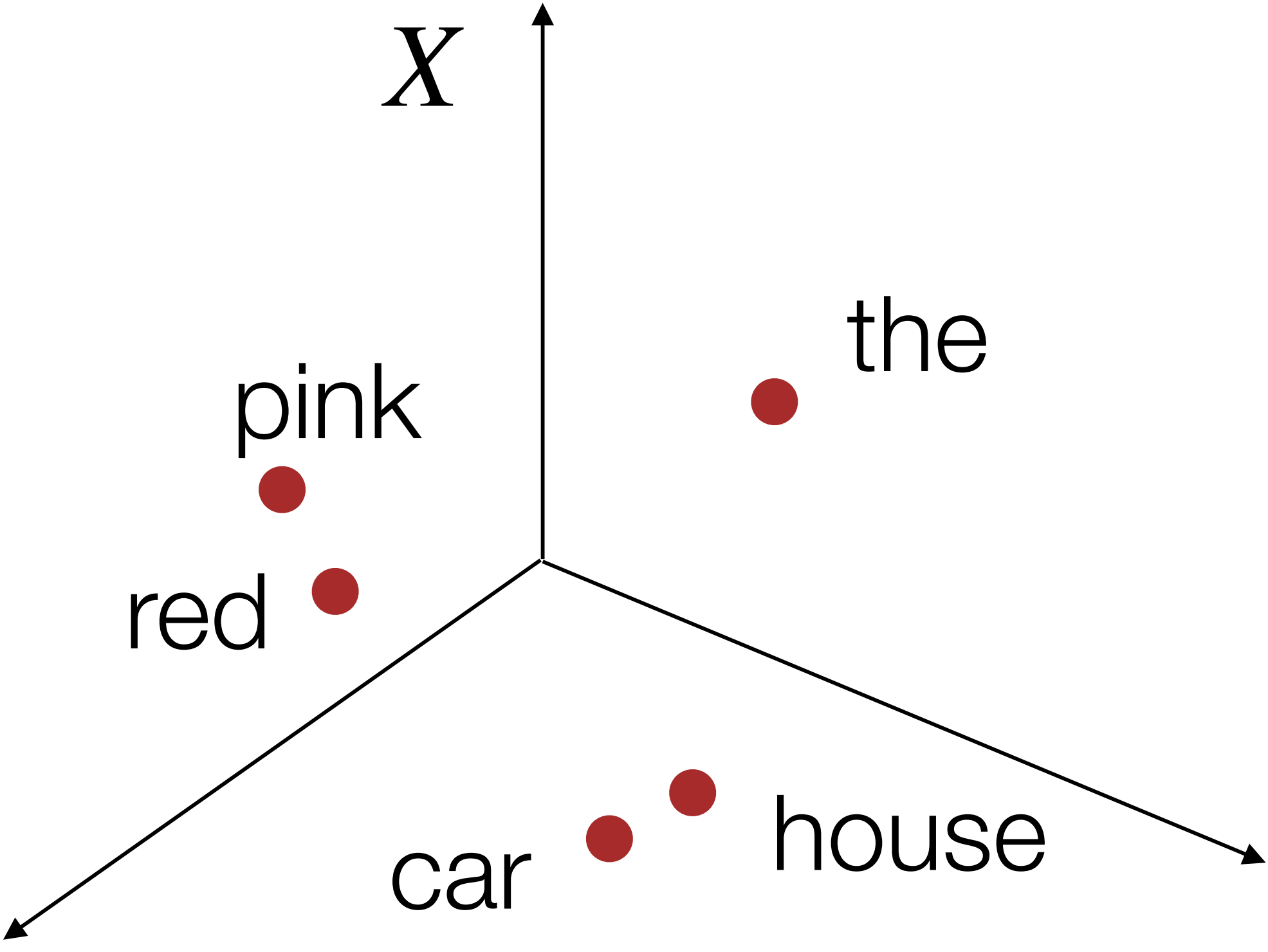
- Have **monolingual** word embeddings, want to find translations

