

Unveiling historical maps - the interdisciplinary Atlas of Geopolitical Imaginaries of East Central Europe

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Abstract. The Digital Atlas of Geopolitical Imaginaries of East Central Europe in the 20th Century, DAPRO (Digitaler Atlas Politischer Raumbilder zu Ostmitteleuropa) - is a pioneering interdisciplinary project that makes historical maps accessible for research on history and geographical imaginaries. Thus renamed Geoimaginaries the online atlas will function as a learning management system for initial teacher training/education in historical and political sciences and a reference source that covers maps and mapping-related topics for the humanities. In this context, a cartographic analysis framework is implemented reflecting the modes of use of different mapping elements such as projections, scale and generalisation in the cartographic design process. In addition, the use of graphic variables is thoroughly examined by comparing their theoretical foundations with their implementation (deconstructing by reconstructing). This allows the identification of types and patterns of cartographic manipulation found in a sample of maps and their application to the content of the atlas.

Keywords: critical cartography; spatial turn; historic maps; map-analysis

1. Introduction

'Space' is one of the most obvious of things which is mobilised as a term in a thousand different contexts, but whose potential meanings are all too rarely explicated or addressed (Doreen Massey, 1999).

In the last two decades, scholars from various disciplines have contested the traditional conceptions of space. In addition, the postmodern concept of a space-less world was challenged, arguing for the continuing significance of spatiality. This provoked a new epistemological change in the humanities and in geography focusing on space as a fundamental methodological approach.

2. The rediscovery of space

2.1. The 'spatial turn' in the humanities

The recent reassertion of space into scientific consciousness is based on the interpretation of seminal works by Henri Lefebvre and Michel Foucault who have put space at the center of their structural and functional interpretation of capitalism. In cartography, David Harvey (1982, 1989) repositioned the understanding of space from a given entity to one that is produced or constructed by social life. Thus, a turn to considering space in different ways initiated a decline of historicism, which had privileged time and social dependence over space (Soja 1993). As Cosgrove (1999:7) stated, "a widely acknowledged 'spatial turn' across arts and sciences [which] corresponds to a post-structuralism agnosticism about [...] naturalistic and universal explanations and [finally] to the concomitant recognition that position and context are inescapably implicated in all constructions of knowledge." The reinsertion of space into the humanities (and into cultural geography) becomes obvious when one examines recent works in the fields of cultural studies, literary, political science, sociology, history and arts (Warf, Arias 2009:1). Space is central to our understanding of a tightly connected, interdependent world or the organization of e.g. social exclusion. So, as space slowly reclaimed scientific territory in the humanities mapping (once again), it became a paramount conceptual approach to deliver (and filter) knowledge into society.

2.2. Critical cartography

While undergoing a technological revolution from the computer-assisted printing of maps to computer based mapping deploying Geographical Information Systems (GIS) in the 1980s, part of the cartographic community initiated a pervasive critique of the assumptions and practices of professional cartography, highlighting the politics of mapping. In 1989 J. B. Harley in his widely acknowledged article "Deconstructing the Map" pointed out, that "It is better for us to begin from the premise that cartography is seldom what cartographers say it is", thus reflecting an already existing critique of a post-war positivist cartography that was a-political, empirical and separated from context (Crampton/Krygier 2006:24). Subsequently, by the early 1990s there was self-conscious engagement with the fundamentals of cartographic thinking and behavior (for a comprehensive overview see Crampton/Krygier, 2006 and Wood/Fels 2010, Wood/Krygier 2011).

Unsurprisingly, this critique was based on the same theoretical foundations as the aforementioned spatial turn in the humanities. Following Foucault (and Derrida) by approaching maps as representations and sites of power-

knowledge (Harley, Wood, Edney) and thus incorporating poststructuralist theory into cartography's assumption of maps as communication devices (Crampton 2001:692) opened up the opportunity for cartography to renew its relationship with critical human geography AND with the humanities. So, undergoing this cultural contextualisation, cartography is acknowledged as a rich transdisciplinary field.

