

SPATIAL QUALITY, LOCATION THEORY AND SPATIAL PLANNING

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Abstract

This paper deals with spatial quality as a possible factor in location choices made by companies. Actual location decisions as well as location theory have changed over time. In the industrial era primary "hard" cost factors were dominant, to be supplemented by agglomeration factors ever since the 1950s. Over the last decades "soft" tertiary factors (like institutional "thickness") became important, as reflected in behavioural and institutional theories on location choices.

In this paper it is argued that due to socio-economic developments like globalization, the emergence of network societies, of knowledge-based economies and of creative economies, spatial quality has become a powerful factor in location choice. Because of an ever increasing level playing field, increased footlooseness of organizations and the post-scarcity effect, hard as well as soft primary, secondary and tertiary location factors are of increasingly limited importance. Consequently, spatial quality may be considered to be the dominant location factor of our time.

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1. Introduction

In regional economics, location theory has shifted its attention away from “hard” (cost) factors, relating to the proximity of markets and suppliers, towards relatively “soft” factors as the (perceived) quality of institutions, knowledge levels and environmental quality. In this paper we focus on spatial quality as a factor that likely influences location choice of companies and on the implications this has for spatial strategies and policies.

In the Netherlands, for a considerable time now, location choice of companies has been an important focus of political-administrative attention. Location choices tend to be more relevant to the economic development of cities and regions than some of the other choices that organizations make. Employment levels, regional income levels and growth are to a large extent dependent on the location and investment choices made by a limited number of organizations (Meester, 1999: 13). The idea that business zones stimulate the regional economy has led to a strong increase in the number of these zones in the Netherlands in the past decade (Louw a.o., 2004: 13). The Dutch Central Bureau of Statistics (CBS) recently has shown that the growth in the acreage of business zones even surpasses that for housing purposes.

In addition –and related- to location choices spatial quality is also a reoccurring theme on the Dutch politico-administrative agenda. Since the explicit introduction of spatial quality in the early 1980s it has become a core principle in spatial planning, mainly from an environmental perspective. Recently spatial quality has surpassed its status as a sustainability concept and has become an important aspect of competitiveness of cities and regions, as high spatial quality is assumed to attract economic activity (WRR, 1998: 15). Spatial quality has thus entered the realm of location theory. Unfortunately, despite the growing attention for the economic importance of spatial quality, within location theory this fact is not really picked up (Dammers et al., 2005: 20). The main question this paper wants to answer is:

Which role does spatial quality play as a location factor?

The paper is structured as follows.

We will outline (in section 2) the main historical developments in location theory, by distinguishing between so-called primary, secondary and tertiary location factors. The main thrust of the argument developed in this section is that location theory increasingly has had to take into account the diversity in characteristics of companies and the diversity these companies show in how they relate to their environment. Consequently (in section 3) our focus is on tertiary factors and the theoretical insights underlying these factors, stemming from behavioral economics, institutional economics and theories on spatial diffusion. These theoretical insights are then linked to empirical developments relating to network societies, knowledge-based economies, and the creative economy.

In section 4 we will have a closer look at spatial quality as a possible “quaternary” key factor in location choice. It is argued here that with increasingly leveled playing fields (not only in terms of costs but also in terms of knowledge and institutions) tertiary factors may be of less and less importance in explaining location choice of companies. This gives rise to the possibility of spatial quality becoming an important quaternary factor in location choices. Some evidence is given on the importance and use of spatial quality in Dutch spatial policies.

Section 5 concludes.

2. Developments in location theory: Has phase IV begun?

The results of research into location demands of organizations during the last century differ to a great degree (Pellenbarg, 2006: 26). Nevertheless some broad tendencies can be observed on the basis of these results, which more or less correspond to some (older or more recent) theories on location choice. Figure 1 illustrates this development.

