Multimodality in overdrive: a dynamic exploration of historical networks

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In this paper we will reflect on methodological approaches in relation to social network analysis in the humanities. This paper departs from the discrepancy between the networks created and used by sociologists and the networks created and used by historians. Whereas the sociologist can work with complete unimodal or otherwise two-mode networks, the historian has to rely on the availability of the past. This means that every piece of evidence that is available has to be included to interpret relations in the past: letters, artworks, parish records, institutional affiliations, pamphlets etc. This leads to a range of different kinds of nodes and links; here bimodal or multimodal networks emerge.

However, when the network graph grows in its modalities and complexity, you can do less in terms of network metrics, as Scott Weingart has pointed out in his blog 'Networks Demystified 9: Bimodal Networks' (scottbot.net/HIAL/?p=41158). A calculation of betweenness centrality in a network that consists of societies, persons and artworks with links based on statements like 'commissioned by' and 'devoted to' can only produce indicative results on the position of each node in the network. The results possess little analytical value as societies, persons and artworks each play a different role within the structure of the network and form only a fragmented representation of a network.

As the complexity of networks and modes of analysis grows, it will be hard for readers to achieve the digital literacy required to understand the visual grammar of the graph. As Marten Düring has pointed out: once the text you need to explain your graph is longer than the text you would need to convey your research without a graph, it is best to not use a graph at all in a publication (presentation at Historical Network Research Workshop, University of Amsterdam, 19-06-2015, create.humanities.uva.nl/uncategorized/19-june-historical-network-research-workshop-with-marten-during/).

Due to these reservations we propose an alternative methodology that focuses on exploration in network analysis. In this approach we encourage aggregation of complex data while making research questions explicit in the definition of dynamic reconfigurations of datasets. Instead of working towards statistical data generated by network metrics, the product of exploration is one that focuses on the embedded presentation of narratives in datasets. This explorative method can both be achieved in individual research projects in which heterogeneous data is brought together as well as in collaborative projects in which multiple (heterogeneous) datasets are linked.

We will illustrate this approach by means of a dataset that has been established within the project 'Mapping Notes and Nodes in Networks' (huygens.knaw.nl/mapping-notes-and-nodes-in-networks/?lang=en). This dataset is based on data brought together from ECARTICO (UvA, vondel.humanities.uva.nl/ecartico), HADRIANVS (KNIR, hadrianus.it), Sculptors on the Move (UvA) and the Dutch Biography Portal (Huygens-ING, biografischportaal.nl). In the course of 2014 these heterogeneous datasets were imported and connected in the online research environment nodegoat (nodegoat.net), which is developed by the authors of this paper. Since 2014, the dataset has been continuously used and enriched by PhD candidate Ingeborg van Vugt. In the recently funded project 'Golden Agents' (Huygens-ING), this dataset will be actively linked with numerous resources on creative industries in the Dutch Golden Age to study relations and interactions between producers and consumers of creative goods across the long Golden Age of the Dutch Republic.

An example of a complex and multimodal network distilled from this dataset can be seen in figure 1. This network represents the professional, societal, and epistolary network of Dutch engineer Cornelis Meijer. This multimodal network consists of persons, letters, artifacts, societies and various sorts of locations. Even though this graph does not lend itself for the usage of network metrics and would not be suitable for traditional print publication, it conveys a wealth of information and is thus a valuable asset for researchers who are exploring contextual relations within their datasets.

Our paper will focus on the proposed methodological challenges and the opportunities of explorative network analysis in the humanities.
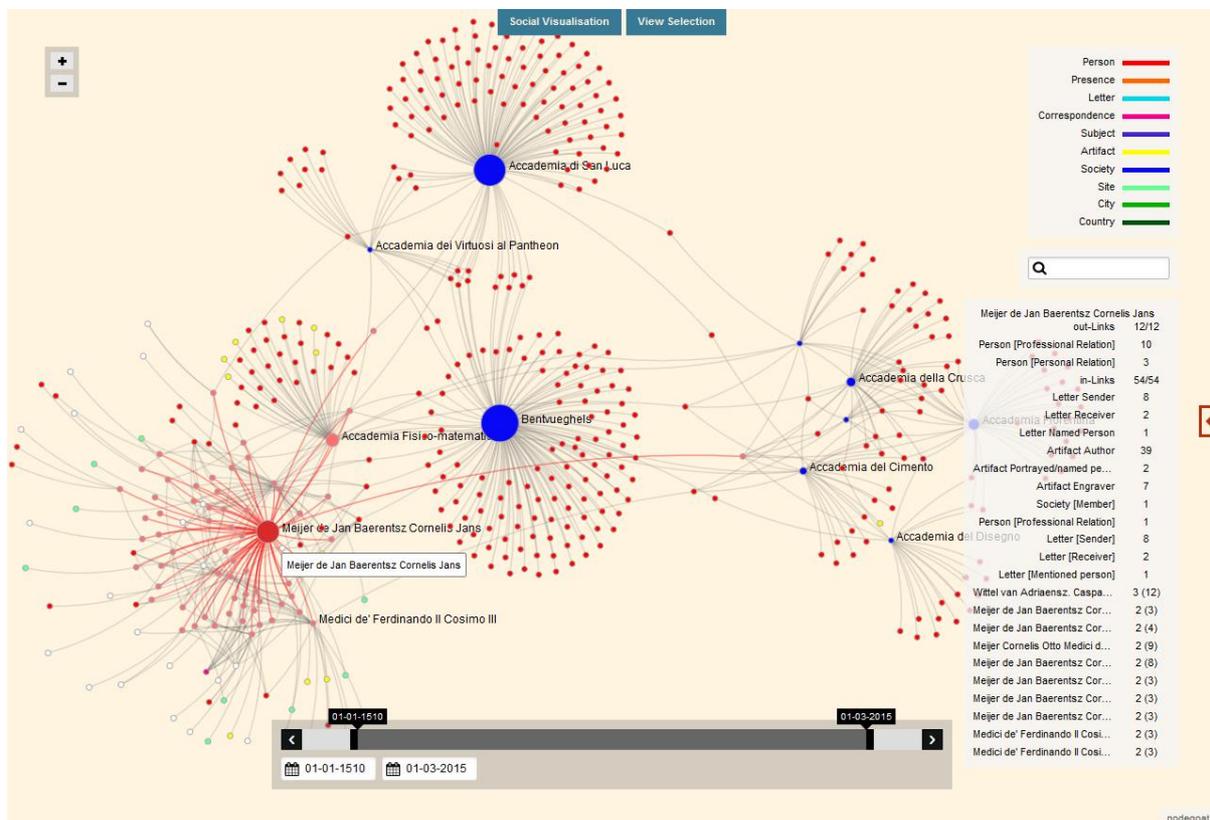

Figure 1: http://mnn.nodegoat.net/viewer.p/1/47/scenario/2/social.