2.3. The "map-turn" in historical sciences

In 2004 the German historian Ute Schneider published her remarkable book "Die Macht der Karten"(The Power of Maps) describing the history of form and function, production and consumption as well as techniques and traditions of maps and map making. Although her book's title has been extensively used before in the epistemic discussions, not to mention the famous exhibition and following book by Denis Wood, the book was an initial spark for German historians to gradually turn their attention from maps as auxiliary tools to mental maps as representations of spatial ideas.

This opened up new interpretations regarding questions on the eminence of maps in political discourse and in contexts of political decision-making. Hence, maps are mentally continuously present either in the form of target assumptions or as (emotionalized) representations of fear.

The process was accompanied by a series of interdisciplinary conferences (e.g. "The battle of Maps" Marburg, 2009), where the assimilative spillover effects of numerous cascading "turn arounds" in the humanities, the spatial turn in geography (e. g. the appearance of neogeography, Turner, 2005) lead to several different map-related collaborative projects in geography and the humanities. This corroborated that "in fact cartography is a rich transdisciplinary field" (Crampton/Krygier 2005:15) which will be inherited by different disciplines, either by adapting maps and spatial relations as methodological fundament (topographical turn) or by simply adopting mapping techniques.

3. The DAPRO project

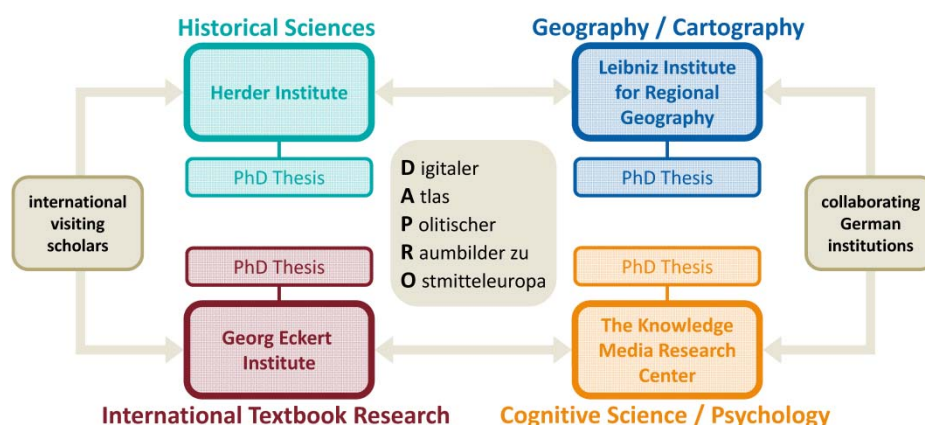
As a pioneering interdisciplinary project that will make historical maps accessible for research on history and spatial (geo)imaginaries the "**Digital Atlas of Geopolitical Imaginaries of East Central Europe in the 20th Century (DAPRO)**"¹ started in 2012. Inspired by the aforemen-

¹ German project title: Digitaler Atlas politischer Raumbilder zu Ostmitteleuropa im 20. Jahrhundert

tioned ongoing epistemological turn in the humanities and reflecting the concept of critical cartography which links geographic knowledge and cartographic dissemination with power and politics, the DAPRO combines methods from different scientific disciplines to uncover production environments, processes of as well as representations and patterns on maps. Thus acknowledging power as a driving force in mapping processes the DAPRO allows a deeper and better reflexive understanding of the processes of map making and map usage. This is reflected by the main purpose, to establish a cartographic framework for historical research while building a historical framework for cartographic research.

3.1. The partners

The project is funded by the Leibniz Association in the framework of the "Joint Initiative for Research and Innovation". Within the sub-program "Networking and Clusters of Excellence, National and International Collaborations" the work on the digital atlas is taking place within a network of four scholarly institutions of very different scientific provenance (Figure 1):



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Figure 1: The DAPRO project - partners

- The Herder Institute in Marburg is one of the leading German centers of research on East Central Europe with a comprehensive collection of historical documents as well as a large map collection.

