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Ethnic groups and spatial behaviour in Rotterdam’s neighbourhoods

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Abstract

Little knowledge exists on the relationship between urban space and the behaviour pattern of various ethnic groups. For this purpose four different neighbourhoods with a high number of various ethnical groups were investigated in different time periods during a weekday. A difference was made between Europeans, Turkish, Moroccans, and Surinamese/Antillean users in the static snapshots. The following spatial parameters were taken into account: Axial and angular analyses with topological and metrical radiuses of the street and road network (Hillier & Ida 2005), and various micro scale tools (van Nes & López 2007) showing the relationship between private and public space.

As it turned out, the more spatially segregated the street net is in a local area, the more the various ethnic groups are separated from others. These areas consist of a labyrinthy broken up street net, dead end and poorly inter-visible streets. A high spatial integration of the street net contributed to great variation of all types of people on streets. These areas consist of a highly inter-connected street net with shops located along it and with entrances directly connected to the street.

The results shed some light on the current urban regeneration and urban design practice in the Netherlands. The spatial structure is hardly taken into account, in which contribute to a further socio-economic segregation of various ethnical groups. Seemingly, spatial segregation contributes to social as well as ethnical segregation among the users while spatial integration support socio-economic integration among various ethnic groups.

Keywords

Cultural behaviour, social segregation, ghettos, multicultural neighbourhoods.
1. Introduction

In 2007 the Dutch minister Vogelaar made a priority list for improvement for 40 worst deprived neighbourhoods in The Netherlands. Several of these 40 problem neighbourhoods suffer from stigmatization, due to a high number of immigrants living in these areas. Since 2007, several spatial improvements are made in these areas, but there is a lack of knowledge on how various ethnic groups behave in a Dutch built environment. Therefore, the challenge of this research is to distinguish the various ethical groups from one another during the fieldwork for revealing the correlation between culture and spatial behaviour.

Most cities contain areas considered as no-go areas by their inhabitants (Jacobs, 1961). At present, the problem consists of two parts. The first part is the actual problems of the neighbourhood and the second the stigmatization the inhabitants (Hillier, 1996). The reputation of these areas is manifested in police records on robbery, loitering youth, petty crime and overall harassment, causing an overall feeling of unease in the neighbourhood. These events cause people to feel less safe on the streets and might cause them to avoid going outside during certain times of the day or night. Few people in streets contributes to that visitors avoid entering an area.

In most cases the transformation from prosperous to problem neighbourhood goes unnoticed until the area is a full-fledged problem neighbourhood with a bad reputation. Bad reputation, bad image and stigmatization can lead to an extra set of problems for the neighbourhood and its inhabitants, especially for the lion share of the inhabitants who are struggling and have no part in the decline of their neighbourhood. Even though the physical problems are solved, a bad reputation contributes to that people as well as investors avoid the neighbourhood, hindering the neighbourhood attempts regaining a good balance (Hillier, 1996).

In the second half of the 20th century, regeneration of problem areas came on the agenda. Several early post-war neighbourhoods were demolished and rebuilt. The effect was an increase of the living conditions and caused a reduction of social problems and criminal incidents. This radical approach is still used today due to its recorded success.

During the last four decades, the composition of the dwellers in poor neighbourhoods has changed drastically. From being a home for low-income people from only one culture, various low skilled non-western immigrants with various cultural backgrounds are now living in these areas. In recent years the area of ‘the problem neighbourhood’ has become a playfield for politicians, the media and troubled youngsters seeking attention. However, there is a lack of knowledge on how these various groups interact in public space. So far, all kinds of physical improvements take no account on the behaviour of the users in the regeneration plans of these problem neighbourhoods (van Nes and López 2013).

2. Literature review on space and social segregation

So far, research on immigrants’ behaviour in relation to urban space focused on immigrants’ socio-spatial behaviour in relation to dwellers in the host country. Vaughan and Penn’s research on how Jewish immigrants settled themselves in a neighbourhood in Leeds and Manchester in the 19th century showed that the Jewish immigrants settled themselves close to integrated main routes. The purpose was to participate in the local economy of the host country. The rental prices were naturally high at the integrated main routes. Therefore the immigrants settled themselves 1-2 direction changes from the main route (Vaughan and Penn, 2006).