Figure 1: Changing location tendencies, in three phases

Phase I Industrial revolution	Phase II 1950 onwards	Phase III 1990 onwards
<i>Primary factors</i>	<i>Secondary factors</i>	<i>Tertiary factors</i>
Transport costs vs. costs of commodities/ products Labour costs	Proximity to markets Proximity to suppliers/ service providers Other agglomeration factors	Government policies Level of "institutional thickness" Knowledge centres and ICT-infrastructure Quality/ mentality of workforce Environmental aspects (sustainable business zones) Representative business locations Quality of living/ recreational environments
<i>Neoclassical (least cost) location theory Regional concentrations</i>	<i>Growth-pole theory/ cumulative causation theory Urban agglomeration</i>	<i>Behavioural and institutional theories Spatial diffusion</i>

Based on Louw et al., 2004 (adapted)

Approximately a century ago "hard" factors as transport costs and labour costs were considered to be the most important factors in the location choice in industrial countries like the Netherlands. These two factors also played a central role in the (neo-)classical industrial location theories from the beginning of the twentieth century, as stated by Weber and others. The optimal location for an organization can easily be calculated using the mentioned variables. Important presumptions in these theories are that organizations act rationally in a homogenous competitive market and that entrepreneurs are fully informed. In the period after WW II, due to increased infrastructure transport costs fall. Regional disparities in labour costs decrease as a consequence of growing labour mobility (Pellenbarg, 2006: 27). Agglomeration factors, significantly called "secondary location factors" by Weber, are considered to be of much importance and dominate location theory in the middle of the twentieth century, as in the growth-pole theory of Perroux and his successors and the cumulative causation theory of Myrdal. At the end of the twentieth century, there is against a shift in location tendencies. Location choice no longer centers on pure facts. Personal perception by entrepreneurs of the business environment plays an important role, as well as the possibilities to participate in various economic and social networks. The behavioural and institutional bodies of thought correspond well to these changing insights in location decisions (Meester, 1999: 32).

In modern network society, with the influence of agglomeration factors being tangible on a growing scale, "soft" factors such as institutions, knowledge, environment, mentality and image (which in earlier periods were thought of being trivial), are more and more decisive in actual location choices. This growing importance in the

Netherlands can be witnessed in the planning of business zones, involving a growing interest in the quality of urban development, integration into the surrounding landscape and sustainability. Logically this changing dominance of certain location factors corresponds to a fundamental restructuring of economic activity (from industrial activities towards a knowledge economy), as will be explained in the next section. In light of these continuing developments it seems like phase IV has begun

3. Assessment of contemporary location theory

Over the last decades there has been growing criticism on the validity and practical usefulness of different bodies of thought within location theory, as outlined in the previous section (Lambooy, 1988: 55). Especially (neo-)classical notions are considered to be too detached from current reality to adequately explain the location dynamics of economic activities. In (neo-)classical location theory transport costs are accredited a very dominant position. Obviously since (neo-)classical theory came to life, transport possibilities have increased tremendously and transport costs have decreased. Moreover the service sector has grown in many western economies, involving "products" which can be transported over large distances much more easily and at low costs through ICT-applications. In addition to this (neo-)classical location theory wrongfully assumes fully informed and rationally acting human beings. As a consequence (neo-)classical location theory has very little explanatory power for contemporary location decisions.

The other bodies of thought may offer more useful insights in location choices than (neo-)classical theories but are nor free from criticism either. The first drawback of these theories is that there is very little eye for differences in organizational characteristics. At present there is much more sector differentiation within economies as the former dominance of agriculture and industry has ended. Moreover, the fact that different location factors work on different spatial levels is insufficiently recognised. Depending on the type of factor a specific spatial level is relevant and depending on the spatial level in question the quality and quantity of the factor may vary (Atzema a.o., 2002: 32ff). Another notion worth mentioning is that many theories assume a static relationship between organizational characteristics and production environment, in stead of a dynamic one. Such dynamism originates from the introduction of new technologies and products, from the increased necessity to take into account (international) competitors, or from the implementation of a new market strategy. These changes have an impact on the demands made by organizations regarding location characteristics. As a consequence the appreciation of companies of different production environments will also change. At the same time production environment autonomously change over time as well, for instance through changing government policies or through changes in the physical context (Atzema a.o., 2002). As a consequence the relationship between organizational demands and production environments is a very dynamic one.