- The Leibniz Institute for Regional Geography in Leipzig is a research center which focuses on the history and theory of regional geography as well as on geovisualization and cartography. In recent years the institute has realized several atlas projects, upon which the National Atlas of the Federal Republic of Germany is the most prominent.
- The Georg Eckert Institute for International Textbook Research in Braunschweig studies how political space, historical concepts and cultural identities are conveyed via state-sponsored education. Its library has the most comprehensive collection of textbooks on history, geography, politics and social studies world-wide.
- The Knowledge Media Research Center at Tübingen brings together scholars from cognition and behavioral studies and the social sciences to explore how digital media convey and transfer knowledge to their users. Special focus is on experimental and practical research into visual media.²
- Regarding the specialization of the partners, Figure 2 illustrates how they participate in the project, distinguishing between relevant research facilities (hardware), methodological approaches and dedicated research agendas

3.2. Methodological approach

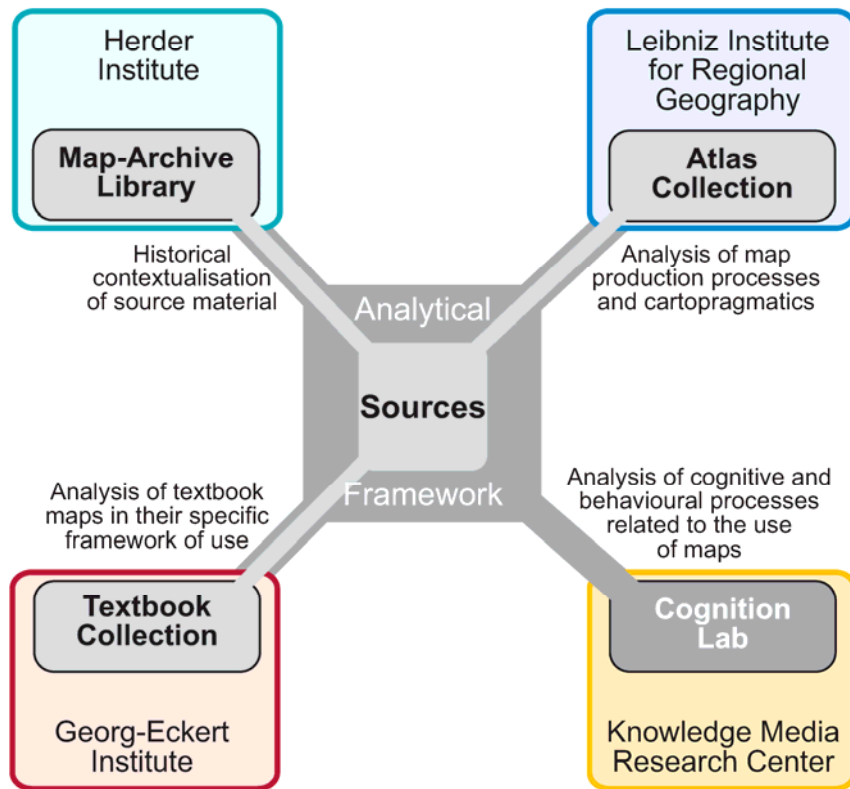
A special aim of the project is to compare cartographic languages as means of visualization. In doing so, the DAPRO combines various approaches of historians, geographers, cartographers, researchers of educational media, political scientists, and cognitive psychologists.

It would exceed this article's aim to explicate the methodological concepts of the named disciplines (and even more with respect to their epistemological "turns"). Thus the article focuses on the "cartographic/geographic" side of a virtual methodological cube.

3.3. Spatial image vs. Geopolitical Imaginaries

It is difficult to precisely translate the German word "Raumbild" without evoking technical connotations - the word itself is simply prone to misunderstanding. To speak, for example, of a "spatial image", one might simply connect it to areal or satellite photography (even after using google).

² It is worth mentioning, that all Institutes had already conducted research on different aspects of maps - but while doing so had been merely in non-institutionalized contact with institutions of other disciplines.



