SOCIAL LEARNING ENVIRONMENTS

PATTERN LIBRARY

Colofon

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PREFACE

The Social Learning Environments Pattern Library is one of two pattern libraries that were created as design methodology for the graduation project “Street Smart”. The SLE Pattern Library is a set of 15 interrelated patterns with a focus on creating positive social learning environments. This pattern library is based on the research conducted in the graduation project “Street Smart”. In this research, social learning processes were identified that contribute to the social problems prevalent in problem neighbourhoods. Moreover, spatial determinants were identified that underlay these social learning processes. This SLE pattern library bridges the gap between theory and design by incorporating these abstract spatial determinants and transforming them into spatial, design-oriented, patterns. It are these patterns that provide the methodology to come to a design intervention aimed at addressing the social learning processes underlying social problems in problem neighbourhoods and transforming them into positive social learning environments.

SOCIAL LEARNING ENVIRONMENTS

PATTERN LIBRARY

One of the most well-known methods to organize both theoretical and design-oriented information is in a "pattern". This format was developed by Alexander in his classic "A Pattern Language" (1977). In the book that describes the basis of this pattern language, Alexander (1979) described how cities and buildings will never come alive unless they are shaped and created by all the people in a society. Furthermore, he proclaimed that such a process would be impossible unless all these people shared a common language, allowing them to both shape and design these cities and buildings as well as communicate with each other. In "A Pattern Language" (1977) Alexander elaborated this idea by documenting a first pattern language. His patterns all have the same layout; they describe a problem that occurs repeatedly in our society and the core of the solution to this problem. This is described in such a way that, to quote Alexander himself "you can use this solutions a million times over, without ever doing it the same way twice" (Alexander, 1977, p.x). Moreover, Alexander created his pattern language to evolve and grow over time, as more people verified the validity of certain patterns through theoretical research or expanded upon his first work with additional patterns.

The most important feature of these patterns is the way in which they are able to structure theoretical research findings so it gives practical design guidelines and recommendations. This feature is derived, in large part, from the way in which these patterns are described. Alexander's original patterns were formatted with (1)

a picture, (2) introduction of the pattern's context, (3) core statement describing the pattern, (4) empirical background of the problem targeted through the pattern, (5) core statement describing the solutions to the problem, (6) a diagram of this solution and (7) relation of this pattern with other patterns. An important aspect of all of Alexander's pattern were that the problems were recurring, the solutions instructional, and the entire pattern was as archetypical as possible.

While adequate at meeting its goal, this original pattern format can become rather long winded and lacks the clear, concise and compact format most suited for a design tool. Furthermore, critique has been voiced on a number of premises underlying Alexander's pattern language and the way in which he described his patterns (van Dorst, 2005). Following this critique, van Dorst (2005) proposed a modified and updated format in which patterns can be described according to (1) a title, (2) a positively framed presumption or postulation, (3) a (theoretically supported) clarification (4) an application, (5) a picture and (6) references to other patterns.

Another important addition to Alexander's (1977) original patterns is the elaboration of pattern networks by Salingaros (2000). In his "The Structure of Pattern Languages" he names the connectivity of patterns as one of the key features of pattern languages, which he notes is largely overlooked by Alexander's (1977) original patterns. Salingaros (2000) states that all patterns connect to each other, and that this connection can have different values. For instance, two patterns can be linked because one generalizes the other on a larger scale, or because they both solve the same problem in alternative, yet equally valid ways. It are these connections between the different patterns that give the language its structure, and create the system with which we can tackle complex problems. Salingaros (2000) furthermore argues that patterns "provide the necessary foundation for any design solution to connect with human beings", because it is within patterns that links can be made between social patterns and spatial patterns.

