

Visualising Economic Geographies

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Convenor: Jon Swords, Northumbria University

Visualising financial markets: seeing the world through 'money's eyes'

Michael Pryke, Faculty of Social Sciences, The Open University, UK

This contribution looks at what has been happening over recent years in the worlds of global finance, particularly the development and application of visualisation software designed to empower modern finance with fresh eyes designed to interpret and manipulate data and thus to enable participants 'to see more and understand faster'. The presentation argues that the contemporary visualisation of financial data raises issues about the visual in cultural economic debates concerning the formatting and framing of markets, notably financial markets. In conclusion the paper suggests what might be learnt from the financial world's engagement with visualisation software and how economic geography, particularly that those engaged in work on the current financial system, could learn lessons in how to communicate visually the consequences of living in an increasingly financialized world.

Visualising Core and Peripheral Areas in the Gauteng City-Region

Chris Wray, Sally Peberdy and Kavesha Damon, Gauteng City-Region Observatory, Johannesburg South Africa

The Gauteng City-Region (centred on the Gauteng province) contributes 34% of South Africa's GVA. Yet its economic and social geographies are complex and uneven reflecting the apartheid past and an unequal present. This presentation shows how mapping of economic and social data using GIS has been used a methodology to identify core and peripheral areas in Gauteng Province in South Africa. Individual socio-economic and land cover indexes were derived to differentiate different aspects of what constitutes a core versus peripheral area using a range of demographic, economic and land cover data disaggregated to a mesozone-level. The individual indexes were then combined to create a consolidated index, with higher scores indicating the core and lower scores indicating peripheral areas. Having defined core and peripheral areas GIS was used with data from the Gauteng City-Region Observatory and Census 2011 to create a series of socio-economic indexes which were then mapped and layered against the initially identified core and peripheral areas. The result is a series of maps which demonstrate the complexity of the concepts of core and periphery and how they apply in Gauteng and at times challenge binary conceptualisations of core and periphery. While providing a tool for identifying and analysing core and peripheral areas, as well as the utility of these concepts, the maps also show their value as tools to display quantitative information spatially.

100 Years Of Graphic Methods For Presenting Facts: Todays View Of A 1914 Visualisation Of Economic Geography.

Andrew Thompson, Groundwork Maps

In 1914 the Engineering Magazine Company in New York published a book called "GRAPHIC METHODS FOR PRESENTING FACTS" written by Willard C. Brinton. It is a handbook that aimed to present to a non-technical audience methods by which they might present, by illustration, statistical and numerical data and information to both a technical and a non-technical audience. There will be a description to include elements of the preface by way of explanation. This poster

uses some of the presentation methods from this book with current data and information to inform a 2014 non-technical and technical audience. The styling and typography used in the poster are of 1914 vintage which it is hoped will contrast and enable comparison with current ideas and methods of geographic visualisation.

Visualizing energy economies in rural Gambia

Anne Schiffer, Queen's University Belfast, UK

This proposal is part of an ongoing research project that aims to critique a design approach called Transformation Design (Burns et al, 2006) in the context of international development. This is done through action research which applies and evaluates the three Transformation Design phases outlined below to the co-design of energy strategies in a rural Gambian community called Kartong: 1) Looking - using participant observation to gain empathy 2) Making things visible - the visualization of complex data creates a common platform that helps articulate a shared positive vision 3) Prototyping - making ideas tangible and gather feedback. The most important source of energy in Kartong is wood fuel collected from the land around the village. However, as growing energy demand is increasingly met through imported resources including liquid fuels for transport and electricity, an energy economy based on subsistence is being replaced by a monetary system. The research employs mapping to make sense of energy data and develop visual tools for co-design of energy strategies. There are two key challenges to overcome in the mapping process.

Firstly, quantitative data to feed into visualizations is especially hard to come by due to a lack of of previous studies, difficulty in accessing statistics held by Gambian authorities and the fact that quantitative information is of little relevance to people in their day to day life. For example, the answer to how many people reside in a family compound can in many cases only be determined by someone writing down everybody's name. Secondly, data is used to develop visual tools for discussion of energy matters and subsequent co-design of energy strategies. This requires visualizations that are appropriate to the needs of people in Kartong as well as accessible to a wider academic audience.

Proposed format: A1 poster.

Mapping local food production systems: A Canadian case study

Dr. Susan Machum, St. Thomas University, Canada
Tim MacDonald, University of New Brunswick, Canada

Most atlases map human settlement and transportation patterns on a particular topography. Using GIS and multiple geographic and economic databases, we are exploring how human food production and consumption patterns interface with local landscape features. In this poster presentation several map layers document the interplay between soil type, elevation and slope and the economic practices traditionally associated with rural communities — farming and forestry — pursued within this ecosystem. By looking at the relationships between human activities and the geographic ecosystem within which they are embedded we can visualize how nature and human activity constrain and challenge each other. This mapping exercise and the stories told are part of a larger food assessment project using participatory action research methods to unite community food activists with academic researchers concerned with local food security issues.