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Figure 2: Participation of partner institutes

By looking how the categories of space, are recently being thought about in the humanities a link to geography/cartography occurs by employing the definition of Geographical imaginaries by Derek Gregory.

Thus, "Geographical imaginaries are taken-for-granted spatial orderings of the world. [They are] more or less unconscious and unreflective construction[s], which refer to spatial ordering and bordering. [They] often act as tacit valorizations that derive not only from the cognitive operations of reason but also from structures of feeling and the operation of affect. As such, they are more than representations or constructions of the world: they are vitally implicated in a material, sensuous process of worlding" (Gregory 2009: 282). What Gregory describes as 'worlding' is the basis of the influence of maps on societies. As a theoretical approach it leads to an explana-

tion of how maps, in their respective contexts of usage, become media of cartographic or geopolitical imaginaries - with great political impact.

3.4. Reconstructing the map

The DAPRO-Project focuses on the imaginative spatial images beyond the map and how they are, intentionally or unintentionally, constructed, interpreted, perceived, and used. This would normally mean to consider map communication models. Although there have been alterations and additions, they can be characterized as process models that define mapping as a process of transmitting (geographic) information via the map from the cartographer to the map-user by applying a map-language which is common to both (cf. Freitag 2001:10ff). Thus, the comprehension of a map is based on individual cognitive processes of "the user", but does not reflect the social, religious, historical or political contexts in which the map has been produced, published and used. Especially for historical maps, produced in countries that experienced territorial changes, this can only be examined while recurring to map production environments in their respective times. This means to not only consider printing techniques and publishing processes but also map production processes and utilized map languages (and their theoretical foundation) as well as the use (and understanding) of maps by analyzing them, while taking the aforementioned specific contexts into account.

A future follow-up project will go even further in unveiling the mapping by reconstructing map production processes on the methodological basis of experimental archaeology³.

4. The Structure of the Atlas

The atlas has four perspectives to structure its content. It is important to reflect and to consider the different methodologies of the scientific fields involved, as illustrated in Figure 3. The principal constituent is the corpus of source maps (virtual map library) which are chronologically and geographically ordered. In addition the metadata of the maps are stored in a relational database, comprising detailed information on the production and publishing context. The map itself is stored in different image resolutions to cover either the wide range of display devices or the possibility of high definition print, depending on copyright issues. The data on maps are comple-

³ The project (RECART) then will utilize original data, cartographic craft and adapted printing techniques to in depth explore the mapping processes of their respective times.

mented by a wide range of additional material (documents, graphics, photos, derivative maps etc.) again related to the production context and use of maps. These are also stored in a database and can be linked to other maps by tagging. The atlas has several thematic units of varying scope, structuring the content; they reflect specified map content matters such as war, peace, territory or border. Vertical to the thematic units, stories will in depth trace certain spatial and historic themes. Stories will extend the atlas without modifying the structure of the contents by using tagging-techniques. Whenever a story needs additional content, this will be incorporated in the structure of the source corpus and tagged to the story itself. The map analysis unit is dealing with visual means of cartographic expressions and map language and spans across the above named structural parts of the atlas. It is an educational unit that triggers the interactive process of map deconstruction by reconstruction. The unit is based on the synopsis of cartographic textbooks and explains the constituent elements of maps reflecting the map production process. It comprises simplified topics, such as coordinate systems, projection, scale, generalization and cartographic symbols.