The pattern library presented in this document is an integral part of the graduation project "Street Smart". The graduation project Street Smart identified several social learning processes as important contributors to the social problems that are prevalent in problem neighbourhoods. Moreove, it identified spatial aspects of problem neighbourhoods that mediate these social learning processes. This Social Learning Environments pattern library was created to bridge the gap between this theoretical research and more practical, design-oriented, recommendations aimed at creating spatial interventions that are able to adress the social learning processes at play in problem neighbourhoods. The 15 patterns that make up this library target the spatial aspects of problem neighbourhood that facilitate negative social learning processes and give recommendations to transform them into positive social learning environments. As such, these patterns provide input to the designer before they start designing by giving direction to the interventions.

READING THE LANGUAGE

In order to read a pattern language, it is important to be able to understand both the individual patterns, as well as the nature of the relationships between the different patterns. These relationships are detailed in a pattern network (p. 8). The patterns in this network are differentiated by shape, and the relationships are differentiated by line type.

The pattern network encompasses two types of patters; meta-patterns and patterns. The meta-patterns are the higher level patterns in the pattern network, identifiable by their rectangular shape. These patterns can be directly linked back to the theoretical research conducted in the graduation project Street Smart. As such, these patterns are not only of a higher order but also more abstract. These pattern target the social learning processes at play in disadvantaged neighbourhood and the intended solution that will create positive social learning environments. This solution is directly derived from the theoretical research, which is elaborated in the extensive scientific clarification that follows the pattern description.

Each meta-pattern is linked to several other, lower level patterns, identifiable by their round shape. These patterns address the same problems and solutions, but become more concrete by focusing on several distinctly different ways in which this solution can be addressed. Furthermore, these patterns oftentimes address more than one problem and solutions into an integrative hypothesis. These patterns share the same scientific clarification as the parent meta-pattern to which they are

related. The focus of these lower level patterns, however, lies in addressing urban design knowledge that can help designers create a physical design for the pattern.

Furthermore, the network includes four different types of relationships, which are denoted with a different letter between brackets. These four relationships include the connections between higher level [H] and lower level [L] patterns. Secondly, the connections between complementary patterns, that is, pattern that strengten each other, marked with [C]. Thirdly, it includes the connection between patterns that influence each other, with [S] for the pattern that is doing the influencing and [I] for the pattern that is being influenced. And lastly, it includes the connection between patterns that juxtapose (i.e. contradict) each other, marked with [J].