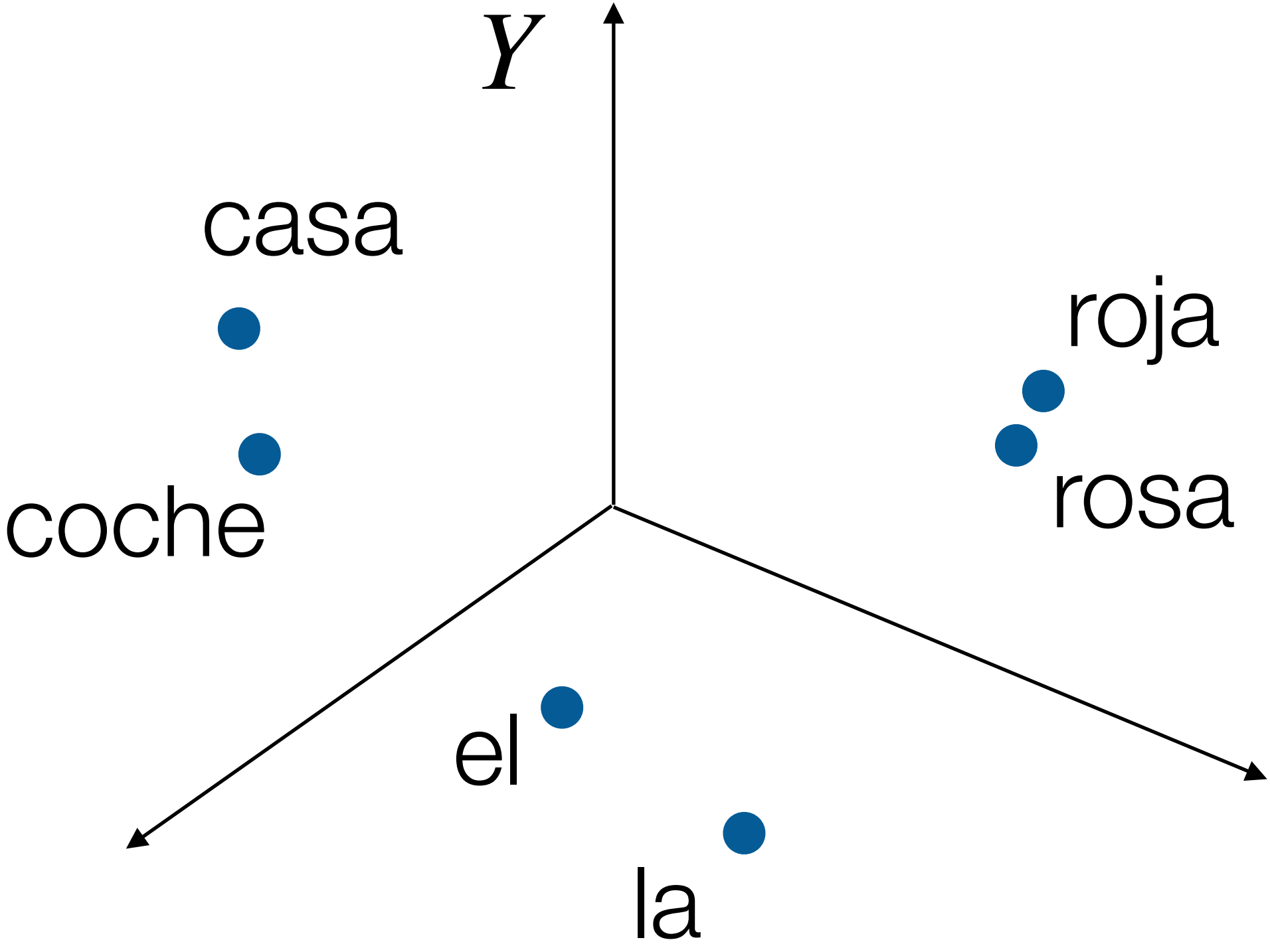
EN

ES

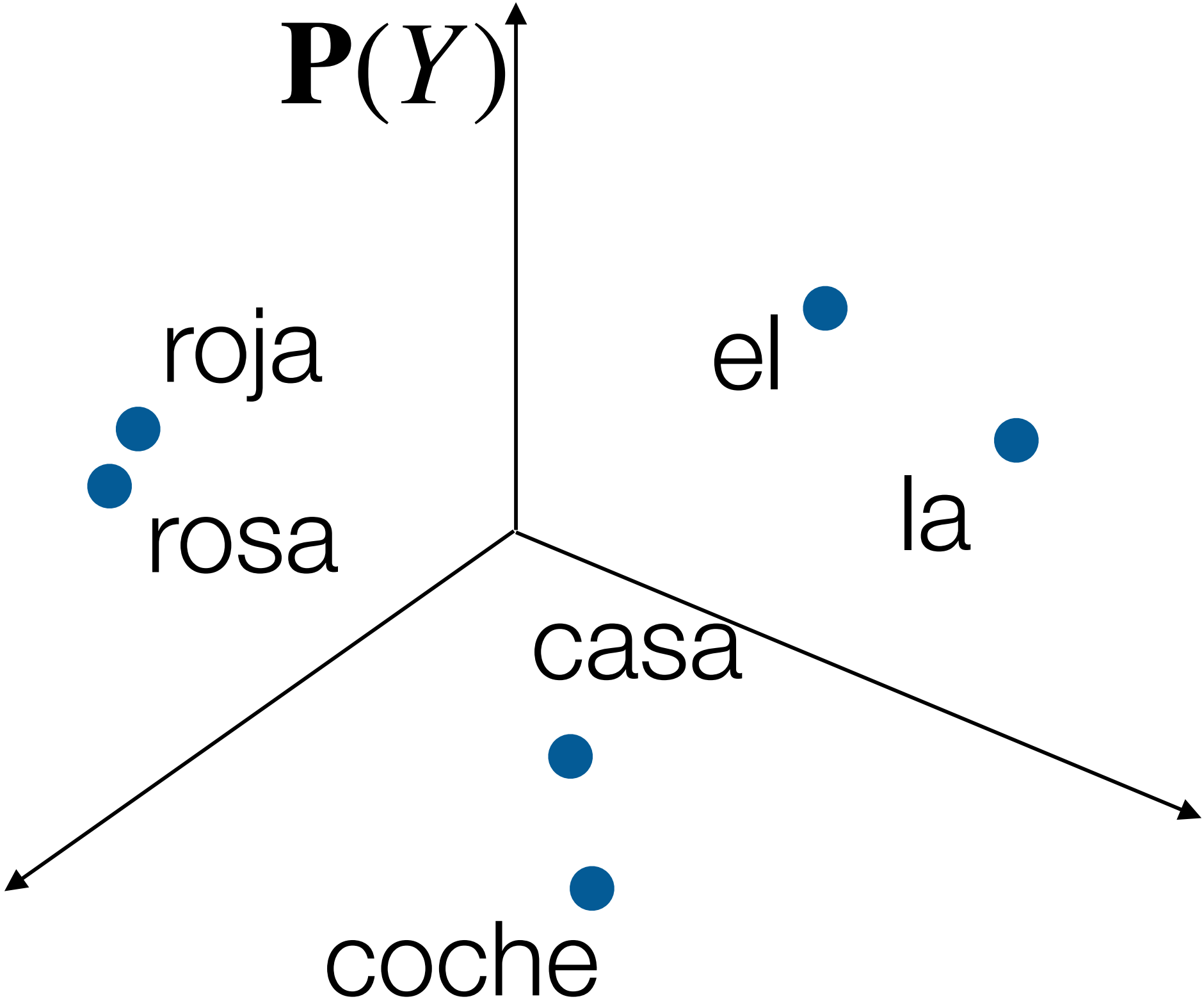
E.g. *word2vec,*

