Short Paper

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Urban Form and Urban Capital

How spatial capital creates, attracts and enhances social and human capital in regional growth

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Abstract
When this is written, the world holds its breath, waiting for the US to decide on a plan to save the countrys (and the worlds in prolongation) financial market. What and who will dictate growth and prosperity internationally in the future are at stake. This is also a moment for developing deeper understanding of underlying spatial prerequisites for the interdependency of local, regional and global knowledge driven economies.

This paper introduces a proposed research project with an aim to analyse the relation between the spatial constitution of urban regions and their relative success in the international competition for talent, capital and investments. Spatial analysis will be conducted both on the macro level: the relation and accessibility between urban regional nodes and on the micro level: the spatial structure of the urban nodes themselves. The project is a trans-disciplinary collaboration between economic geography and urban morphology and has the following objectives: one, the development of indices of the spatial constitution of urban regions on both the macro and micro level, two, the development of analytical techniques and measurements that systematically can capture Quality of Place in Floridas 3T theory, and three, a deeper understanding of how analytical theory on urban form can support the analysis of the spatial variable in social and economic theory. Quality of place is a term used to describe where regions with a tolerant environment attract a diverse set of factors for economic development. The methodological approach is to detect correlations between the spatial constitutions of urban regions and indices of successful economic growth by quantifying the spatial structure and economic growth. Such a database will be the source for statistical analysis where the aim is to detect and interpret relations between spatial and economic entities and through its trans-disciplinary character open for new approaches.

Among city regions of the west, there has for a decade or so, been striving for increasing the size of the regions by enhancing commuter services, thus creating greater functional regions. A larger population supporting more branches of industry, providing for a more diverse and thus robust local economy, this has been the recipe for survival in a climate of increasing global competition. By offering a means to better describe spatial qualities critical for growth in a city region, spatial strategies and investments in infrastructure may become far more effective to its society and even hinder the contra productivity often seen as consequences of contemporary urban policies.

1. Introduction

Facing the worst economic scenario the world has seen since the great depression in the thirties, all nations try to find workable strategies to compensate for the immense loss of positions for millions of workers in different industrial sectors. What will eventually transpire in terms of political instability is certainly frightening to think about. The simultaneous decrease in transport and travel though, has positive effects, causing less climate change.

We will probably se vast accumulation of wealth again, but when, where and for whom? Future urban and rural development will have to cope with the challenge to distribute an acceptable global ecological foot path more evenly among the earth's inhabitants in the face of very different local conditions. This proposed research programme has as its aim to contribute to strategies for more liveable and durable economies, on the regional level as well as globally on an accumulated scale.

2. Background and specific objectives

The globalization and internationalization of the conditions for trade and industry sets the present rules for international economic competition (e.g. Dicken 2007). This concerns an increased competition between nation states but particularly and characteristically between regions (e.g. Florida, 2002, 2005, 2008). Ability for regions to develop capabilities for innovations is achieved through attracting people, capital and technology, by offering economically and culturally dynamic cities supported by efficient infrastructure, clean environment and thriving urban cores. This situation has generated a redirection of international research in fields like economic geography (e.g. Fujita & Krugman, 2003; Gertler, 2003; Bathelt and Glückler, 2003), social theory (e.g. Putnam, 2000; Westlund, 2006) and spatial planning (e.g. Batty, 2005). Promising, is its openness to trans-disciplinary studies and a new interest in the spatial disciplines. In the most influential texts in social studies from recent decades space plays a central role (e.g. Castells1998; Putnam 2000; Florida 2005), and in economics Krugman has re-introduced, the concept of "spatial economy" (1999). Challenges now rise to the spatial disciplines. According to network analysts (Kwan 2003), urban morphologists (Talen 2003; Hillier 2006), and urban planners (Batty 2008), we still have underdeveloped theories and methods when it comes to analysis of cities as spatial artefacts, especially on the detailed and experiential level that in recent urban theory has come to the forefront.