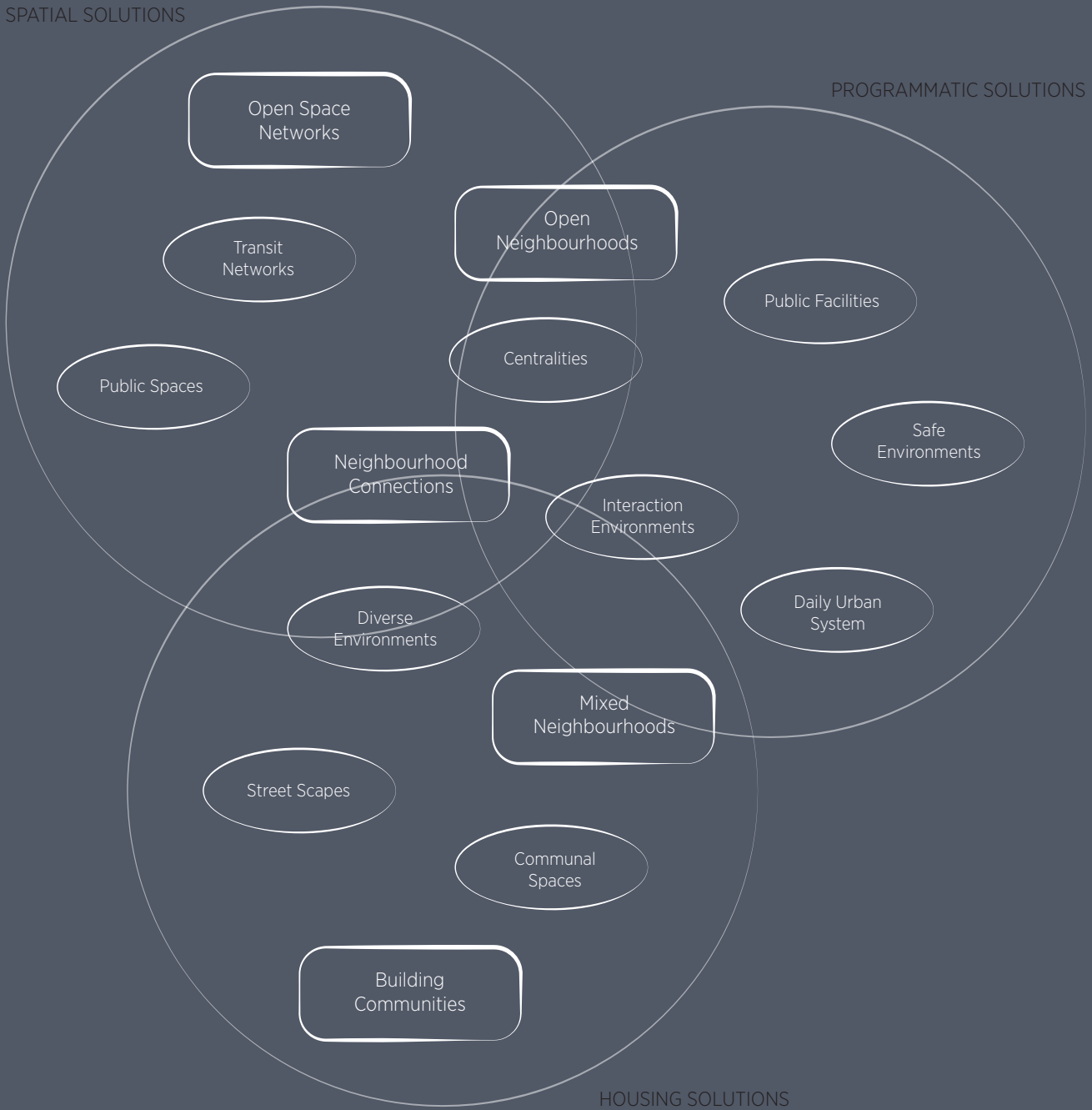
However, this pattern network is not the only way in which the patterns can be organized. Other helpful organizations include the organization by theme (p. 10), or the organization by the extend to which each pattern is either abstract or concrete (p. 12). Both of these additional pattern organization can be helpful in designing with the patterns in this pattern library.

Next to understanding the organization of and relationships between the different patterns, it is also important to understand eahc pattern individually. The template that is used in this pattern library was developed on the basis of Alexander's (1977) original patterns, van Dorst's (2005) modifications and the additional description elements as detailed by Meszaros & Doble (1997). The template is designed to communicate the information of each pattern in a clear and concise manner without sacrificing its complexity. The following pages explain the different elements used to describe both the meta-patterns and the patterns.