Glove, etc

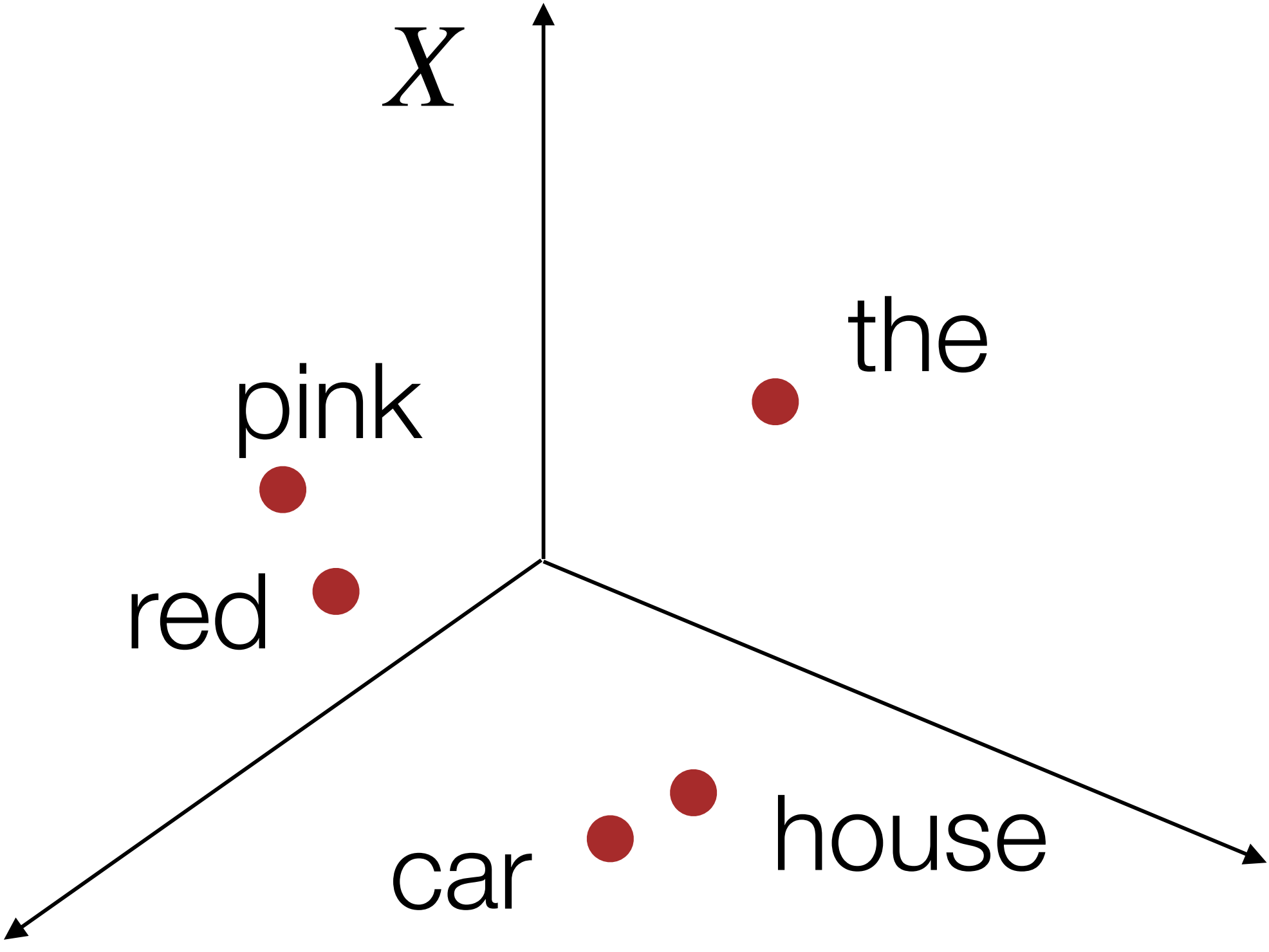

X
pink
the
red
car
house


Y
casa
coche
roja
rosa
