Data Commons and the Humanities

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Knowledge as commons

- There is a changing view of knowledge and how it is created developing around the idea of openness: Open Access, Open Science, Open Data
- Knowledge is conceptualized as a commons, that is, as a shared resource built, maintained and used by a community
- A data commons is a part of research infrastructure in such a model
- The ideal of Open Data does not necessarily align with research traditions in all areas of humanities or with the wishes of communities
- Does a humanities data commons need to be different to a data commons in other disciplines?

Humanities data - differences

- Data in humanities research increasingly are:
  - Digital objects
  - Manipulated with computational tools
- Data is less likely to be created in the research process and often sourced from GLAM sector
  - Strengthens view of data as part of commons
  - No one owns the text of Shakespeare but many base their research on this data
- “Big data” in humanities: differences in volume, variety, value

Volume

- Data objects are typically smaller than in many other disciplines
- But high resolution imaging or multimodal material require significant storage space
  - Large proportion of storage
  - Small proportion of objects
- There are a limited number of very large humanities data collections (e.g. Australian Web Archive: 9 billion records, 600TB)

Variety

- Humanities research can use many different kinds of material:
  - Text
  - Images
  - Audio
  - Video
  - Quantitative data
  - Others….
- This variety is an essential feature of humanities research

Value

- Reuse is an important aim of sharing data
- In some disciplines, only specialists in one particular discipline can reuse data
- Humanities data is:
  - Usable by multiple disciplines
  - Accessible to non-specialists
- Humanities data has significant value to communities and so can require access restrictions (FAIR versus CARE principles)
- The value of humanities data does not diminish over time – indeed its value can progressively increase

Language data as example

- Language data exemplifies the points made previously:
  - Volume – media important for much research today, but still not enormous amounts of data
    - Media only valuable if annotated, further restricts amount of data that needs to be stored
    - Text is cheap to store
  - Variety – text, audio, video, images all used in language research
  - Value – language data can be used by researchers in other disciplines and vice-versa
    - Text collections may be of interest to media studies or literary studies
    - Oral history collections are of interest to linguists
    - Non-scholars may be interested in any of these materials
      - Special case of speaker communities and endangered languages

Some implications

- Storage level:
  - Dealing with many formats is more important than dealing with large volumes
- Access/interface level:
  - Enabling interaction with different data types is desirable
  - Access control is very important
- In building the interface to a language data commons, appreciating the complexity (i.e. granularity and interconnectedness) of language data is critical

A Language Data Commons as part of a Humanities Commons

- The interests of language researchers are diverse but:
  - Many already deal with data in digital forms
  - Costs of producing (some kinds of) data mean that aggregation is the best strategy to build scale
  - Many kinds of language data are reusable
- A language data commons should represent the massive diversity of languages in Australia and its region
- Ethical and equitable:
  - Access as wide as possible while respecting the rights and sensitivities of those who have contributed to the data
  - Barriers in accessing the data should be minimised as far as is consistent with the ethical and cultural commitment

Language Data Commons Policy Framework

- Dialogue is needed between researchers and communities to reconcile the principles of FAIR and CARE with respect to language data (and cultural data more generally)
- A sustainable national language data commons requires the formalisation of institutional relationships between the research sector (esp. universities) and the GLAM sector (esp. libraries and archives)
- The key to building a national language data commons is developing a policy framework that navigates rights restrictions (cultural, moral, copyright)

Findable

Accessible

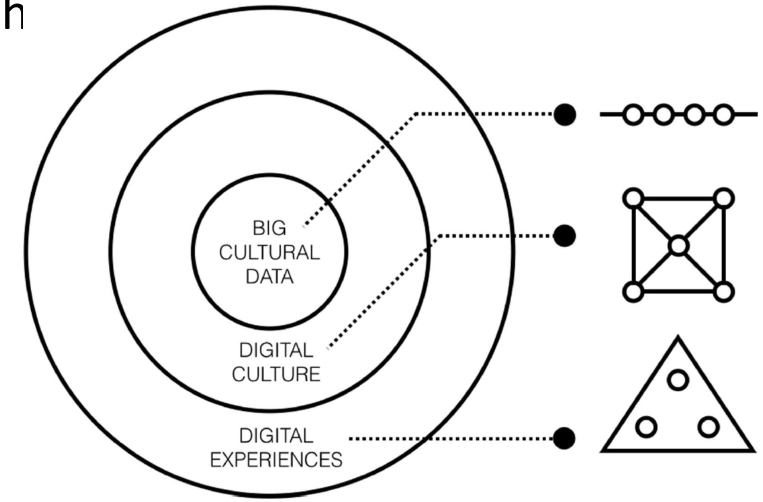
Interoperable

Reusable

CARE Principles for Indigenous Data Governance

Conclusion: Big Data in the Humanities

- A data commons is implicated in each level of Kaplan’s (2015) model:
  - Big Cultural Datasets
    - Preservation and Curation are part of the processing cycle at this level
    - A data commons is part of that processing
  - Digital Culture
    - Includes a *control* domain - covers the relationship of communities and global actors with massive digital objects and the software medium
    - A data commons is one model for how control relationships can work to the benefit of broad communities
    - Finding an access model which balances rights of contributors with other communities is crucial
  - Digital experiences:
    - Interfaces contribute to digital experiences
    - Humanities data in a commons poses special challenges for interface construction



Humanities and Computing Potential

- There is vast potential for the humanities through extending computational methods to humanities research
  - Multimodal / multipurpose big data (e.g. Trove)
  - Mapping (combining data and geographical space)
  - Real world applications
    (applying corpus-based research in classrooms)