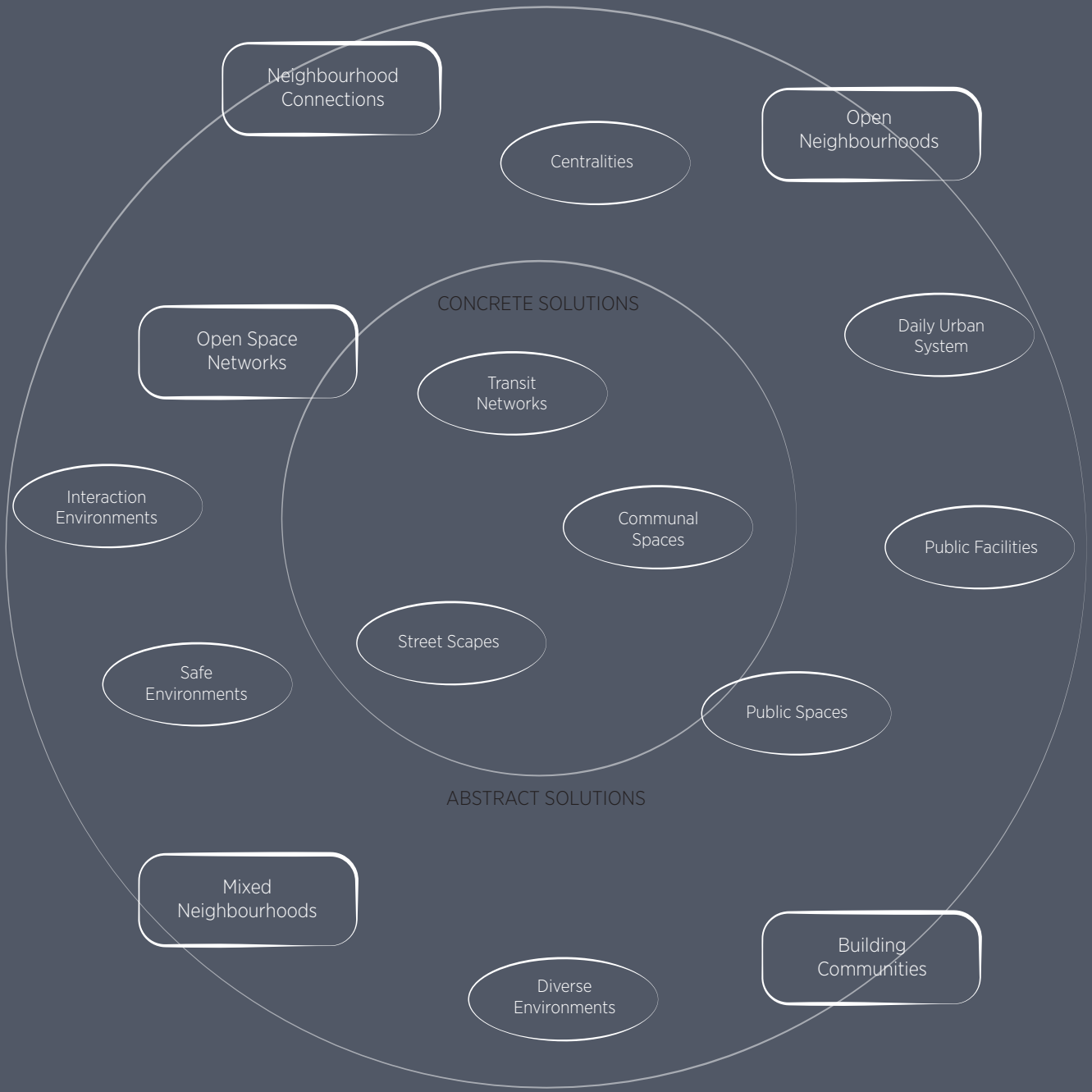

Transit Networks
Neighbourhood Connections
Centralities
Daily Urban System
Open Neighbourhoods
Public Facilities
Public Spaces
Open Space Networks
Safe Environments
Interaction Environments
Mixed Neighbourhoods
Diverse Environments
Communal Spaces
Building Communities
Street Scapes

PATTERN NETWORK

[PATTERNS]


SPATIAL SOLUTIONS
PROGRAMMATIC SOLUTIONS
HOUSING SOLUTIONS
Open Space Networks
Transit Networks
Public Spaces
Open Neighbourhoods
Centralities
Neighbourhood Connections
Diverse Environments
Mixed Neighbourhoods
Street Scapes
Communal Spaces
Building Communities
Public Facilities
Safe Environments
Interaction Environments
Daily Urban System

ORGANIZATION BY THEME


Neighbourhood Connections
Centralities
Open Neighbourhoods
CONCRETE SOLUTIONS
Open Space Networks
Daily Urban System
Transit Networks
Interaction Environments
Communal Spaces
Public Facilities
Street Scapes
Safe Environments
Public Spaces
ABSTRACT SOLUTIONS
Mixed Neighbourhoods
Building Communities
Diverse Environments

ORGANIZATION BY NATURE

READING THE META-PATTERNS

Pattern Title & Number
Each pattern has a title that aims to capture the core of the pattern. Furthermore, each pattern has an accompanying number. These numbers, however, do not refer to (relative) importance, but rather are there to make the patterns easier to use.

