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Tide Prediction Machines, Prosopography and Digital Humanities: what are they and how do they fit together?

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Tide Prediction Machines

- Analogue computers for calculating predictions of times of high and low tides
- Preceded by long calculations by hand, succeeded by digital computers
- First operational tide prediction machine constructed in London in 1873
- 25 out of 33 machines ever built constructed in UK
- Many machines exported; used worldwide



British Tide Predictor No.1, built in London in 1873, now on display at London Science Museum. Photograph taken by H. M. Rawsthorne on 02/02/19.



Bidston Kelvin machine, built in Glasgow in 1924-25, now at SHOM site in Brest (France). Photograph taken by H. M. Rawsthorne on 18/12/18.



Doodson-Légé machine, built in London in 1950, now on display at NOC site in Liverpool (UK). Photograph taken by H. M. Rawsthorne on 15/01/19.

A New Wave of Prosopography: an Application to Tide Prediction Machines

THE PROJECT

- Study lives of tide prediction machines by doing a prosopography of them
- Analyse use and impact of tide prediction machines
- Investigate status of machines today
- Make it easier to tell the story of lives of tide prediction machines

THE QUESTIONS

- Can prosopography successfully be used to study a group of artefacts?
- How can digital humanities tools be used to facilitate a prosopographical study?

Prosopography

- Research method usually used to study lives of groups of people
- Overcomes problem of scarcity of historical data by collecting together all available fragments and analysing them, thus compensating for gaps in the data
- Highlights particular characteristics representative of chosen group
- Focuses on the general and average instead of the exceptional and unique

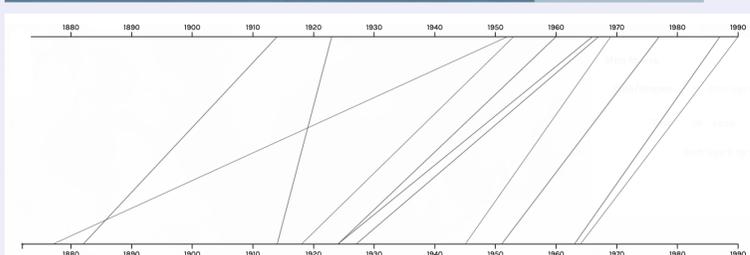
Use of digital humanities

THE DATA

- Most data is temporal and geospatial (dates and locations of manufacture, operation, decommissioning, etc.)
- Some numerical data (number of constituents on machines, cost of machines, etc.)
- Some textual data (names of machines, manufacturers, etc.)

Palladio (right)

- Map (right) shows journeys made by tide prediction machines during their lifetimes, from manufacture location to operation location
- Timespan (below, right) shows lifetimes of tide prediction machines
- Different visualisations uncover patterns previously hidden in data

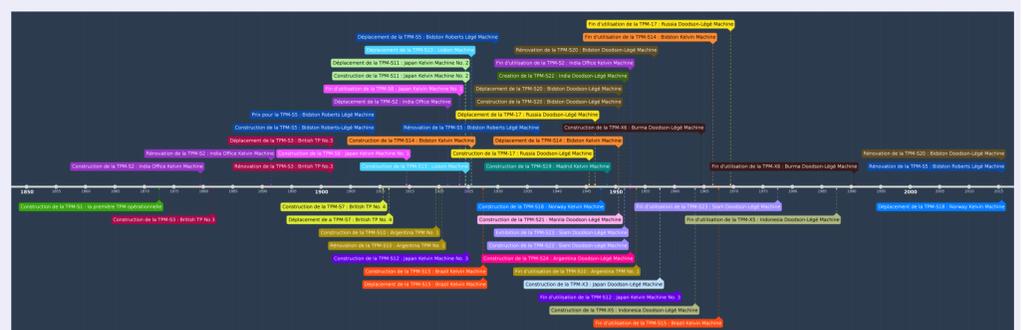


WHY DH TOOLS?

- Storage and management
- Association and analysis
- Visualisation and interpretation
- Presentation and diffusion

WHICH DH TOOLS?

- Zotero (bibliography management)
- CmapTools (mind map creator)
- Palladio (complex data visualiser)
- Time.Graphics (timeline creator)
- Hypotheses (blog platform)
- Twitter (social network)
- Overleaf (Latex editor)



Time.Graphics (above)

- Timeline shows significant dates of tide prediction machines built in UK: manufacture date, displacements, renovations, prizes awarded and decommissioning
- Each individual machine assigned different colour to aid identification on timeline
- Interpreting and comparing data easier with colourful and visual representation

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Poster designed by Helen Mair Rawsthorne for display at the DARIAH Annual Event 2019 in Warsaw (Poland), 15-17 May 2019. All images licensed under CC BY 4.0.



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Winner of DARIAH's DH methods and tools blog competition 2019

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