Certain socio-economic developments lie behind these dynamics in the demand for and supply of production environments. These developments and the dynamism they bring about result in changing location tendencies. These tendencies should be incorporated into location theory, which is not done by traditional location theories or by more recent notions which only focus on certain elements of the functioning of an organization in a specific environment (e.g. innovation, culture). Below we will pay some more attention to these highly important socio-economic developments. Three main developments can be discerned:

- the rise of the network society;
- the knowledge-economy;

- the creative economy.

Network society

Like any other Western society, the Dutch society is in the process of transforming into a network society, which has a twofold impact. On the one hand it brings about economic activities across borders: the economy of a country does not stop at the border; distance is of less and less importance for economic activities. Using a wide angle, this development can be labeled globalization: "*products can be produced anywhere, using resources from anywhere, by a company located anywhere, to a quality found anywhere, to be sold anywhere*" (Naisbitt, 1994). Ideally an organization can spread its different divisions (buying, production and sales) over the world in such a way that cost levels and added value are optimal. Not only physical products, services and divisions move across borders much more often, the labour market is becoming to a great degree a global labour market, especially for highly educated people (Castells, 2000: 130). Globalization thus has many different manifestations, including free trade and a greater mobility of labour (Van Kersbergen en van Waarden, 2001: 52).

On the other hand the growing importance of network concepts is visible in the control of organizations and society as a whole (WRR, 1998: 52). The difference between the economy in this new era and the economy from the past is that the current economy " *... is an economy with the capacity to work as a unit in real time, or chosen time, on a planetary scale*", according to Manuel Castells, the instigator of this chain of thought (Castells, 2000: 101).

An important phenomenon in this respect is the emergence of *network organizations*. In a network organization the processing chain is split up into different processes, each of which is taking place in geographically separated organizations. Cooperating organizations no longer have to function in each others vicinity to bring about agglomeration economies. While network organizations are spatially stretched out to an international level, at the same time the local and regional level are of growing importance, a paradox that is known as the "global-local paradox". This notion entails that the regional production climate is of particular importance in the international network economy (Castells, 2000: 111). According to Castells the emergence of new information and communication technologies has removed the necessity of physical nearness for some types of relationships. This does not mean the end of personal face-to-face contacts. On the contrary: the growing importance of high-quality information, especially in creative, innovative and complex industrial processes and the fact that economic activities are more and more arranged in networks, extend the importance of face-to-face contacts within a specific region, city or business location (Van den Berg et al. 1999: 10). The production environment is becoming an element of growing importance in the competitive position of organizations; production environment (space) increasingly becomes a means of production. Regions thus compete with one another on a global market for the favours of organizations. Access to information is also a significant location factor in the network society and requires employees with a relatively high level of knowledge and education. These types of employees have high lists of demands when it comes to their living environment, as shall be discussed below. As a consequence spatial quality is a valued location factor for organizations in the twenty-first century (Van den Berg et al. 1999: 1).

Knowledge-based economy

Knowledge plays a crucial role in a modern economy. This important "commodity" has become a decisive competition factor. The knowledge-based economy is characterized by the way it uses knowledge in interactive relations between (market) participants when producing and using goods and services (Raspe et al., 2004: 6). The rise of the

knowledge-based economy is shown by the increase of the level of education of the working population. In the previous decades the proportion of higher educated employees (i.e. with a bachelor-degree or higher) has increased strongly in the total working population (Raspe et al., 2004: 7). This rising share is accompanied by a shift in labour demand towards the higher educated part of the workforce. Moreover the technological development has contributed to the fact that many tasks of the lower educated workforce have been taken over by forms of technology. This general process can be indicated as double quaternarisation. This means that both the sectoral and professional composition of employment more and more involves the generation and processing of information (Raspe et al., 2004: 19). The development where labour is less based on muscle strength and more on communicative skills and mental capacity, has taken shape by the advanced informatization of production processes.