Main Statement / Hypothesis
The main statement conveys the hypothesis derived from the scientific research in one clear sentence.

Illustration / Reference
Each pattern is illustrated with an image and an icon. The image provides a reference to existing designs (or plans) that capture what the eventual design could look like if this pattern were to be used. Each illustration comes with a subscript that explains why this example was chosen. The icon furthermore eplains this by symbolizing the abstract idea behind the pattern.

Context
The context describes the social learning process, derived from the scientific research, that the pattern aims to address.

Problem
The problem describes how the social learning process referred to in the context interplays with the spatial aspects of disadvantaged neighbourhoods.

Solution
The solution describes how the problem is solved, targetting both the spatial aspects as well as the social aspects that contribute to the disadvantaged situation in problem neighbourhoods. This solution incorporates and points to more urban design literature that can help designers create a physical design for this pattern.

Related Patterns
This section describes the relationships with other patterns as detailed in the pattern network. Furthermore, it names unrelated patterns that have some overlap, for instance through a similar problem or solution. The relationships between the patterns are as follows:

- [H] Higher level patterns
- [L] Lower level patterns
- [I] Influenced by these patterns
- [S] Supports these patterns
- [J] Juxtapose (contradictory) patterns
- [O] Other relevant, non-related, patterns

Scientific Clarification
Each meta-pattern is followed by a scientific clarification that describes the context, problem and solution of the pattern in-depth. While it is possible to understand the meta-pattern without reading this element, taking the time to do so will further the reader's understanding of the complex socio-spatial nature of the social learning process that is adressed within the pattern.

Diagram illustrating the core principle behind the pattern.

13

BUILDING COMMUNTIES

Pattern number and title.

Disadvantaged neighbourhoods will benefit from the clustering of housing typologies (and their surrounding living environments) that attract people within a similar socio-economic class.

Statement describing the core principle behind the pattern.

[META-PATTERN]

Shows the pattern is a meta-pattern.

[L] Communal Spaces
[L] Street Scapes

[J] Mixed Neighbourhoods

[O] Public Spaces
[O] Safe Environments
[O] Interaction Environments

Related patterns.

Icon symblizing the core idea behind the pattern.

Illustration capturing what the design could look like incorporating the pattern.

EXCEPT © Example of similar housing typologies in an interactive environment.

Context - An individual's behaviours, attitudes and ult of continuous confron aged position.

Context of the problem.

Problem - In disadvantage neighbourhoods, the s (i.e. neighbours that a ce of perceived inferior general populace. Furthermore, when a disadvantaged neighbourhood has a very heterogeneous population, the chances that spontaneous and positive social interactions occur decrease. This has an adverse effect on both social binding with and participation within one's neighbourhood, which negatively affects social cohesion and control.

Problem it aims to solve.

Solution - Building communities by clustering urrounding living environ e with a similar socio-e roximity to each other. While separate dwellings are more common, an alternative is to include cohousing (Williams, 2005). In building communities, it is important to pay attention to design the public space that ties the residents together, such a interaction (Lund, 2002). mmunities can not merely ion but has to be combin n (Sanoff, 2000). Key is a neighbourhood while k terogeneous.

Solution to the problem.

On the next page, the elaborate scientific clarification follows.

READING THE PATTERNS

Pattern Title & Number
Each pattern has a title that aims to capture the core of the pattern. Furthermore, each pattern has an accompanying number. These numbers, however, do not refer to (relative) importance, but rather are there to make the patterns easier to use.

Main Statement / Hypothesis
The main statement conveys the hypothesis derived from the scientific research in one clear sentence.