el
la

Invariant OT


$\mathbf{P}(Y)$
roja
rosa
el
la
casa
coche

Gromov-Wasserstein


X
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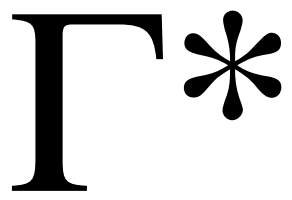
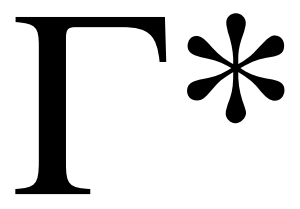
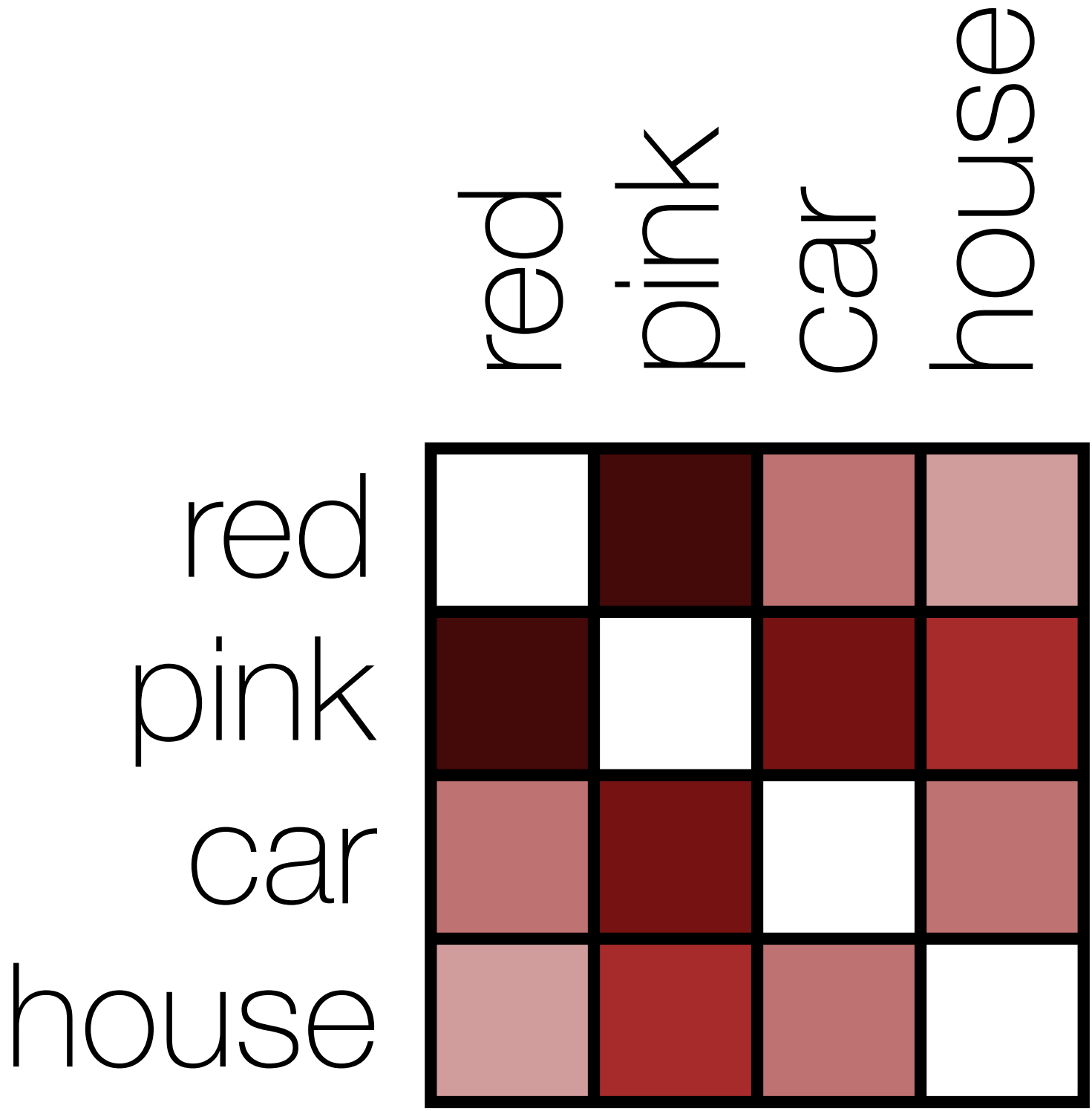
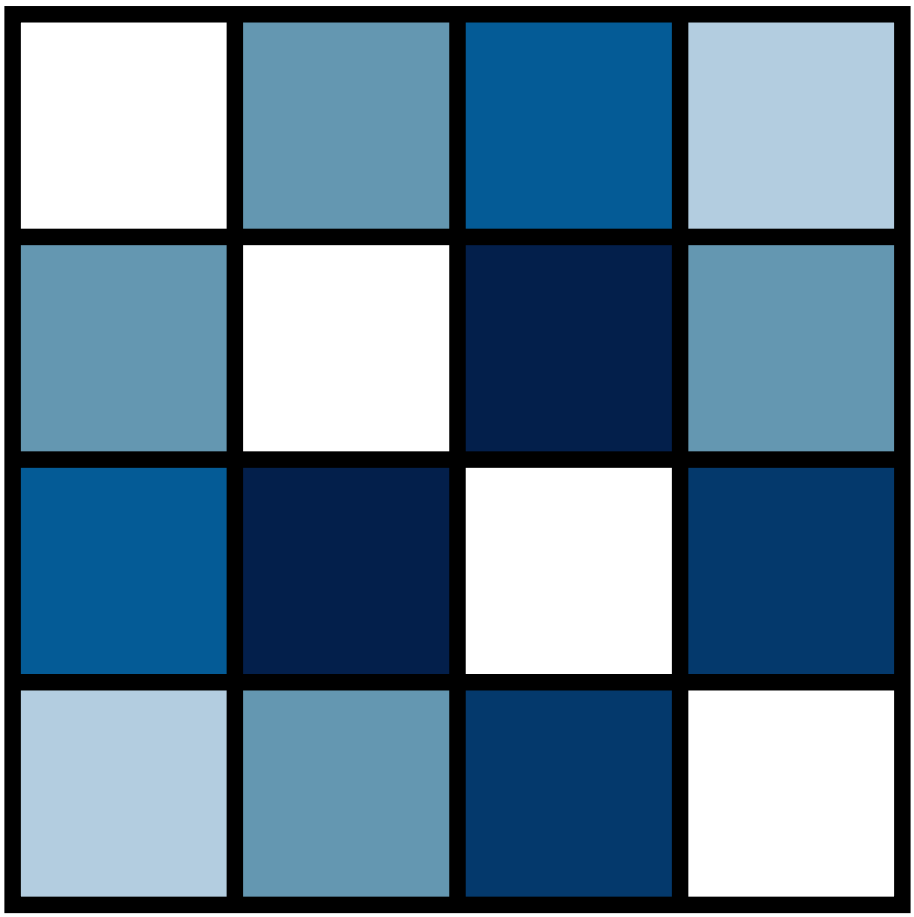