This proposed project addresses two levels of transdisciplinary research. First, it aims at an analysis of the relation between the spatial constitution of urban regions and their relative success in the international competition for talent, capital and investments, that is, a collaboration between spatial and economic disciplines. More specifically it aims at spatial analysis both on the macro scale, concerning the relation and accessibility between the different urban nodes in such a region and on the micro scale, meaning the spatial structure of these nodes in them. Such an aim, secondly, also presupposes transdisciplinary collaboration within the spatial disciplines, where the macro scale analysis is a typical study for urban geography, while the micro scale analysis rather belongs to the discipline of architecture and urban design. This transdisciplinary collaboration aims at achieving a coherent analysis of economic development based on the connection of these levels and more specifically have the following three objectives:

- the development of indices of the spatial constitution of urban regions on both the macro and micro level, that can inform urban designers, planners and policy makers in their work towards successful regional development.
- the development of analytical techniques and measurements that systematically can capture "quality of place" in Florida's 3T theory, thereby possibly creating a foundation for a fourth T, "territory".
- the contribution to a deeper understanding, theoretically and empirically, of how urban space can support the analysis of the "spatial variable" in social and economic theory.

3. Overview of the area

It is well recognized that a spatial turn has taken place in a lot of social and cultural theory (e.g. Thrift & Crang 2000), but this "spatial variable" is extremely inconsistent and vague (Hillier 2007). Concepts like Castells' "space of flows and space of place" and Florida's "quality of place" refers to spatial phenomena without distinct analytical descriptions. Florida's Creative class theory can serve as a case in point, where the concept "quality of space" obviously is a weak point, since its vagueness makes it difficult to make it operational.

It has been shown that the ability to connect to global production networks directly impacts the future growth of a region. These networks comprises of both the production of goods and services. Research in economic geography puts focus back on sizes in terms of population (Florida, 2005, NUTEK, 2006, SOU 2007:25"). Size among regions seems to matter more than ever but studies have found an even stronger correlation between concentration in the built-up mass in a region and its economic growth in terms of gross regional product (e.g. Einarsson and Ekberg 2005; Tinagli, Florida, Ström et al. 2007; Florida, 2008). Balanced regional economic development in Europe could, according to ESPON (European spatial planning observation network) be achieved by stimulating "poly-centricity" and connect neighbouring regions within closer networks of urban areas. There are several discussions within the field on how to achieve such a position, in terms of learning regions (e.g. Asheim, 2007) national innovation systems (Lundvall, 1992, 2000) and clusters (e.g. Porter 2000; Malmberg, Bathelt and Maskell, 2004).

Richard Florida presented the theory of the so-called 3T; Talent, Technology and Tolerance in 2002. Creativity being totally footloose, following its host's desires to move across the globe for attractive living conditions, exposes both enterprises and regions to challenges formerly unimaginable. Members of what Florida defines as the creative class choose places to live that provide a human climate that is first of all Tolerant (proactively inclusive), why industry has to locate so they can tap into these agglomeration advantages. Florida establishes arguments for what he calls quality of place, as a fringe of reference to understand where tolerance is to be found, and often cites Jane Jacobs (e.g. 1961, 2004). In order to build on the agglomeration advantages that the place can offer, there is a need to extend our understanding of how to develop the quality of place in relation to the built environment, infrastructure and gentrification processes. This means the introduction of a fourth T, territory.

The geometric side of geography is not very developed on the micro level (e.g. Kwan 2003; Talen 2003). Geometric forms such as areas and points work fine on the macro level but can not capture the characteristics of specific urban cases, which in extension make comparisons and understanding of their performance difficult. This leaves this level of urban space far less analytically studied.

Urban morphology specifically addresses the micro level of urban space (e.g. Journal of Urban Morphology), but is inherently descriptive and historical and has primarily contributed to urban development in preservation issues. A specific strand of urban morphology of great interest to the present project is the research tradition space syntax, with its roots in architecture and urban design. Here an analytical rather than descriptive approach is taken to urban morphology, specifically aiming at knowledge supporting architectural and urban design (Hillier and Hanson 1984; Hillier 1996). Descriptions of urban space has been developed, which in an innovative way captures both its phenomenological aspects of being in space and its structural aspects as system (Seamon, 1994). In consistent studies one has been able to show the relation between the design of urban space and effects of the same, primarily concerning pedestrian movement (Hillier et al, 1993). But with movement as intermediary, one has also been able to show strong relations between urban form and effects such as social segregation (Vaughan et al, 2005), crime (Hillier & Xu, 2004), rent-levels for floor-space (DeSyllas, 2000) and pollution (Croxford et al, 1996).

