DIPF BBF Bibliothek für Bildungsgeschichtliche Forschung des DIPF

From Networks to Narratives - Visualization of historical research data

Image: Tomas Vancisin, Exploring student paths to other universities in the UK and Europe

Evening talks
25th of November 2025
18 - 20 p.m.

Location: BBF | Bibliothek für Bildungsgeschichtliche Forschung des DIPF | Leibniz-Institut für Bildungsforschung und Bildungsinformation
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Introduction

Data visualization is mainly based on statistical representation and is a common method for quantitative research approaches. Now visualization is an emerging tool, also in the humanities, but according to Drucker (2011), the visual expression of the interpretative, multimodal and cultural-historical dimension of historical data is still a desideratum in humanities research, because no visual language to represent social and cultural phenomena and their complex interplay has been established yet. Visualization is a powerful method to present research results and acts as an epistemic tool by triggering cognition, recognizing patterns and relations (Card et al., 1999; Munzner, 2014) and enabling new ideas (Freyberg 2021, 77ff./Stjernfelt 2007, 7). There is a need for a humanities approach to the graphical expression of historical data with more nuanced forms to show ambiguity, uncertainty and complexity (Drucker 2011, 2; 9). This in particular applies to historical research, where the analysis of huge amounts of historical records is challenging, since historical data often lacks metadata descriptions and standardized semantic contextualization. Also, researchers do not always have the technical skills to handle this messy data. But there are AI-based possibilities and software, like Gephi, which can facilitate data workflows and enable the visualization of research data. The visual representations of historical data are so far mainly restricted to timelines, networks and maps, using historical network analysis as main method (Menzel et al. 2020). But current information visualization examples already offer narrative and explorative approaches on the data, providing for interactive and dynamic interfaces. Also, visualizations are integrated in storytelling, building "visual narratives" (Segel & Heer 2010, 1140) for instance in data journalism.
In this evening event we will discuss these new approaches on data visualization of historical data with three researchers' inputs.

References

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Program

18:00 Welcome & Introduction by Prof. Dr. Katharina Vogel & Dr. Linda Freyberg (BBF | Research Library for the History of Education at DIPF)

18.15 Tomas Vancisin, PhD (University of Edinburgh, Scotland): **Visualizing Historical University Records**
Tomas will discuss his work with historical university records, showing how data visualization can offer new ways of studying these collections. He will highlight both the possibilities and limitations of visualization, emphasizing the importance of ethical and transparent research practices and the critical role of data provenance– both in this work and beyond.

18.45 Dr. Florian Windhager (University for Continuing Education Krems, Austria): **A Banquet for Visualizations: Many Forms, One Table**
The canon of historical data visualization has its holy triad: the timeline, the network, the map - while other forms wait in the wings. Florian will suggest a modest heresy by fusing them into a synoptic modeling scheme, PolyCube (Windhager et al., 2024), open to narrative and exploratory modes of experience. As a facilitator for interfaith dialogue, this framework seeks to represent cultural and historical data without enforcing one single orthodoxy of form.

19.15 Prof. Mathieu Jacomy (Assistant Professor, Aalborg University, Denmark & Co-creator of Gephi): **Irreductionist visualization: mediating nuance from network to semantic maps**
Mathieu will discuss his recent work on visualizing large unstructured datasets, transitioning from co-word networks to semantic maps based on embedding models. Recent AI techniques allow operationalizing the mediation of nuanced patterns such as ambiguity, polyvalence, or contradiction. Is this Johanna Drucker's dream of "non-representational" approaches, or a nightmare? Drawing on Donna Haraway and Bruno Latour, Mathieu articulates these techniques as "irreductionist", i.e. reductionist in a reversible way, to examine their potential for more nuanced computational hermeneutics.

19.45 Snacks & Drinks