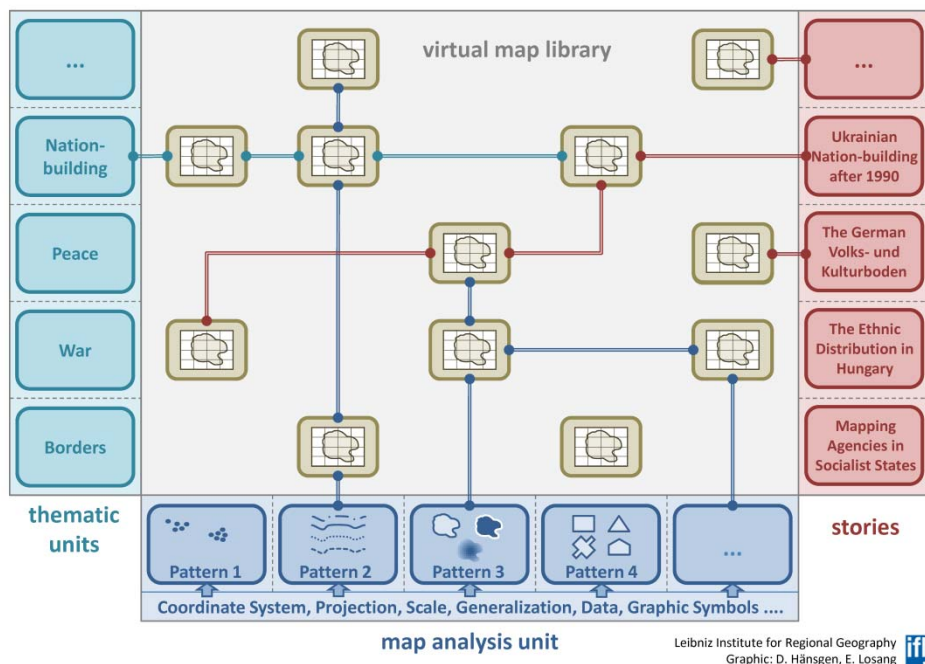
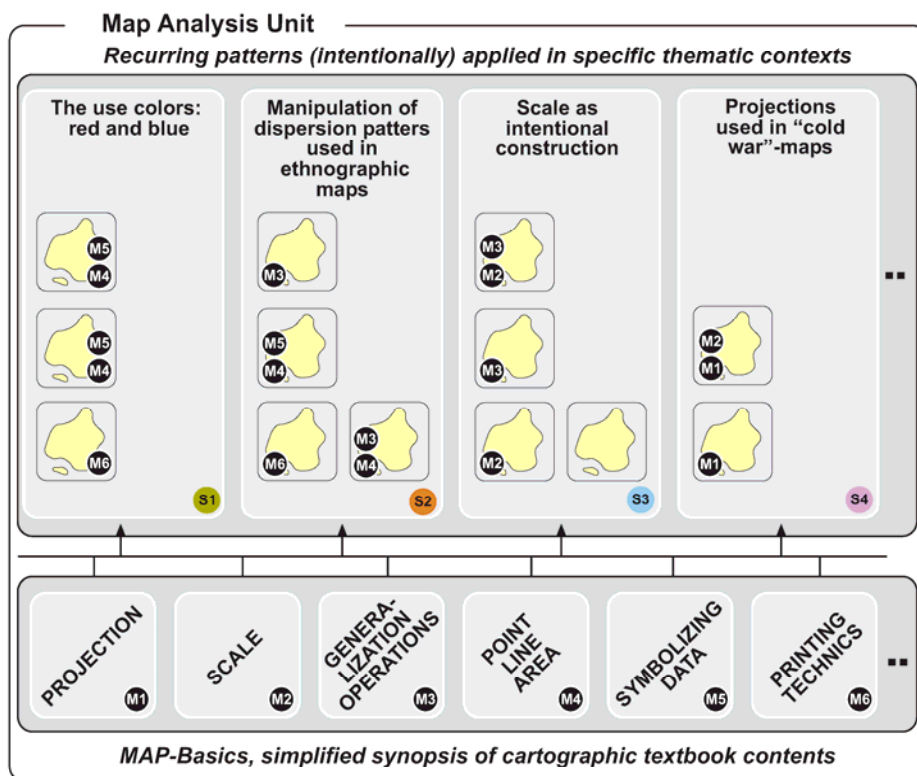


Figure 3: Functional structure of the atlas

The purpose is to enable users lacking cartographic background to understand the different techniques and determinations in the numerous steps of map-design, hence to be able to recognize deviations from standard procedures and to tag the respective maps accordingly (Figure 4). By taking the map apart virtually the user will understand how maps function visually. The simplification of the topics is inevitable considering the users of the atlas. In this respect the unit has been thoroughly tested in seminars on critical reading of historic maps at the Department of Humanities at Leipzig University.