Several academics have already emphasized the role of "human capital" in regional economic growth (Marlet and Van Woerkens, 2004: 3). Human capital consists of the knowledge and skills of persons, which can be used productively in the production process. Skilful and educated people have the characteristic that they can absorb knowledge, which according to human capital theory is also the reason that they are the most productive. As a consequence organizations are more competitive if they have established themselves in a region with a high level of human capital. These regions grow, both in economic respect as with regard to population size, more rapidly than regions with less human capital (Glaeser and Saiz, 2003: 42). The accumulation of human capital is, according to Robert Lucas (1988), a "social activity": higher educated people exchange knowledge face-to-face and in this way try to increase their knowledge. This need to face-to-face contact implies that densely populated regions and large cities are an ideal spot for the accumulation of human capital and that consequently in these areas the impact of knowledge-spillovers is high. There is an abundance of empirical proof, mainly on the basis of research in the United States and the United Kingdom, that supports this human capital theory (Marlet and Van Woerkens, 2004: 4).

Why do these skilful and highly educated people establish themselves in certain cities or regions (which in their turn will then become attractive places for organizations to locate)? Results of research in this context suggest that the attractiveness of a city or region for this specific group is particularly dependent on the "amenities", which are offered (Glaeser and Saiz, 2003: 43). According to Dutch research, such amenities involves elements such as culture, beauty of the landscape and monumental buildings (Marlet and Van Woerkens, 2004: 25), all of which are important components, as will be discussed in section 5, of spatial quality.

Creative economy

Since the publication of Richard Florida's book *The rise of the creative class* in 2002, the notion of a "creative economy" has received a lot of attention. In his book Florida suggests that it is not particularly the skilful and higher educated who are the engine behind the modern economy, as stated in human capital theory, but a specific workforce which he calls "the creative class". This (also in the Netherlands) growing class consists of people who do not necessarily have enjoyed a higher training, but are creative and have innovative ideas. By thinking rather than by doing they make a more than average contribution to the economy. This class unites a Calvinistic work ethic (with working hard as the most important aim in life) with a hedonistic life style (with pleasure as its main aim). For this reason the creative class chooses its place of residence not only on the basis of where work is located, but especially on the basis of specific living preferences (Florida, 2002: 225). Consequently Florida also identifies the importance of this "new" class for location choices of organizations: where the creative class willingly wants to live, organizations establish themselves and new companies are started (Florida, 2002: 6). The employment in that area grows more

than on average. Not only because the labour market of innovative and creative employees attracts organizations, but also because the creative class generously spends income in the local and regional economy. The presence of the creative class is a location factor of growing importance. This development offers interesting perspectives to regions and cities: an attractive image, more employment and more innovations.

In contrast to what is commonly assumed in most benchmarking studies, according to Florida it is not the *business climate* that is determinative; it is the *people's climate* that exerts a direct influence on the economic development of a(n) (urban) region. If regions want to stay ahead in the global competition they must aim at accommodating the creative class, people for whom creativity is the most important input in their work.

Changing location tendencies

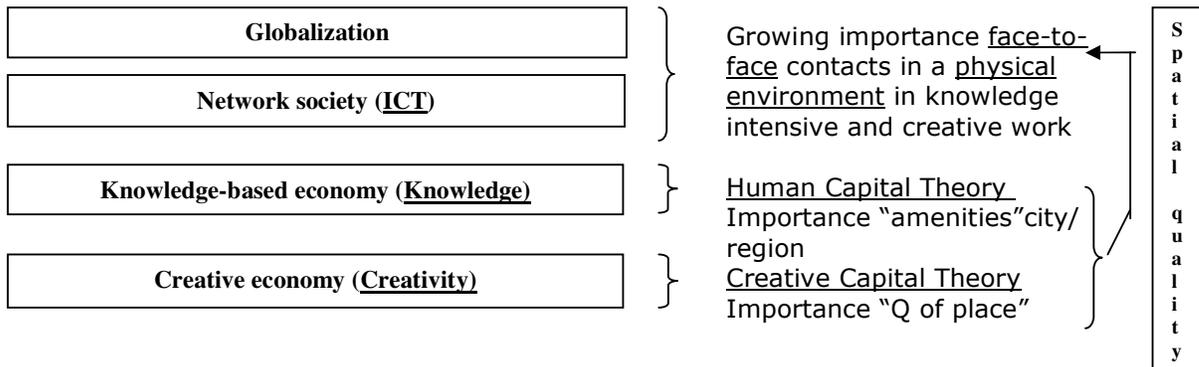
What is the meaning of these three developments for the location choice of organizations in the Netherlands? Cities and regions with aesthetic qualities, a historical character and a large and varied supply of cultural activities can count on a concentration of creative, innovative and entrepreneurial people (Marlet and Van Woerkens, 2005: 4). Along these lines Florida emphasizes the importance of "quality of place" for economic development of (urban) regions (Florida, 2002: 232). In this reasoning, a high quality environment with a culture that is diverse, tolerant and open-minded attracts the growing creative class, and subsequently organizations and economic growth. It is therefore not only and not in the first place the location of their work by which people are led, but the qualities of the environment in a broad sense (Van Aalst et al., 2005: 4).