Rueb and van Nes’ distinguished between non-western immigrants and locals in the research on space and behaviour in four different types of Dutch neighbourhoods. As resulted, the higher spatial integration of the street, the higher variation of types of people in streets (Rueb and van Nes, 2009).

There exist several writings on how the ghettofication process occurs from a socio-economic perspective. Economist and sociologist Eric Maurin presents a case wherein he refers to the top-
down and bottom-up formation of ghettos in France. He elaborates on the three layers emerging in French cities; the upper class, which left to move within the historic city centre, the native middle class who moved out to relocate to the suburbs, and the ethnic minorities, who were left in the homogenous high-rise in between. A consequence of these events is a sudden, social segregation and the emergence of new service and shops aimed at the ethnic market (Maurin, 2004).

Economist Card mentions the ‘tipping points’ of neighbourhoods, which may lie between thresholds of 1% - 40% ethnic minorities, causing a white flight and leaving the neighbourhood as a completely segregated area. When the number of ethnic inhabitants rises above the threshold, the native inhabitants will leave, causing a drop in native inhabitants and thus starting another round of the ‘white flight’ (Card et al., 2008).

2.1 Writings on space and behaviour in a cultural context

If the city is a representation of the culture of the native people, how do people from other cultures perceive such spaces and how they respond to the unspoken rules of behaviour such spaces convey. Hall’s theory on proxemics gives an overview of the difference between spatial behaviour between the, what Altman refers to as the more reserved “noncontact” cultures, such as the northern European and Caucasian American culture and the highly sensory “contact” cultures such as the Mediterranean, Arabic and Latin American cultures (Altman, 1980).

The proxemics theory is based on the ‘bubble’ of space surrounding a person, which is separated between intimate, personal, social and public space. Different cultures maintain different standards of personal space, and in some cases they can be the completely opposite. Misinterpretation of the trespassing of personal boundaries can cause friction and anxiety (Hall, 1966). The terms “noncontact” and “contact” are not to be associated with “individualistic” and “collective” cultures. There are cross-cultural similarities on spatial use between European (English, German and French) and non-European (Japanese and Arabic), such as distancing behaviour during interaction (Altman, 1980). Due to differences between the spatial use and spatial behaviour between the “contact” and “noncontact” cultures and the high risk of misinterpretation of spatial behaviour, there is a high probability that the difference in spatial behaviour has a dramatic effect on the overall feeling of safety and unease in the public space. “Given the fact that few people are even remotely aware of the cultural mold that forms their thoughts, it is normal for Arabs to view our behavior as though it stemmed from their own hidden set of assumptions.” (Hall, 1966)

The main difference in proxemics between ‘Westerners’ and Arabs concerns behaviour in public, concepts of privacy, involvement, and boundaries. The behaviour in public consists of behaviour towards the ‘bubble’ of personal space between moving, standing and sitting persons. Where in Western culture it is accepted that a sitting or standing person has a ‘bubble’ of private space while a moving person has not, it is converse in the Arab culture. Getting in the way of a moving person in the Arab culture is “not done,” while standing or sitting very close to a person is acceptable. However, the distance is much smaller than Western people are used to. The Arab culture is based on smell. The olfaction distance is the informal distance setting, which for westerners is too close for comfort. The concepts of privacy in Western culture begin with the body. Touching a stranger is considered to be a transgression, while in the Arab world the Ego lies deeper within the body. The skin is not the ego, and the ego can only be touched by words.