Illustration / Reference
Each pattern is illustrated with an image and an icon. The image provides a reference to existing designs (or plans) that capture what the eventual design could look like if this pattern is used. Each illustration comes with a subscript that explains why this example was chosen. The icon furthermore eplains this by symbolizing the abstract idea behind the pattern.

Context
The context describe one or multiple social learning processes, derived from the scientific research, that the pattern aims to address.

Force
The force describes the solutions to one or multiple meta-patterns that this pattern further elaborates upon in the form of its main statement / hypothesis.

Clarification

The clarification describes the way in which the pattern addresses the solutions described by the forces. Its main focus lies on providing the different ways in which the solution can be achieved by connecting its intentions to existing urban design literature that can help designers create a physical design for this pattern.

Related Patterns

This section describes the relationships with other paterns as detailed in the pattern network. Furthermore, it names unrelated patterns that have some overlap, for instance through a similar problem or solution. The relationships between the patterns are as follows:

- [H] Higher level patterns
- [L] Lower level patterns
- [I] Influenced by these patterns
- [S] Support these patterns
- [J] Juxtapose (contradictory) patterns
- [O] Other relevant, non-related, patterns.

Diagram illustrating the core principle behind the pattern.

08

PUBLIC SPACES

Pattern number and title.

Creating demarcated public spaces in the vicinity of well-used, public areas will benefit disadvantaged neighbourhoods by promoting social cohesion.

Statement describing the core principle behind the pattern.

Context - Inte
information and r
neighbourhood is heavil

Context of the problem.

Forces - Proximity
will benefit disa
promoting social cohesi

Hypothesized solution.

[H] Open Space Networks

[S] Diverse Environments

[C] Safe Environments
[C] Interaction Environments

[J] Communal Spaces

[O] Street Scapes

Related patterns.

Icon symblizing the core idea behind the pattern.

Illustration capturing what the design could look like incorporating the pattern.

De Urbanisten © Example of user-oriented public space near a college.

Clarification - The physical designs of the ble to people in disadva tively influence the fo . Disadvantaged neighb that are high in closure orenoff & Earls, 1999). to the extent to which ated and defined. Exchan ns between users of the space. Ensuring that public spaces are designed with these two requirements will promote their usability and legibility, which in turn will positively influence the formation of social cohesion.

Clarification that describes how the pattern adresses the solution and its concrete design interventions, with references to more reading.

While usability and legibility improve social cohesion, good public spaces are also inclusive of other criteria. Following their analysis of seven types of public spaces, Marcus & Francis (1998) offer 15 requirements of good public spaces that include usability and legibility but also focus on themes such as user-design and place making. Furthermore, public spaces benefit from including "loose" space; highly accessible spaces with ambiguous physical elements that allow people a freedom of choices (Franck and Stevens, 2007). Such spaces also contribute to the diversity and vitality of a city or neighbourhood (Montgomery, 1998). Lastly, all types of public spaces will benefit from a design that is tailored to the human dimension and focuses on designing life (Gehl, 2010).

CONTENT

01

NEIGHBOURHOOD CONNECTIONS

[META-PATTERN]

[L] Transit Networks
[L] Centralities

[S] Open Neighbourhoods

[C] Daily Urban System

[O] Open Space Networks

Disadvantaged neighbourhoods will benefit from connections to surrounding, non-disadvantaged, areas.

ZUS © An example of a possible connection between two areas.

Context - Negative behaviour patterns within a disadvantaged neighbourhood tend to cascade throughout that neighbourhood much like a contagious disease would.

Problem - In disadvantaged neighbourhoods, negative behaviours such as crime, substance abuse and truancy occur with a higher frequency than they do in other neighbourhoods. Moreover, these negative behaviours are oftentimes visibly present in the daily urban life within these neighbourhoods. The more isolated the neighbourhood is and the more time youth spend within the neighbourhood, the more likely it is they make these negative behaviours their own.