How do ICT developments relate to this? Is "location" as such not a pointless concept if it is possible to connect worldwide networks from almost any random location? How do the agglomeration effects induced by creativity relate to ICT developments? Glaeser (1998) has asked whether cities will lose their traditional agglomeration advantages by this rise of ICT: *Are cities dying?* He observes that electronic and face-to-face contacts are complementary rather than a substitute for each other. Information-spillovers will remain very important in the current and future economy. As a consequence of this increasing importance of face-to-face interaction the demand for physical meeting points increases also, as a result of which regions, cities and office locations, as centres for this interaction, remain very important (Van Oort et al., 2003: 54). This means that the access to knowledge and information is becoming a more important location factor and requires employees with a relatively high level of knowledge and education, who for their part put high demands on their living environment. The network society, the knowledge economy and the creative economy go hand-in-hand rather than that they are at odds.

4. Spatial quality as a possible quaternary location factor

Returning to the three phases that were identified in the previous section, it now seems plausible that the third phase has also been left behind, and that phase IV has begun. Figure 2 shows the main arguments as they were put forward in this section, and how they could possibly relate to spatial quality.

Figure 2: Presumed relationship between socio-economic developments and spatial quality



What is spatial quality?

Spatial quality is considered in the Netherlands as the core concept in spatial planning as well as the main goal of spatial policy (WRR, 1998: 1). The presupposition is that spatial quality is a normative term, with different interpretations by different disciplines and changing over time (Habiforum, 2001: 15). However, the body of thought that is developed at the national level and which laid down in successive policy notes in all kinds of policy fields (like mobility and transport, architecture, nature and environment) offers a good starting point for the further interpretation of the term spatial quality.

Since the *Vierde Nota over de Ruimtelijke Ordening*² the concept of spatial quality has been developed by means of three components: use value, perception value and future value. These three terms have become the point of reference in discussions on spatial quality (Habiforum, 2001: 17). A high use value occurs when space can be used in a safe manner for several purposes (to live and to work, but also to recreate and to move through). The idea is that these different functions do not hinder and possibly reinforce each other. Perception value plays an important role in people's living environment. Cultural awareness and diversity, the presence of characteristic properties (identity) and of history and beauty, are all elements that can be attributed to perception value. Perception value also involves spatial diversity and variation. Future value includes characteristics such as sustainability, bio-diversity, robustness and flexibility, both concerning suitability for new use forms and admissibility for new cultural and economic meanings (VROM, 2005: 19). The parties concerned stipulate in practice the concrete interpretation of these aspects/values of spatial quality for the spatial task at hand. Accordingly a powerful triple term has been created that motivated a large number of spatial tasks, including spatial planning for company location.

Spatial quality as a location factor

How does this all relate to spatial quality as possible (quaternary) location factor? Below we will focus on three aspects: the impact of an increasingly level playing field, footlooseness, and the post-scarcity effect.

² Fourth note concerning spatial planning (1993).