The Arab culture is a collectivist culture and the western culture is an individualistic culture. In the Arab world involvement is expressed in such ways that a man may intervene when he sees youngsters misbehave. This behaviour is also acceptable when the man does not know the youngsters. Not intervening in a situations counts, in the Arab culture, as taking a side. The Moslem tradition is rooted in a strong affiliation with kinship. The hierarchy of loyalty lies first to one’s self, then to kinsman, townsman or tribesman, co-religionist or countryman. Anyone who is not considered to be part of one of these categories is by definition a stranger, and in many cases an enemy. Trespassing boundaries in this light is based on who you are instead of a piece of land or space (Hall, 1966).
There are in addition wide discrepancies in the degree to which culture structures involvement, which means that planners should begin to think in terms of different kinds of cities, cities that are consistent with the proxemic patterns of people who live in them (Hall, 1966).

2.2 The background of social segregation in the Netherlands

During the 19th and 20th century, the Dutch society was divided up culturally and politically through various churches and institutions. In general, there were four strong social groups in the Netherlands; The Protestants, the Catholics, the socialists and the liberalists. Each group had their own schools and social security systems. Each group controlled the every-day movement of the Dutch society on various scale levels.

During the 60’s and 70’s this Dutch social framework faded away, which changed the patterns of social conventions. Simultaneously, increased immigration contributed to that some neighbourhoods consisted of mainly ethnic minorities. This two faced changes in the Dutch society contributed to a gradual evolution where society was freed from the rigid compartmentalization, and an emergence of ethnic minorities requiring a rapid adjustment to other cultures, norms and values. These changes contributed to an increased friction between native Dutch and non-western low skilled immigrants in several neighbourhoods.

The lack of contact between minorities and the native Dutch is put forth as the most important cause for negative effects in multi-ethnic neighbourhoods (Bolt et al., 1998). As Doff explains, “when ethnic minorities live isolated from native Dutch, they have less contact with native Dutch; consequently, they do not acquire an adequate command of the Dutch language, are not likely to adopt ‘Dutch’ norms and values and will not succeed in socioeconomic terms” (Doff, 2011).

Though multi-ethnic neighbourhoods can be perceived as negative, they can function as stepping-stones for newcomers and create economic opportunities in developing ethnic niches (Waldinger, 1996, Wilson, 1987) and hence, increase their life-chances. Through contact with working people, immigrants are more likely to find jobs themselves (Kempen, 1994). However, according to Doff’s research on ethnic groups in the Netherlands, the Turkish and Moroccans show significantly lower participation rates in the Dutch society (respectively 50,1% and 45,4%), than Antilleans (59,4%) and especially Surinamese (63,7%). In addition, the Turkish and the Moroccans live more in ethnic segregated neighbourhoods than Antilleans and Surinamese (Doff, 2011).

According to research carried out by the Dutch ministry of housing (VROM) there appears to be a sharp threshold for the total amount of unemployed and ethnic minorities that can inhabit a neighbourhood without the emergence negative effects. When the total numbers exceed this threshold, there is a correlation between the exceeding inhabitants and negative effects on liveability (Leidelmeijer et al., 2009). Likewise, Doff’s research shows a direct link between concentration levels exceeding the 50% and a visibly lower participation rate for mainly the Moroccan group. There is overall a lesser extent to modern values in these saturated neighbourhoods, such as individualization, secularization and female liberation compared to other ethnic minorities in other neighbourhoods. The Moroccan group shows the lowest interest in adapting modern values (Doff, 2011). The differences between the individualistic and collectivistic culture between the native Dutch and (mainly) the Moroccan inhabitants become visible when the Moroccan group is large in a neighbourhood.

One of the two main preconceptions on social segregation is that ethnic minorities chose to live together because they do not care for social integration. The second misconception is that all ethnic minorities are poor. However, according to Doff there appears to be a third possibility, the unwillingness of the native Dutch to live next to ethnic minorities (Doff, 2011).

The Rotterdam Law was established in the 1970’s with purpose to achieve an equal distribution of immigrants in neighbourhoods and to battle social segregation. However the implementation of this law was prevented because it was considered as discrimination. Recently an experiment of this law is tried out in Rotterdam, with purpose to de-concentrate the deprived from ethnic neighbourhoods. The aim is to improve the socio-economic integration of the deprived dwellers. 19 streets were
prohibited for ethnic minorities during a relocation process. The effect was that the non-deprived benefitted most from this action. Nevertheless, this experiment shows how the economic capital of a person can be less important than the cultural capital, since it is the latter will allow ethnic minorities to be able to interfere with the Dutch population (Doff, 2011).