4. Method and project description

The general methodological approach in this proposed project, is to detect correlations between the spatial constitutions of urban regions and indices of successful economic growth. This means

that it is necessary to quantifying spatial constitution on the one hand and economic growth on the other. This does not present any difficulties on the macro level, while it certainly does on the micro level, a reason why we have seen so few studies here and neither any theoretical development. In this project we introduce new methods in urban morphology described above to this field, which specifically aims at the development of systematic description and quantification of micro scale urban space.

Thus, we can analyse and quantify the spatial constitution of the chosen regions both on the macro level: distances between the cores of the regions, accessibility to public transport, travel intensities, commuter flows etc, and on the microlevel: e.g. their spatial accessibility, density and diversity. On the other side the gross regional product and the economic growth rate, the price of housing, unemployment and the average pay to employees etc, will be collected and scrutinised. Together this creates an extensive database that will be the source for careful statistical analysis where the aim is to detect and critically interpret relations between spatial and economic entities. 10 to 12 regions will be chosen that are comparable in size, both in area and population, as well as have similarities when it comes to their general social and economic structure. The sample will contain two Swedish cases, the Stockholm and Gothenburg regions, which will set the general characteristics for the international cases that will include regions in Europe, North-America and Japan.

The project is proposed to be structured around a licentiate thesis which will follow a strict model in four steps. First, a theoretical review that leads to a series of specific research questions that differentiates and specifies the research question stated in this application, making them operational for research. Second, a methodological enquiry that analyses exactly what data, analytical tools and statistical techniques will be necessary to answer these research questions. Third, the set-up of a series of empirical investigations, using the cases and methods chosen, in which the research questions are to be answered. Fourth, a conclusion that draws from the empirical investigations and where the results in relation to the initial questions will be clearly stated.

In parallel the senior researchers will produce two joint articles drawing from the thesis work but aggregating its results on a more theoretical level. These will be directed at two specific transdisciplinary topics. First, a critical evaluation and proposition of how spatial analyses on the macro and micro level can be fruitfully joined in a coherent research approach for urban studies on economical development. Second, an empirically supported discussion on how such an approach could contribute to and enhance the power of social and economic theory.

5. International collaborations

The research team has close connections to the leading research milieus in its field. On the one hand the Space Syntax Laboratory at University College London, through Alan Penn, Professor of Architectural and Urban Computing, and Director of the VR Centre for the Built Environment. On the other hand the team has close connections to the research team around Richard Florida through Irene Tinagli, currently Rotman Business School, University of Toronto. She has worked closely with the project team at the University of Gothenburg over the last two years.

6. Preliminary results

Within a research programme directed at the relation between urban form and sustainable urban development at The School of Architecture, KTH, different projects are now being summarised and formalised into an analytical theory on urban form and sustainable cities called Spatial capital (Marcus 2008). Tentative conclusions are that urban form plays a decisive role in relation to all these fields.

The research conducted at the department of human and economic geography at the University of Gothenburg together with the Florida research team showed that Sweden has a set of approximately 5-6 urban centres that are engines of the economic growth, regions with a high score on the creative class and tolerance indicators.

There is now an opportunity to use the Theory of Spatial Capital in relation to social and economic theory and see how it can enhance such theories, which often lack powerful analytical theories on space. This project is therefore to be regarded as a first project followed by others, where this one focuses on the relation between spatial capital and social and human capital as interpreted by Richard Florida. Coming projects aims at e.g. the relation between spatial capital and economic capital as interpreted by Krugman. In the end the aim is to build on spatial capital as an analytical theory on urban form in such studies, towards a critical theory on urban form and its relation to society, taking the unusual route of using architectural theory to understand society instead of using social theory to understand architecture and urban design.

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