Solution - By creating connections between a disadvantaged neighbourhood and surrounding, non-disadvantaged areas, the spatial isolation of that neighbourhood will diminish. In designing these connections, it is important to integrate them into the existing urban structure (Salingaros, 2005) and consider its important aspects such as street networks (Jiang & Claramunt, 2004) and human activity nodes (Salingaros, 1998). Through these neighbourhood connections, a larger network of places will become more easily accessible for the residents. It is through this cross-neighbourhood use of places and facilities that residents are exposed to multiple different environments outside their own neighbourhood.

Scientific Clarification - Ideas, attitudes and behaviour patterns can unconsciously spread throughout a group or population through imitation and conformity. This effect is primarily referred to as social contagion, otherwise known as behavioural contagion (Galster, 2010). Perhaps one of the most striking examples of this effect can be seen in our history books. In the Germany that existed during the Second World War, it was through social contagion that more and more normal German citizens started to adopt Hitler's ideals about racial superiority and condone his ethnic cleansing (Staub, 1993). In the case of the Second World War, social contagion affected an entire nation. However, it can just as easily affect a single classroom. This can be seen in the film The Wave (1981), which is based on the real-life experiment of an American history teacher who recreated the social dynamics present in Germany during the Second World War inside his classroom.

It is therefore unsurprising that social contagion is one of the six primary social learning processes underlying social problems in disadvantaged neighbourhoods (Galster, 2010). In disadvantaged neighbourhoods, negative behaviours such as crime, substance abuse and truancy occur with a higher frequency than they do in other neighbourhoods. Moreover, these negative behaviours are oftentimes visibly present in the daily urban life within these neighbourhoods. Through social contagion, these negative behaviour patterns spread throughout the neighbourhood much like a viral epidemic would.

Recent research lends support for the hypothesis that the social contagion mechanism has a spatial determinant, in other words, that spatial characteristics of disadvantaged neighbourhood influence the extent to which social contagion occurs. Oberwittler (2007), conducted a multi-level analysis of the effects of neighbourhood poverty on adolescent problem behaviours, differentiated for both gender and ethnicity. The results of this study suggest that, first, these neighbourhood effects exist and, second, that they are largely dependent on the spatial orientation of routine activities. In his study, Oberwittler studied several disadvantaged neighbourhoods and found that adolescents with a network largely based inside their own neighbourhood were much more likely to display problem behaviours than adolescents with a network largely based outside their own neighbourhood. Furthermore, many of the adolescents with a larger network named routine anchors such as schools, shopping malls and hang out places to be the reason to travel outside their neighbourhood. This conclusion is further supported by research conducted to analyse the difference between disadvantaged and mixed neighbourhoods in relation to several neighbourhood effects (Crane, 1991; Galster, 2002). Indicated in this research is the notion that there is a certain threshold of exposure to poverty necessary to cause the neighbourhood effects we see in disadvantaged neighbourhoods.

These findings lend support for the hypothesis that spatial characteristics of disadvantaged neighbourhood influence the extent to which social contagion occurs. In this instance, those spatial characteristics can be described as the position of a disadvantaged neighbourhood in a larger network and the spatial layout of routine activities within that network. Fewer connections between a disadvantaged neighbourhood and the surrounding areas increase its spatial isolation and limit the ease with which a larger network is accessible. It stands to reason that the inverse, more connections with surrounding, non-disadvantaged, areas and a clear position within a larger network, promote more inter-neighbourhood interactions.

02

TRANSIT NETWORKS

Creating an extended network of supportive multi-modal infrastructure will benefit disadvantaged neighbourhoods by increasing the opportunities to travel to, from and through surrounding, non-disadvantaged, areas.

[H] Neighbourhood Connections

[S] Daily Urban System

[C] Centralities

[O] Open Neighbourhoods
[O] Street Scapes

Context - Negative behaviour patterns within a disadvantaged neighbourhood tend to cascade throughout that neighbourhood much like a contagious disease would. Moreover, contact with peers or other residents and users of a disadvantaged neighbourhood can negatively impact individual's behaviours, attitudes and aspirations.