3. Research questions and methods

How does the spatial configuration of a western built environment affect the behaviour of a non-western inhabitant in relation to a western inhabitant? To what extend do the degree of spatial integration of public spaces encourage social integration? A top down approach, based on socio-economic data from central bureau of statistics made on postal codes is insufficient. The street level resolution is missing. Therefore, fieldwork is needed.

Is there a correlation between spatial organization and social behaviour? Likewise, is there a correlation between spatial segregation and social segregation of various ethnic groups? In order to answer these questions, spatial analyses is carried out with the space syntax method and the urban micro scale tools developed by van Nes and López (2010). The results from the spatial analyses are correlated with the results from the static snapshot analyses and some available place bounded socio-economic data.

Four different neighbourhoods in Rotterdam north are chosen as case studies. These neighbourhoods consist of a high amount of low skilled non-western immigrants. The largest groups are Moroccans, Turkish, Suriname and Antillean immigrants. Because one of this paper’s authors (with a Persian background) grew up in a similar neighbourhood, made it possible to distinguish the various ethnical backgrounds of people from one another during the static snapshots registrations.

4. The case studies

All chosen four neighbourhoods were built according to an expansion plan of the city of Rotterdam, mostly funded by private investors. The neighbourhoods Spangen, Bospolder and Tussendijken were built between 1911 and 1930. Most of Spangen’s ground was privately owned. Delfhaven consists of a mix of old buildings dating back to the 17th century to the 1950’s, whereas the buildings in Oud Mathenesse are dating from the 1930-1990’s.

All the neighbourhoods had an urban renewal process in the 70’s and 80’s. But these physical improvements did not improve the neighbourhoods’ social problems and reputation (van Nes and López 2013). The municipality had no ownership of most of the housing stock. Therefore, it was difficult to initiate a regeneration program. The goal was to buy out most of the housing owners by 1984. At least 20% of the dwellings have still poor quality and small sizes. Middle-income families are leaving, while ethnic families move into these neighbourhoods. To avoid spending money on maintenance, the house owners put the property on the housing market.

Figure 1 shows the liveability map of all the four studied neighbourhoods. The map is made based on questionnaires given to all residents from the police. The dark red colour shows the worst areas, and the dark green shows the most attractive and safest areas to live in. All the four neighbourhoods have low values on this barometer (Rijksoverheid, 2010a). Oud Mathenesse scores slightly better than the other three neighbourhoods.
Delfshaven has 6,420 inhabitants, where 50% of them are non-Western Immigrants. The average percentage of Non-Western Immigrants in whole Rotterdam is 49%. The percent of working people (15-64 year) is 62%. The welfare dependency is 144 per 1000 households. The yearly average income is 15,500 Euro. 48% of the inhabitants have low income, whereas 10% has high income. The average house price is 120,000 Euro. Delfshaven has 2,810 dwellings, where 87% are rental homes and 13% are owned by the dweller self.

Figure 2 shows the functional and spatial analyses of Delfshaven. The most segregated streets are perceived by the inhabitants to be very unsafe. The few shops in the area are located along the area’s only main route going through the neighbourhood. The spatial integration of the street network is very low, and some streets have average degree of inter-visibility of windows and doors. In the area’s west side, there is a street with some very old buildings giving the area its particular place identity. Native Dutch mostly inhabits this area.

Figure 3 shows how various ethnic groups use public space in Delfshaven. The two images above show how Native Dutch and non-western immigrants use space, where the two images below show how Surinamese and Antilleans, and the Turks and Moroccans use space. The Surinamese and Antilleans use a different corner of the square than the Turks and Moroccans. The various ethinical groups do not mingle at all, except from the main route in the area where a slightly mix can be observed.
Figure 2: Spatial and functional analyses of Delftshaven
Likewise, the registrations show how men, women and children are not using the same spaces at all. Women are found in the in the shopping street with average integration values and at the one of the corners of the square. Children are found only on the playgrounds and men are using the opposite cornered of the square than the women. The few people found in the segregated streets are men.

