TEXT MINING ANALYSIS OF PERCEPTION IN ARCHAEOLOGICAL LANDSCAPES: THE CASE OF STONEHENGE

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When it comes to analyzing the archaeological record, surviving heritage, and landscapes of the past – how often does this include analyzing those discussing the past?
Background

- Methodology
  - Textual Analysis: Topic Modelling
  - Open-Source software: SQLite and R
  - Applying GIS technologies to Textual Sources (Murrieta-Flores; Gregory)

- Theoretical lens
  - Landscape Archaeology (Llobera)
  - Sense of Place (Tuan)
  - Transformation of Symbol (Kolodziejska)
Case Study

- Stonehenge
  - Globally recognized archaeological and heritage site
  - Shifting role in local and global landscape
Antiquity

- Archaeological Academic Journal
  - Based in the UK
- Single lens of academic writing pertaining to Stonehenge

https://antiquity.ac.uk/
Topic Modelling

```
createCorpus <- function(papers) {
  # Final list is custom words + standard english words
  stopWords <- tm.stopwords("en")
  stopwords <- c(stopWords, wordsToIgnore)
  corpus <- Corpus(DataframeSource(papers))
  processedCorpus <- tm_map(corpus, content_transformer(tolower))
  removeSpecialChars <- function(x) gsub("[A-Za-z0-9 ]", "", x)
  removeNumbers <- function(x) gsub("\d", "", x)
  processedCorpus <- tm_map(processedCorpus, removeSpecialChars)
  processedCorpus <- tm_map(processedCorpus, removeNumbers)
  processedCorpus <- tm_map(processedCorpus, stemDocument, language = "en")
  processedCorpus <- tm_map(processedCorpus, removeWords, stopwords)
  return(processedCorpus)
}
```

```r
# Example usage
exampleTermData <- turns(ppt.DA, 10)
```
Topic Model of Stonehenge-Related Texts

Archaeological Science

Archaeological Fieldwork

Astronomy

Prehistoric Monument

Heritage Site
Future Work

- Utilizing a Comparative Framework in other case studies
- Additional textual sources other than academic texts
- Additional types of heritage: tangible vs. intangible
- Geotextual Analysis: potential use of GTA
ANY QUESTIONS?

Thank you

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References:


