

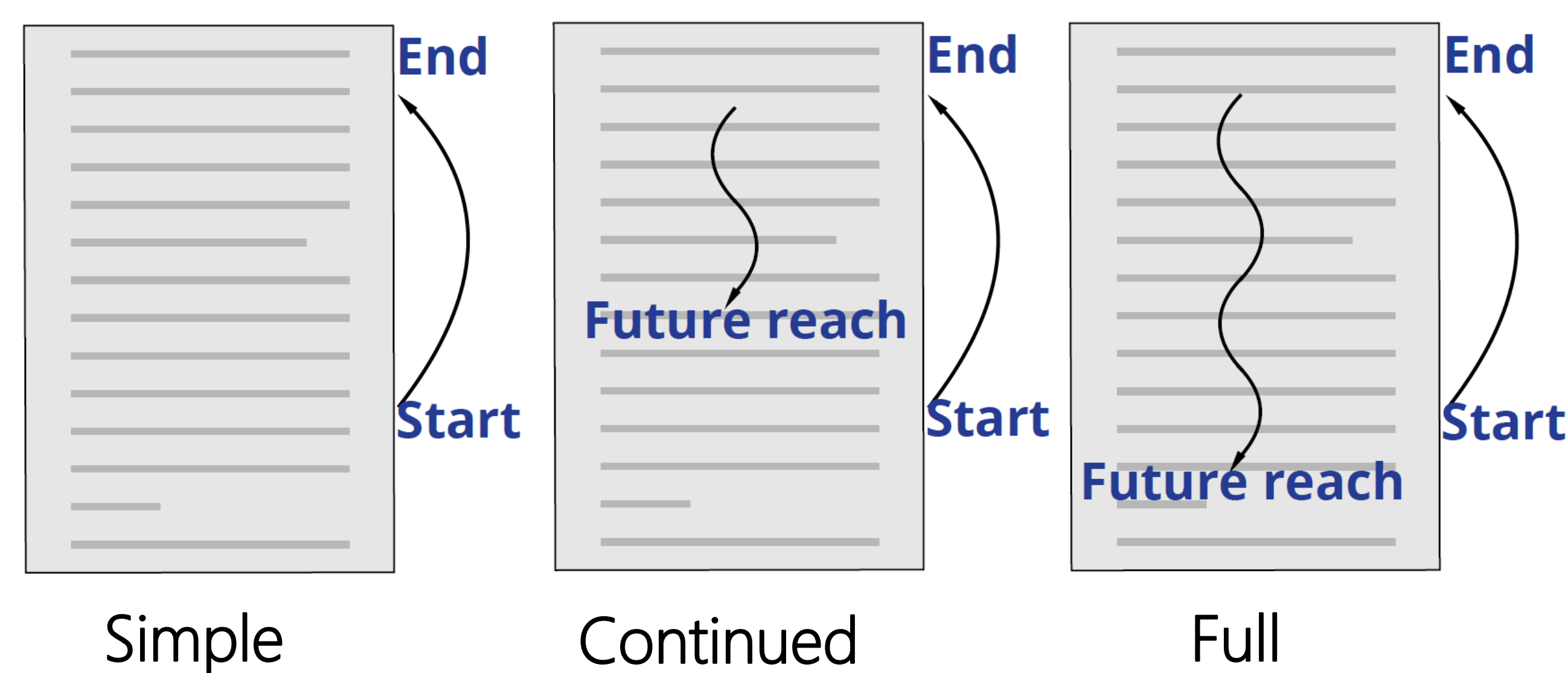
# Understanding Reader Backtracking in Online News Articles

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## What is backtracking?

The action of scrolling back in a browser while reading an online news article.