Delfshaven's low integration of the street network affects how various ethnical groups as well as gender and age of the area's users behave in public space. They do not mingle at all in this neighbourhood.
4.2. Bospolder and Tussendijk

The neighbourhood Bospolder and Tussendijk has total 14.175 inhabitants, where 69% of them are non-Western Immigrants. The percent of working people (15-64 year) is 55%. The welfare dependency is 194 per 1000 households in Bospolder and 233 in Tussendijk. The yearly average income is 14.700 Euro. 52% of the inhabitants have low income, whereas 8% has high income. The average house price is 112.000 Euro. Bospolder and Tussendijken have 6.600 dwellings, where 91% are rental homes and 9% are owned by the dweller.

Figure 4 shows the functional and spatial analyses of Bospolder and Tussendijken. The most segregated streets are perceived by the inhabitants to be very unsafe. The shops in the area are located along the area’s main route going diagonally through the neighbourhood. The spatial integration of the main routes is high. Most shops are located along these streets. There are some very segregated dwelling streets in the neighbourhood. The most integrated streets have high degree of inter-visibility of windows and doors, and the most segregated streets have low degree of inter-visibility.

![Figure 4: Functional and spatial analyses of Bospolder and Tussendijken.](image-url)
Figure 5 shows how various ethnic groups use public space in Bospolder and Tussendijken. As can be seen from the figure, the various ethnic groups mingle only along the integrated shopping streets. In all other local dwelling streets, the various ethnic groups do not mingle at all. Only Turks and Moroccans use the southern square and streets. The higher spatial segregation on the street network, the more the various ethnic groups separate themselves from the others. Adults and children are not using the same spaces. The adults stay along the integrated shopping streets, whereas children use the local playgrounds inside the various dwelling areas. The public spaces at the two squares are used different. Men stand on the edges and women are in the middle of these squares.

Seemingly, high spatial integration of the street network generates high social integration, whereas the opposite contributes to social segregation between all groups. Children use space different from adults. Moreover, children from the various ethnic groups do not mingle at all in Bospolder and Tussendijken.

Figure 5: Registration of behaviour various ethnic groups in Bospolder
4.3 Spangen

Spangen has 10,020 inhabitants, where 76% of them are non-Western Immigrants. The percent of working people (15-64 year) is 59%. The welfare dependency is 189 per 1000 households.

Figure 6: Functional and spatial analyses of Spangen

The yearly average income is 14,800 Euro. 49% of the inhabitants have low income, whereas 6% has high income. The average house price is 110,000 Euro. Spangen has 4,195 dwellings, where 87% are rental homes and 13% are owned by the dweller.

Figure 6 shows the functional and spatial analyses of Spangen. The most segregated streets are perceived by the inhabitants to be very unsafe. The shops in the area are located along the area’s integrated main route, located on the edge. The spatial integration of the street network is low. Some streets have very low integration values. The degree of inter-visibility of windows and doors
are very low in the most segregated streets, caused by the new buildings implemented during the renewal program in the 70’s and 80’s. The old dykes with parks contribute to dis-connect Spangen from its surroundings and to reduce the degree of inter-visibility of entrances to streets.

Figure 7 shows how various ethnic groups use public space in Spangen. The various ethnical groups mingle only along the shopping street at the edge. In all other local dwelling streets, the various ethnical groups do not mingle at all. The women stay along the integrated shopping streets, whereas children use the local playgrounds inside the various dwelling areas. Only men frequent the extreme segregated streets.

Seemingly, spatial segregation generates social segregation of all kinds of groups in Spangen. Children from the various ethnical groups do not mingle at all. The Turks and Moroccans have the same religion but they do not mingle at all. Each group have their own mosque.

