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The Future of Historical Network Research. Florian Kerschbaumer, Institut für Geschichte, Alpen-Adria-Universität Klagenfurt; Martin Stark, Fakultät Wirtschafts- und Sozialwissenschaften, Universität Hamburg; Ulrich Eumann, NS Dokumentationszentrum Köln; Marten Düring, Centre virtuel de la c, 13.09.2013-15.09.2013.

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The Future of Historical Network Research

Social Network Analysis (SNA) methods have found their place in historical research. The network concept is no longer a mere metaphor but has become a research method. Over the last decades, several studies have proven that formal methods derived from social network analysis can be fruitfully applied to selected bodies of historical data. When we, that is the organizers of the conference, began to apply network analysis methods, there were no suitable points of reference and hardly any previous work which successfully combined Social Network Analysis methods and source-criticism. Over the years we have developed an infrastructure for historians to engage in research on networks, to exchange ideas and to receive training. After eight workshops on Historical Network Research (HNR) at locations in Germany, Austria and Switzerland, it was time to look back at what has been achieved in the last years and to explore what might be next. For this first conference of HNR we therefore had three objectives:

First we wanted to see in which historical fields network analysis methods are used today. We invited papers which cover the whole range of historical research and organized them in four sections: "Information Conceptualisation and Visualisation", "Space and Time", "Linked Data and Ontological Methods" and "Overlaps between Network Analysis and the Digital Humanities". Our second aim was to bring together scholars from different countries, since research on networks in history has yielded different approaches, for example in the European countries and the United States. The third goal was to strengthen the ties between historians and computer scientists. We therefore opened the conference with a Keynote-Panel on the opportunities, limitations and future of the method.

JANA DIESNER (Champaign, IL) opened the keynote panel with her talk titled: "Of microscopes and telescopes in the digital humanities and computational social sciences". With reference to her collaboration with Anthropologists on political change in Sudan, where she led the software-based extraction of relational data from text, she argued against the distinction between "qualitative" and "quantitative" research strategies. Instead, she argued for an integrated approach which combines the strengths of humanities and computer science research.

Her talk was followed by CHARLES VAN DEN HEUVEL (Amsterdam) who presented the "Circulation of Knowledge and learned Practices" project which assembles text, metadata and relations between 17th century Dutch scholars. Van den Heuvel focused on the research tool ePistolarium which lets scholars explore full text letters, allows faceted searches and visualizes the relations between scribes and contents of the letters. He focused on the potential of computational tools to raise new research questions and to process far larger amounts of primary sources than ever before.

The final talk in this panel was delivered by ROBERT GRAMSCH (Jena) who focused on his work on 13th century treaties and his approach to understanding them as components of a network. In his talk titled "The Empire as a network of princes. Network analytical modeling of political action in the Middle Ages" he found that alliances and rivalries can be retrodicted using Fritz Heider's Balance theory and concludes that a network perspective is essential for our understanding of their dynamics.

For the final discussion the visualisation expert LOTHAR KREMPEL (Cologne/Duisburg-Essen) joined the panel. He highlighted the importance of network visualizations as heuristic tools and argued for their continued use in the historical disciplines. The panel agreed that future applications of network methods in history need to move further towards the integration and bridging of academic disciplines, for example through collaborations with computer scientists and visualization ex-

perts.

The second day of the conference began with a lecture by SEBASTIAN GIESSMANN (Siegen), who gave a historical overview of networks as a paradigmatic term from Antiquity to present. In his talk titled "Network Paradigms: From Textile Objects to Complex Networks" he showed the spectrum of network concepts in human culture, ranging from theological to social contexts. With his work Gießmann makes an important contribution to the history of networks and thus provides a part of the foundation of HNR as an emerging research method.

The next talk "Plotting the dynamics of collective action and social reform, 1855-1865" covered the field of international history, in particular the history of international organizations with a focus on the 19th century. CHRISTOPHE VERBRUGGEN and HANS BLOMME (Ghent) could convincingly demonstrate with their contribution and their examples, how useful the Historical Network Research in the context of this research field is for analyzing and describing the transnational circulation of ideas, persons and activities in international organizations.

An art-historical approach was presented by YANAN SUN (Ithaca, NY/Heidelberg) in her presentation "Conceptualize History into "Dots and Lines:" Dynamic Network Analysis of the History of Chinoiserie-Architecture in Germany". The focus of her work lies on the emergence and development of the Chinoiserie style in architecture in Germany. Her approach combines diffusion theory with a network based on distinct modes such as "architects", "clients", "location" and "knowledge".