In keeping with the theme of the conference, the poster provides some of the findings realized through this co-production process. Like our maps, the research itself embraces multiple layers of co-production. The two authors represent different disciplines and the mapping exercise crosses disciplinary boundaries. The research program is co-produced through a university-community alliance and finally the theoretical framework studies the interplay between nature and human

activity. Additionally the poster will present several forms of visualization — first, there will be multiple layered maps; and secondly photographs of the landscapes captured by the maps. The accompanying text will document how and why certain economic activities are able to thrive in this particular landscape.

Visualizing the Temporary Staffing Industry

Jennifer Ferreira, Royal Geographical Society, UK

Data visualizations and infographics ‘while great for analysis are perfect for telling stories with data...you can often find stories that you might never have found with just formal statistical methods’ (Yau, 2011: xvi). The success in the use of data visualizations and infographics is well demonstrated by such publications as the *Guardian* and the *Economist*.

With global annual revenues of €259 billion, and 46 million people employed worldwide as agency workers (in 2011), there are many stories to tell about the temporary staffing industry (Ciett, 2013: 6). This poster includes what would normally be presented as a series of separate infographics. The infographics outline the growth of the temporary staffing industry as well as a range of country profiles highlighting diversity in the industry and its role in different national labour markets.

Transforming the findings of this research into infographics is designed to serve two purposes. First, it allows the research findings to be presented in a more easily accessible format. Second, this may in turn facilitate the dissemination of the research findings to a wider audience, in particular to those who are involved in the industry.

References Ciett (2013) *The Agency Work Industry Around the World*. Brussels: Ciett.

Yau, N. (2011) *Visualize This: The Flowing Data Guide to Design, Visualization and Statistics*. Indianapolis: Wiley.

Visualizing the Global Countryside

Michael Woods, Aberystwyth University, UK

This poster presentation will introduce a new five-year project to develop an interactive website that aims to map and visualize globalization processes and networks impacting on rural localities, and to construct narratives of globalization impacts and responses to rural regions. The poster will particularly focus on the visualization of economic globalization processes and impacts in rural areas, including for example agri-food commodity chains, corporate networks, transnational labour flows and international land transactions. The project, which is part of a larger European Research Council grant, GLOBAL-RURAL, aims to combine GIS analysis of primary and secondary quantitative data with qualitative data to construct multi-media ‘narratives’ using text, maps, photographs, film, audio files and geovisualisations to tell ‘stories’ that illustrate particular aspects of globalization and community impacts and responses. The poster will outline the aims of the project and its methodology, and present and discuss examples of the first set of visualizations from existing secondary datasets.

Visualizing Economic Geographies in the History of Assemblages

Luke Barnesmoore, UC Berkeley, USA

Media frames tend to be defined relationally to the dynamic relationship between global flows of governance and the local norms, identities, values and banal practices of targeted markets. Through a precise statistical study of semantics in large collections of news items, we present an analytic approach for studying macro frames of representation in the global media over time and space that synthesizes quantitative and qualitative approaches. We examine how the assemblage of global flows of capital with pre-existing political rationalities and the historical, cultural contexts of local language markets inflect the formation of representational frames, and, in so doing, isolate the

dynamic relationship between space, regional language markets, and time, the historical context of said language markets, as related to the formation of news media frames. We use innovative tools to visualize narratives over time in sources with multiple language services, and are thus able to quickly summarize how differing news media sources and language services narrate topics in the space between ontological and epistemic norms associated with neoliberal globalization and the socio-political, cognitive context of target language markets.

This project is being conducted in consort with the EECS and Statistics Departments at the University of California Berkeley under the direction of Professor Laurent El Ghaoui (statnews.org). Our approach visualizes the linguistic geography of news media coverage concerning the economy across differing language services to examine the dynamic discursive space between the global and the local across space and time.

Visualising Film and Television Production Networks in North East England

Jon Swords, Northumbria University

Mapping creative industries is a difficult process. This difficulty stems from definitional and measurement problems, finding reliable data and complex transnational production webs. In film and television, agglomeration tendencies can be identified in certain parts of the industry and in particular places, but the globalisation of the industry's supply chain and talent pool means tracing where a production was 'made' is challenging. Here an alternative approach is adopted which combines an understanding of production as a multi-stage process (Johns, 2010) with a relational social networking approach. Data from the Internet Movie Database about productions filmed in, and originated from the North East of England is graphed using social network analysis software and a force-based algorithm is used to generate relational maps of individuals, productions, companies and related organisations. This methodology allows the exploration of communities related to funding sources, labour pools, previous working relationships, and place. It also highlights key actors within the network and an indication of their influence in production networks.

More at: <http://filmandtvresearch.wordpress.com>