Level playing field

In section 2 it became clear that in the course of time the originally dominant primary and secondary location factors gradually converged: a so-called level playing field arose (Pellenbarg, 2006: 27). This equality concept does not imply that each "player" on the field has an equal chance of success, but that the conditions and the rules of the game are everywhere virtually the same. The absence of agglomeration advantages in a small country as the Netherlands only seems tangible in the real periphery and the physical accessibility of business locations is high everywhere (apart from congestion problems). This level playing field also more and more applies to tertiary location factors. The level of government influence, both with respect to location choice and environmental aspects, and the "institutional thickness" are in fact in the Netherlands everywhere about the same. As a consequence of the growing mobility of labour, a qualified work-force can be acquired ever more easily; costs of labour are everywhere virtually the same because of collective employment contracts and terms which are concluded at the national level. The access to knowledge centres is not similar everywhere (there are however different views on this aspect in the literature), but the accessibility of the ICT infrastructure in the Netherlands is such that connections can be made virtually everywhere and to all kinds of networks, thereby offering the opportunity to access knowledge centres. In a spatial sense this leads to a situation in which every workplace with access to the worldwide virtual network can act as an effective and efficient alternative to urban concentrated offices. This is also called the assumption of "death or distance" (Van Oort et al., 2003: 53). Organizations as a consequence are less dependent on the location and can locate themselves wherever the mix of location factors for them is most favorable.

Footlooseness

As a result of the increasingly level playing field, organizations are increasingly "footloose". For many organizations it is economically no longer relevant where they have established. Because of this the strength of the ties to the existing place of business increases. If entrepreneurs gain no economical advantage by moving from one place to another, they will not do so. In this respect Van Heelsbergen and De Smidt (1982) use the concept of the locational tolerance area. That is the area within which an entrepreneur can achieve a satisfactory business result. In the course of time the locational tolerance areas have considerably grown. Nowadays for many business sectors the locational tolerance area comprises the entire Dutch territory. This means that there is less and less need to search within the Netherlands for another production environment with better production conditions. Since the early seventies long distance migration of organizations within the Netherlands has thus almost dried out and migration patterns are dominated by short distance removals (Louw, 2004: 43). The research of Pellenbarg, Prunel and Van der Weij (1993) among others supports this conclusion. It is nevertheless striking that organizational mobility as such (i.e. the number of removals per organization), has increased year after year in the 1980s and 1990s (Pellenbarg et al., 2005: 122).

Post-scarcity effect

Post-scarcity society and post-materialism, particularly in the industrialized world, are notions by which several sociologists describe the current status of the economy. Political scientist Robert Inglehart has developed the idea of the post-scarcity society in a nuanced manner: the so-called "Inglehart thesis" (Giddens, 1995: 7). On the basis of more than 20 years of survey results (concluded in 1998), he has documented a strong shift in the dominant values and attitudes in the whole Western world (Florida, 2002: 80). This shift from "economic growth" to "quality of life" is the consequence of important modifications in our material conditions. The rise of the more abundant post-scarcity economy means that no longer all energy must be focused on staying alive, but that resources are also used to enjoy other aspects of life. This offers people options which were not available earlier. "Precisely because

they attained high levels of economic security", according to Inglehart, "the Western societies that were the first to industrialize have gradually come to emphasize post-materialist values, giving higher priority to the quality of life than to economic growth" (Florida, 2002: 81).

5. Conclusion

Although organizations have become more and more footloose, the necessity to move has decreased as a consequence of reduced regional distinctive qualities. Although the number of organizational displacements in the Netherlands continues to grow, most re-locations take place within the same region. This (re-)location pattern cannot be explained by the classification in primary, secondary and tertiary location factors, as they were discussed in section 2.

As a consequence of the increasingly level playing field the distinctive capacity of regions has become much smaller. In the course of time the original dominant primary and secondary location factors gradually became equal on an ever-growing scale. A large number of the so-called tertiary location factors are to a very small degree still typical for specific regions in the Netherlands, but their impact should not be overestimated. Economically a satisfactory business result can be achieved in almost every region, thereby stretching the locational tolerance area for many company branches to the whole Dutch territory.

What remains as distinctive features are the "image" of business locations and the quality of living and recreation environments within a certain region. The latter factors coincide (not accidentally) with the attractiveness of a certain region for creative knowledge workers, who are very important to the economy.

In post-materialistic Western society quality has become a factor of growing importance in our daily lives, now that basic needs can easily be provided for. The growing attention paid to spatial quality cannot be viewed separately from the interest for quality in general in society as a whole. This is also visible in practice. Employers pay more attention to the wishes of creative workers who demand certain qualities in their living and working environment. This results in an increasing emphasis on spatial quality of company housing and surroundings. The phase of quaternary location factors (phase IV) has begun, with quality taking a prominent place.

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