The last talk of the first section was given by KIMMO ELO (Åbo/Turku). In his paper titled "Network analysis and the intelligence cycle", Elo combined the so-called intelligence cycle model with network analysis and visualizations, to model and analyze its structures and dynamics. In his case study, focusing on activities of the foreign intelligence of the former German democratic republic in the Baltic Sea region, he shows clearly how useful network methods are to handle big data and to display dynamic changes over long periods of time.

MARTIN RHEINHEIMER (Syddansk) opened the second section on Case Studies in "Space and Time" with his talk titled "Regional networks of Northfrisian sailors at Amsterdam, Hamburg and Copenhagen, 1750-1840". In his talk he dealt with regional networks of Northfrisian sailors in commercial shipping. Rheinheimer compared the presence of sailors from different Northfrisian islands at the most important big harbors of Amsterdam, Hamburg, the then Danish Altona, and Copenhagen. In a next step, he examined local and regional networks at these harbors and investigated the requirements for such networks. Finally he traced these networks back to the sailors' home communities by a few exemplary analyses of kinship, godparenthood, and credit relations.

His talk was followed by ANNA MITSCHELE (Mannheim), who presented her research on "Time and space in Scottish witch-hunting, 1563-1736." Her study uncovered the social mechanisms of witchcraft panics in Early Modern Scotland by looking at local patterns of witch trials across time using social network methods. Mitschele discovered that witch hunts were organized in social units that transcended the boundaries of parishes. At the same time, they remained below the reach of regions. Most importantly, witch hunts clustered geographically around Edinburgh where they were visible to people in the center of political power.

The third speaker was EBERHARD CRAILSHEIM (Hamburg) who outlined his work on "European Merchant Networks in Seville (1580-1640)" with a focus on exemplifying the advantages of social network analysis for historical research. He pointed out that in early modern times the city of Seville became the center of an "international" trading network, connecting a large number of port cities in Europe with a growing American market. By reconstructing family and business networks of the largest foreign communities in Seville, the Portuguese, Flemings, Frenchmen, and Genoese, Crailsheim was able to show that these different networks were often very closely interlinked and complemented each other.

In the fourth presentation of the session WIM BROEKART (Ghent) explored the presence of Italian businessmen and their associations on the island of Delos. Instead of focusing on the internal organization of the associations, he analyzed the composition of the collegia, the individuals who had been elected magistreis and the personal and familial networks they were embedded in. In doing so, Broekart aimed to detect how the background of the individual magistreis helped in determining the role or roles of the Italian associations on Delos.

The final talk of the second section was given by ZACK BATIST (Ontario), titled "Using network analysis to examine obsidian assemblage variability in Anatolia and Southwest Asia from the Epi-Palaeolithic to Chalcolithic periods (14000 - 5700 BP)". Batist outlined his approach to reconstruct networks of interaction in prehistoric Southwest Asia and Anatolia based on a quantitative comparison of obsidian artifact assemblages, which have been compiled into a central dataset from dozens

of articles, books, field reports, and various other unpublished documents. He also presented the preliminary results of his research in which he explored how social and economic processes are reflected in these dynamic networks of interaction.

The third session was opened by PIM VAN BREE and GEERT KESSELS (The Hague), who presented their diachronic and spatial research platform for object-oriented analysis and visualization. Their starting point was a project on the networks of intellectuals at the University of Amsterdam in 2011. Van Bree and Kessels presented the structure and functions of their tool and how to visualize objects.

They were followed by MATTHIS KRISCHEL (Aachen) who spoke about networks of evolutionists in the 19th Century. For his project he selected 28 key persons from the correspondents network of Charles Darwin, especially anthropologists, linguists, and biologists. After an intense evaluation of literature and sources he generated 280 connections. Krischel's most important finding was that interdisciplinarity among the Darwinists was the rule rather than the exception.

At the end of the session CHRISTINE FERTIG (Münster) talked about kinship networks and class formation in two very different rural villages of Westphalia in the 19th Century. Her source base consisted mainly of church books, registers and contracts. Fertig used the methods of network analysis above all for the study of marriage and the exchange of resources.

The fourth section dealt with "Overlaps between Network Analysis and the Digital Humanities". MICHAEL KRONENWETT (Trier) presented in his talk the actor-centered interactive network mapping tool "VennMaker" VennMaker: An Actor-Centered Interactive Network Mapping Tool, <http://www.vennmaker.com/> (24.1.2014). , which has been developed by himself and other scholars at the Trier University. In contrast to other software tools VennMaker has a graphical user interface which can be used to draw networks intuitively. Thus the user may easily collect network relationships from an actor's point of view. Afterwards the data is transformed into datasheets and may be exported for example to Excel, Pajek or R.