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Figure 4: Map analysis Unit

Following evaluation and feedback from the seminars a second more individualized test-series will be set up at the cognition lab of the Knowledge Media Research Center. The second aim of the map analysis unit is to indicate recurring patterns (intentionally) applied in specific thematic contexts e.g. the use of colors and signature types in ethnic maps.

Tracing these patterns in different maps from different periods allows us to conclude that different mapping contexts use the same visualization techniques when depicting similar social or political circumstances.

5. Geoimaginaries

Based on Derek Gregory's definition of the main object of investigation and for the purpose of shortening the original title of the "Digital Atlas of Geopolitical Imaginaries of East Central Europe in the 20th Century", the atlas will be published under the title Geoimaginaries (geoimaginaries.org).

Geoimaginaries was initially meant to be an interactive digital atlas covering the interdisciplinary research on selected historical maps and their contexts and targeting teacher-training e.g. at universities. Thus it was originally conceived for providing maps and context material as examples for to help with explanation of maps. However, during the content related development it became obvious that the outline of the atlas needed to be changed.

First, the multitude of different historic and spatial contexts in which maps have depicted geographical imaginations, combined with different purposes of maps and their respective mapping (production) contexts is far too complex to be covered by maps of only three, very specialised archives. Thus, opening up the atlas for the further addition of maps and contextualised content was inevitable.

Second, the deconstructing of historic maps should be possible by involving historians (and geographers) specialised in particular topics, either spatially or temporally by giving them the opportunity to add content to the atlas using the infrastructure of a map analysis module and the corpus of sources provides e.g. by the Herder-Institute, hence to establish Geoimaginaries as a virtual research environment (VRE).

The research module of Geoimaginaries will provide a cartographic analysis framework to identify and apply archival material relating to either the process of map making (production related) or the process of map using (cognition related). A second framework will reflect on the modes of use of different mapping elements, again focusing on production and use of maps. This will widen the content of the atlas by adding different perspectives and

by providing the link-up of various topics, regions as well as maps and their production environments and will lead to the targeted comparison of mapping languages in different contexts. contexts.

References

- Cosgrove, D. 1999: Introduction, Cosgrove D. (ed.): Mappings. London.
- Crampton, J. W. 2001: Maps as Social Constructions: Power, Communication and Visualization, *Progress in Human Geography* 25, pp. 235-52.
- Crampton, J. W. 2010: Mapping. A critical Introduction to Cartography and GIS. Chichester.
- Crampton, J. W., Krygier, J., 2006: An Introduction to Critical Cartography, *AC-ME: An International E-Journal for Critical Geographies*, 4(1), pp. 22-23.
- Freitag, Ulrich 2001: Die Entwicklung der Theorie der Kartographie.
- Gregory, Derek 2009: Geographical Imaginaries, *The Dictionary of Human Geography*, Gregory et al. eds., Oxford, p. 282ff.
- Massey, Doreen 1999: Philosophy and politics of spatiality: some considerations, *Geographische Zeitschrift* 87, pp. 1-12.
- Schneider, Ute 2004: Die Macht der Karten. Eine Geschichte der Kartographie vom Mittelalter bis heute, Darmstadt.
- Soja, E. W. 1993: Postmodern Geographies and the Critique of Historicism, John Paul Jones III, Wolfgang Natter & Theodore Schatzki (eds.), *Postmodern Contentions: Epochs, Politics, Space*. New York, pp. 113-136.
- Turner 2005 Warf, B. , Arias, S. (2002): The reinsertion of Space in the Humanities and Social Sciences, Warf, B. , Arias, S. (eds.) *The spatial turn : interdisciplinary perspectives*, London, New York, pp. 1-10.
- Wood, D., Fels, J. and Krygier J. 2011: *Rethinking the Power of Maps*. London, New York.
- Wood, D., Krygier, J 2011: *Making Maps. A Visual Guide to Map Design for GIS*. London, New York.