### Types of backtracking (BT) events



## Why might backtracking occur?

Readers **re-read** a piece of text that they did not fully understand, indicating **readability issues**

### Data

Obtained from Chartbeat

- 1.4M sessions
- 26k users
- 8k online news articles
- two major online publications:
  - long-form news magazine (**LONG**)
  - short-form news website (**SHRT**)

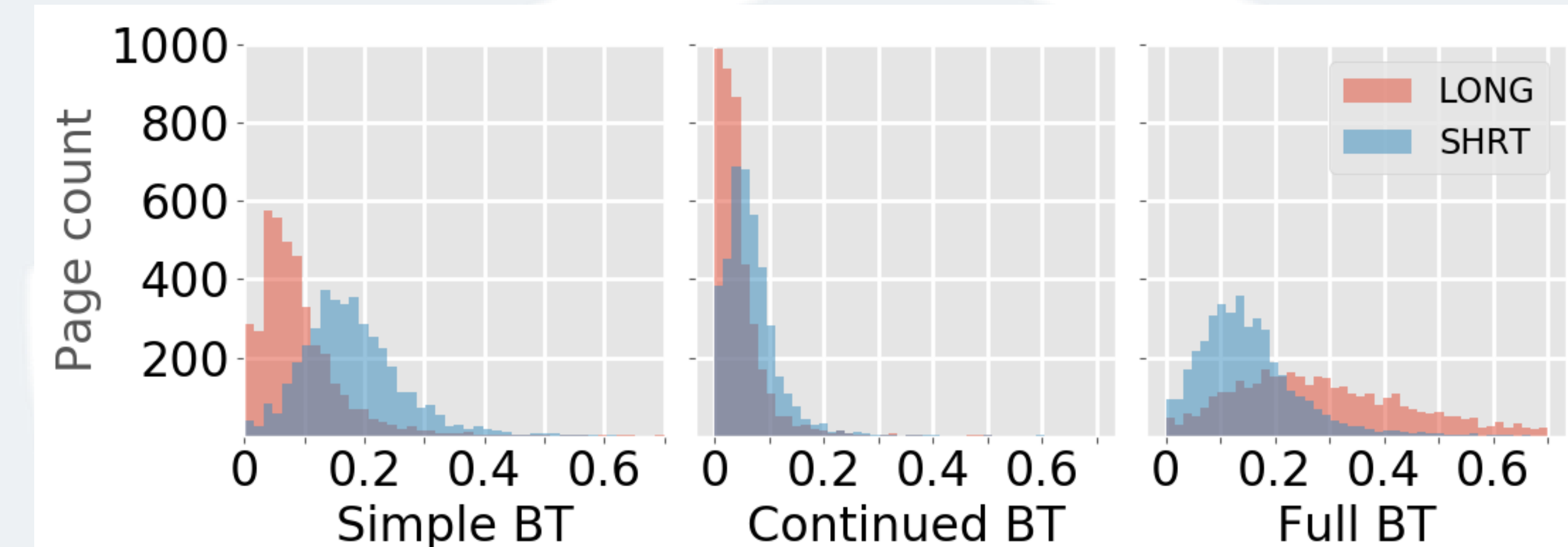
## Are some pages more prone to backtracking?

Full backtrack events are more common, especially on long-form pages.

Number of backtracking events for long and short articles:

	Users	Pages	Sessions	Simple BT	Cont. BT	Full BT
<b>LONG</b>	15,949	3,968	694,728	57,897	28,840	246,787
<b>SHRT</b>	11,117	3,957	763,335	136,153	49,211	127,421

Mean number of backtracking events per reading session:



## What textual features predict backtracking?

**Lexical:** readability measures & simple text properties

**Entity-density:** proportions of named entities

**Part-of-speech density:** proportions of nouns

**Coreference chains:** characteristics of coreference chains

	Accuracy	F1	AUC
All features	<b>0.838</b>	<b>0.839</b>	<b>0.901</b>
Length only (control)	<b>0.747</b>	<b>0.739</b>	<b>0.809</b>

Find in the full paper:

- Feature ablation showing relative contribution of each family of features
- How we control for different types of readers and topics, finding no effect on the prediction task

## What does this mean for Web content and readability?

➔ Full backtrack events may be an indication of readability issues in online news.

➔ Large-scale Web signals can help define improved readability measures.

### Learn more:

[bit.ly/backtracking-www](http://bit.ly/backtracking-www)

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