

# Sense changes and multiword expressions

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## Emergence of new n-gram meanings

usage possibilities for n-gram change with time, and a MWE usage may emerge

**example** *smashed it*

*old use*: destruction/impact, as in (from 1995)

the wind lifted his three-car garage and **smashed it** to the ground.

*recent MWE usage*: meaning 'excelled', as in (from 2013)

sensational group CEO, totally **smashed it** in the BGT (Britain Got Talent)

question is:

*Can such **emergence** of an MWE-usage be detected from untagged time-stamped text?*

## Model and Training

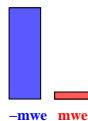
model roughly :  $P(\textit{Usage}|\textit{Time}) \times P(\textit{context} - \textit{words}|\textit{Usage})$

time-stamped raw text

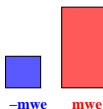
1999:	..... smashed it ....
⋮	⋮
2013	..... smashed it ....

EM  
adaptation  
of probs

1999:

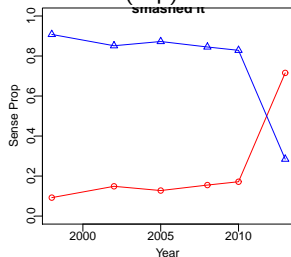


2013:

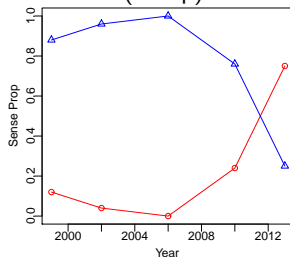


## Outcomes

smashed it (sup)



smashed it (unsup)



words

old:

smithereens

bits

bottle

onto

phone

new MWE usage:

!!

guys

really

completely

They