

Genealogical Relations Of Knowledge

<http://grok.anthropology.ac.uk>

Patches to Patchwork:

Grid applications and qualitative research

- This represents some of the ideas we are developing in our E-Science middleware project, GROK, Genealogical Relations of Knowledge.
- GROK is aimed in part at supporting building knowledge structures that can be related to support qualitative research.
- The project is evaluating models derived from analyzing 'natural' kinship terminologies and their structure to organise and access discursive information.

Formal Patches

- Qualitative research has expanded greatly with development of CADQAS tools
- Much of this expansion has been accompanied by an ethos of anti-formalisation
- At the same time researchers have been accepting tools that formalise by fiat
- Increasing awareness that formalisation does not necessarily lead to deterministic approaches

Textual Patches

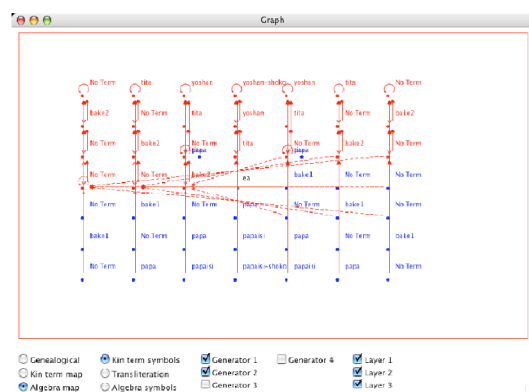
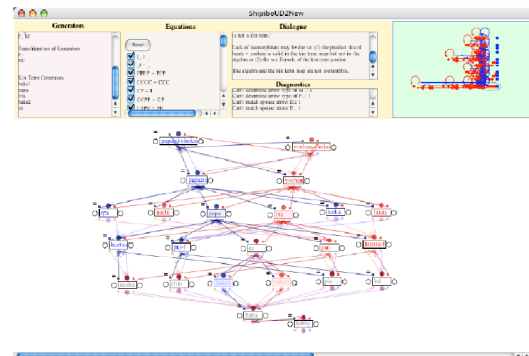
- Qualitative research has historically been based on textual representations
 - Transcripts of interviews
 - Fieldnotes
 - Archival records
 - Transcriptions derived from other media

XML Patches

- Adoption of XML for web applications
- Created infrastructure and tools useful for qualitative research
- Has contributed to heightened and more formal metadata
- Enhanced focus on the structure & composition of qualitative data

Networked Data

- Data - needles in haystacks
 - Current network model requires focal points
 - Browsers, dedicated databases etc.
 - A lot of knowledge about resources
 - Current data reuse must generally be filtered through minds
 - Current data sets become versioned



The Kinship Algebra Expert System (KAES - above) assists the analyst in identifying an algebra underlying a terminology. Different terminologies can have quite different impacts on

how a graph is traversed. Above is the Trobriand kinship terminology (Trobriand Islands), which generates terms using sibling products rather than parent products as English

Kinship terminology does. KAES builds on work by Dwight Read and Michael Fischer which identifies an algebra in terms of the terminology without reference to a genealogical

graph. The algebra can instantiate its products across the graph to locate different kinds of relationships, acting as a graph reducer. In GROK we are exploring a general approach to relationship terminologies and their use to store and locate information across a network of data relationships.

Michael Fischer, David Zeitlyn, Nick Ryan
Centre for Social Anthropology and Computing
University of Kent

E-Science and Data

- E-Science - pervasive data transports
- 'always on' data
- data accumulation
- transformation services
- discovery services

E-Data

- E-Data model is a object-centred model
- Applications form around content
- Data and objects can become fused
- Data can be a graph of transformations with different simultaneous renderings
- Data transactions/transformations can be journalled and thus reversible or traversable.

Grand Schemes

- This approach sounds very esoteric
- It is however a close analogue to how research was done before computers
- Researchers surrounded themselves with their data, cutting and pasting and stacking
- They could be very intimate with their craft.

Grander Schemes

- E-Data transcends the 'portal' by focusing on 'pieces of data' rather than data sets
- 'Documents' are composed of these pieces as a series of mid-points, rather than end-points.
- 'Documents' can be traversed to the sources, or to other derivations.
- Data becomes active, an amalgam of information and knowledge

The Next Step

- To make this really useful the researcher experience must be simplified
- One way of doing this is to encapsulate everything in objects
- This makes possible 'self-parsing' and 'self-transforming' documents and document fragments.
- These can then be given both a textual and a graphical representation for manipulation in either GUIs or command format interfaces