FREDERIK ELWERT (Bochum) demonstrated how to use the information flow model, the typed relations model as well as the semantic nodes model to find text structures and to build semantic networks. In order to examine dynamic relations between religious traditions, he focused on central concepts and semantic clusters, rather than on relations between actors in texts. In these semantic networks words are seen as nodes, the grammar structure indicates the dependence of words.

JULIA DAMEROW and ERIC PEIRSON (Tucson, AZ) presented "A research system for network-based digital history of science", which is a new suite of tools for building historical networks collaboratively using digitized texts. The tool is developed at the Arizona State University and combines a text-annotation tool called Vogon <http://sourceforge.net/projects/gobtan/> (24.1.2014). with a constellation of web services to encode relationships among scientists, institutions, and organisms. The open source tool provides many links to public biographic or thematic databases.

MARIA BOSTENARU DAN (Bucharest) investigated a "Spatial street network and urban traces around the Modernist boulevard in Bucharest", which was shaped during the interwar time (1930s) with Modernist buildings. In order to represent urban cultural traces digitally all kinds of information about the architects involved are collected and filled into an online encyclopedia. Finally the dataset allowed creating a semantic network.

The conference shows clearly that Historical Network Research today is a research method with a quickly growing research community all over the world and has great potential. The excellent papers underlined the various applications of this method in historical fields. Especially in the context of discussions about digital humanities and big data it is necessary - for us as historians - to be open to these developments and to accompany this process open-mindedly, but also critically. The dialogue between scholars from different countries and disciplines proved to be extremely fruitful for the development of the HNR. For this reason we will continue to enlarge the Network of HNR community in the future.

Conference Overview:

The Future of Historical Network Research Keynote Session

Chair: Marten Düring (Chapel Hill, NC)

Jana Diesner (Champaign, IL): Of microscopes and telescopes in the digital humanities and computational social sciences

Charles van den Heuvel (Amsterdam): The "Circulation of Knowledge and learned Practices" project

Robert Gramsch (Jena): The Empire as a network of princes. Network analytical modeling of political action in the Middle Ages

Discussion: Jana Diesner, Charles van den Heuvel, Robert Gramschand Lothar Krempel (Cologne/Duisburg-Essen)

Section I: Case Studies "Information Conceptualisation and Visualisation"

Chair: Florian Kerschbaumer (Klagenfurt)

Sebastian Gießmann (Siegen): Network Paradigms: From Textile Objects to Complex Networks

Christophe Verbruggen/Hans Blomme (Ghent): Plotting the dynamics of collective action and social reform, 1855-1865

Yanan Sun (Ithaca, NY/Heidelberg): Conceptualize History into "Dots and Lines:" Dynamic Network Analysis of the History of Chinoiserie-Architecture in Germany

Kimmo Elo (Åbo/Turku): Network analysis and the intelligence cycle

Section II: Case Studies "Space and Time"

Chair: Martin Stark (Universität Hamburg)

Martin Rheinheimer (Syddansk): Regional networks of Northfrisian sailors at Amsterdam, Hamburg and Copenhagen 1750-1840

Anna Mitschele (Mannheim): Time and Space in Scottish Witch-hunting 1563-1736

Eberhard Crailsheim (Hamburg): European Merchant Networks in Seville (1580-1640)

Wim Broekaert (Ghent): Recycling networks. The structure of the Italian business community on Delos

Zack Batist (Ontario): Using network analysis to examine obsidian assemblage variability in Anatolia and Southwest Asia from the Epi-Palaeolithic to Chalcolithic periods (14000 - 5700 BP)

Section III: Case Studies "Linked Data and Ontological Methods"

Chair: Ulrich Eumann (Cologne)

Pim van Bree/Geert Kessels (The Hague): Trailblazing Meta Data: a diachronic and spatial research platform for object oriented analysis and visualisations

Matthis Krischel/Heiner Fangerau (Aachen): A Social and Intellectual Network of 19th-century Scientists

Christine Fertig (Münster): Kinship networks and class building in rural Westphalia

Section IV: Overlaps between Network Analysis and the Digital Humanities

Chair: Linda von Keyserlingk (Dresden)

Michael Kronenwett (Trier): Using different methods of collecting and analyzing social network data with a single software tool

Frederik Elwert (Bochum): Social and semantic network analysis - examples from the history of religions

Julia Damerow/Erik Peirson (Tucson, AZ): A research system for network-based digital history of science

Maria Bostenaru Dan (Bucharest): Spatial street network and urban traces around the Modernist boulevard in Bucharest

If there is additional discussion of this review, you may access it through the list discussion logs at:
http://h-net.msu.edu/cgi-bin/logbrowse.pl.

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