4.4 Oud Mathenesse

Oud Mathenesse is socio-economic better off than the other neighborhoods. It has 6,518 inhabitants, where 45% of them are non-Western Immigrants. The percent of working people (15-64 year) is 72%. The welfare dependency is 68 per 1000 households. The yearly average income is 15,700 Euro. 42% of the inhabitants have low income, whereas 7% has high income. The average house price is 98,000 Euro. Oud Mathenesse has 3,740 dwellings, where 55% are rental homes and 45% are owned by the dweller.
Figure 8: Functional and spatial analyses of Oud Mathenesse

Figure 8 shows the functional and spatial analyses of Oud Mathenesse. The most segregated streets are perceived by the inhabitants to be unsafe. The few shops in the area are located along the area’s integrated main route, running through the neighbourhood. The spatial integration of the street network is average, except at the northern part where some streets have very low integration values. The degree of inter-visibility of windows and doors are very low in the most segregated streets.

Figure 9 shows how various ethnic groups use public space in Oud Mathenesse. They mingle along the main route and at the local playground in the area’s western part. In all other local dwelling streets, the various ethnical groups do not mingle at all. The women stay along the integrated shopping streets, whereas children use the local playgrounds inside the various dwelling areas. Only men frequent the extreme segregated streets.
5. Conclusions

High spatial integration generates high degree of social interaction between various types of people. Figure 10 shows all registration of all the four neighbourhoods with the local angular integration analyses. Obviously, an integrated main route running through, instead of going around a neighbourhood, generates an integrated socio-economic street life. This main route needs to be well connected to local dwelling streets constituted by entrances that are inter-visible to each other.
A neighbourhood with low spatial integration on its street network and low degree of inter-visibility of entrances and windows generates social segregation. It occurs not only between various ethnical groups, but also between gender and age of the area’s users. A neighbourhood with a high number of low-income non-western immigrants with these spatial characteristics gains easily a reputation as a ‘ghetto’.

Conversely, a neighbourhood with high spatial integration on the main routes going through the area, combined with that all local dwelling streets are well connected to it and high degree of inter-visibility between entrances and windows on ground floor level generates social integration between various groups. Often visitors frequent the area due to a high number of exciting immigrant shops offering exotic products along spatially integrated main routes. A neighbourhood with a high number
of non-western immigrants with these spatial characteristics gains easily a reputation as a ‘multi-cultural’ neighbourhood.

A tree structured street and road network with separate pedestrian movement routes contribute to spatially segregated dwelling areas with few opportunities for various types of people to interact. A network structured street and road system contributes to the opposite. Spatial segregation contributes to ethnical segregation. In spatially segregated areas an emergence of a ‘bubble within a bubble’ takes place. The size of the personal space or ‘bubble’ of various cultures play a lesser role in the spatially integrated main streets than in segregated streets.

The design and layout of the built environment affect the way in which immigrants can integrate in the socio-economic life of the host country. There is a link between ethnicity, spatial behaviour and spatial segregation. The degree of spatial integration influences the various ethnic groups’ behaviour due to the difference in cultural expression of spatial behaviour and cultural survival tactics. In a recent study by the SCP (Social Cultureel Planbureau) has shown that the regeneration program of the 40 problem neighbourhoods had almost no effects in the past decade. The only effect is a disappearance of the native Dutch middle class, contributing to a further social segregation (Rijksoverheid 2010b).

Tearing down buildings and replacing them with new buildings or redistributing the inhabitants does not solve the problem on a longer term. There is a need for understanding on the relationship between spatial layout and the behaviour of various ethnical groups. Likewise, there is need to understand which spatial parameters that can generate socio-economic integrations between various social groups. In this way it is possible to aggregate various vibrant multicultural urban areas were the immigrants shape their opportunities and interact with the culture and economy of the host country. “The mosaic of subcultures requires that hundreds of different cultures live, in their own way, at full intensity, next door to one another. But subcultures have their own ecology. They can only live at full intensity, unhampered by their neighbours, if they are physically separated by physical boundaries” (Alexander et al., 1977). These social activities contribute to make exiting vibrant neighbourhoods. Seemingly, the underlying factor is the spatial layout of the neighbourhood that influence whether it will be a ghetto or a multicultural neighbourhood.

References