C

casa
coche
rojo
rosa

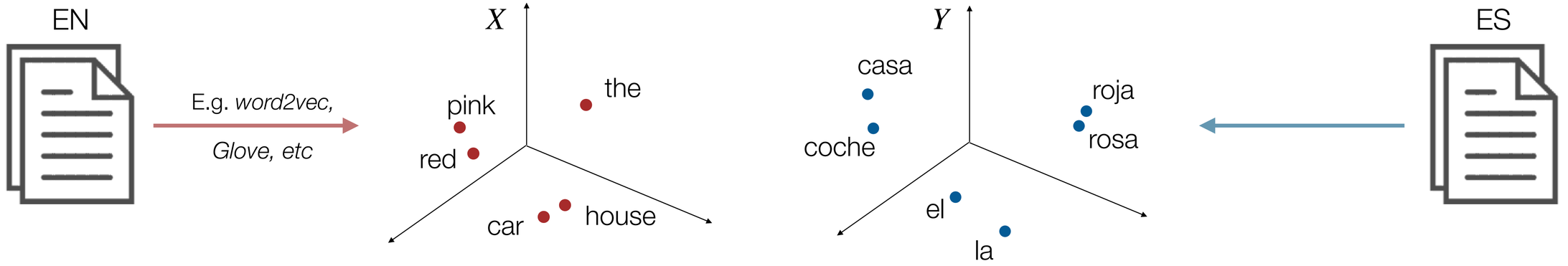


casa
coche
rojo
rosa

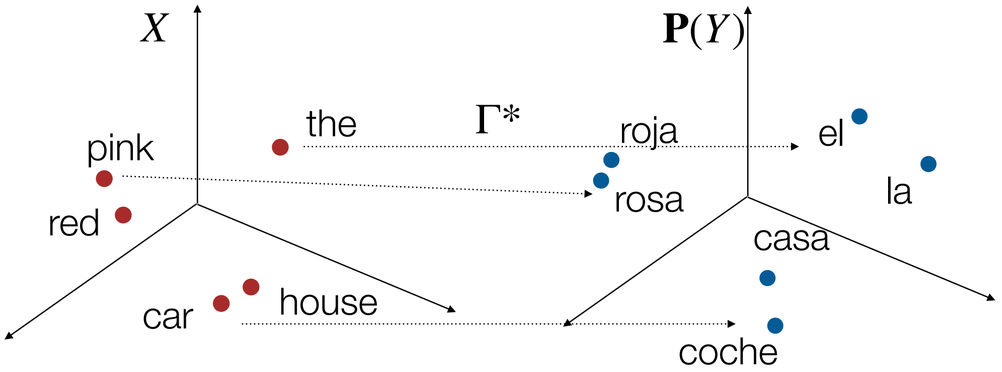
C′

Invariant OT
Application: Unsupervised Word Translation

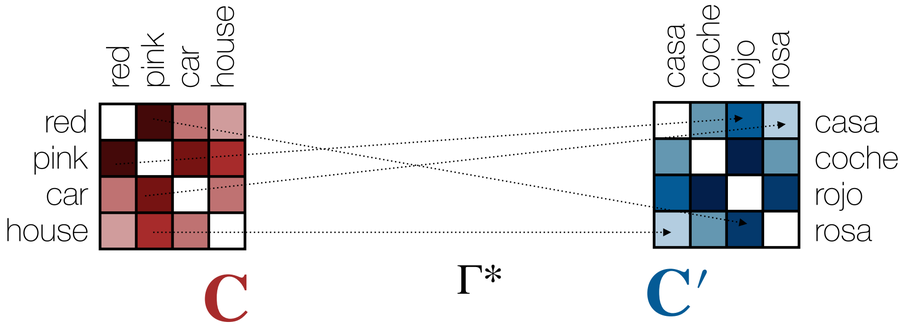
- Have **monolingual** word embeddings, want to find translations



Invariant OT



Gromov-Wasserstein



Invariant OT
application: word translation

Dataset: MUSE [Conneau et al., 2018], fastText embeddings of size 300

Languages: English ↔ [Spanish | Italian | French | German | Russian]

Evaluation Metric: Translation precision-at-k