Forces - Disadvantaged neighbourhoods will benefit from connections to surrounding, non-disadvantaged, areas.

Team CS © An example of possible (main) node in the network.

Clarification - There are numerous types of connections, both physical and non-physical, that can be created between disadvantaged neighbourhoods and the surrounding, non-disadvantaged, areas. Perhaps the most important physical connections are those that build a network of supportive, multi-modal, infrastructure connecting the small-, mid- and large-scale regions. Properly designed networks consider flows, rather than zones (Bertolini & Dijst, 2003) and attempt to increase the amount and the diversity of spatial opportunities that can be reached within a certain timeframe (Bertolini & Clercq, 2003). It is the presence of such infrastructural facilities that is a primary conditions for travel to and from different areas.

Because we are talking about socio-spatial design, it is important to design infrastructure networks that focus on the human scale; increasing accessibility for everyone and providing a comfortable and enjoyable (social) experience on a day-to-day basis. It therefore stands to reason that we aim to design a sustainable infrastructural network (Bertolini, 2005; Kennedy, Miller, Shalaby, Maclean & Coleman, 2006) that reduces automobile dependence (Newman & Kenworthy, 2006). In that aim, places where different mobility flows interact, such as train or metro stations, become a central assignment because they offer a high frequency and large diversity of human contact and interactions (Bertolini & Dijst, 2003).

03

CENTRALITIES

Disadvantaged neighbourhoods will benefit by establishing centralities with different public program across disadvantaged neighbourhoods and the surrounding, non-disadvantaged, areas, through the stimulation of diverse flows of people.

[H] Neighbourhood Connections

[S] Daily Urban System

[C] Transit Networks
[C] Public Facilities

[O] Open Neighbourhoods
[O] Open Space Networks
[O] Public Spaces

Context - Negative behaviour patterns within a disadvantaged neighbourhood tend to cascade throughout that neighbourhood much like a contagious disease would. Moreover, contact with peers or other residents and users of a disadvantaged neighbourhood can negatively impact individual's behaviours, attitudes and aspirations.

Forces - Disadvantaged neighbourhoods will benefit from connections to surrounding, non-disadvantaged, areas, as well as by stimulating the movement to, from and through the neighbourhood from adjacent, non-disadvantaged, areas.

KCAP Architects © An example of a centrality with sports and event facilities.

Clarification - There are numerous types of connections, both physical and non-physical, that can be created between disadvantaged neighbourhoods and the surrounding, non-disadvantaged, areas. Whereas physical networks allow people to move to, from and through different areas, just as important are the non-physical centralities that drive people to move across this network. Centralities have a functional component; the distinctive mix of activities in a certain area, as well as a spatial component; the position of that area in the larger region (Hillier, 1999). Moreover, centralities are not static urban elements, but rather, grow, shrink, specialize or diversify over time, creating a large hierarchy of centres and subcentres (Hillier, 1999).

It is important to design centralities throughout disadvantaged neighbourhoods that are linked to a larger hierarchy of centres or subcentres. By diversifying and specializing the supply of each centrality, we are able to stimulate a more diverse flow of people moving into and out of disadvantaged neighbourhoods. In designing these centralities, it is important to optimize the balance between its city-effects and the resulting decrease in liveability (Cicerchia, 1999). Moreover, both the existing spatial form and planned facility size will have to be taking into account, since they put constraints on the flexibility of centralities' locations (Hodge & Gatrell, 1976). This location is also related to the location of nodes where different mobility flows interact (Bertolini & Dijst, 2003).

04

OPEN NEIGHBOURHOODS

Creating an open and outwardly oriented neighbourhood morphology will benefit disadvantaged neighbourhoods by integrating it into the morphology of adjacent, non-disadvantaged, areas, which decreases its isolation.

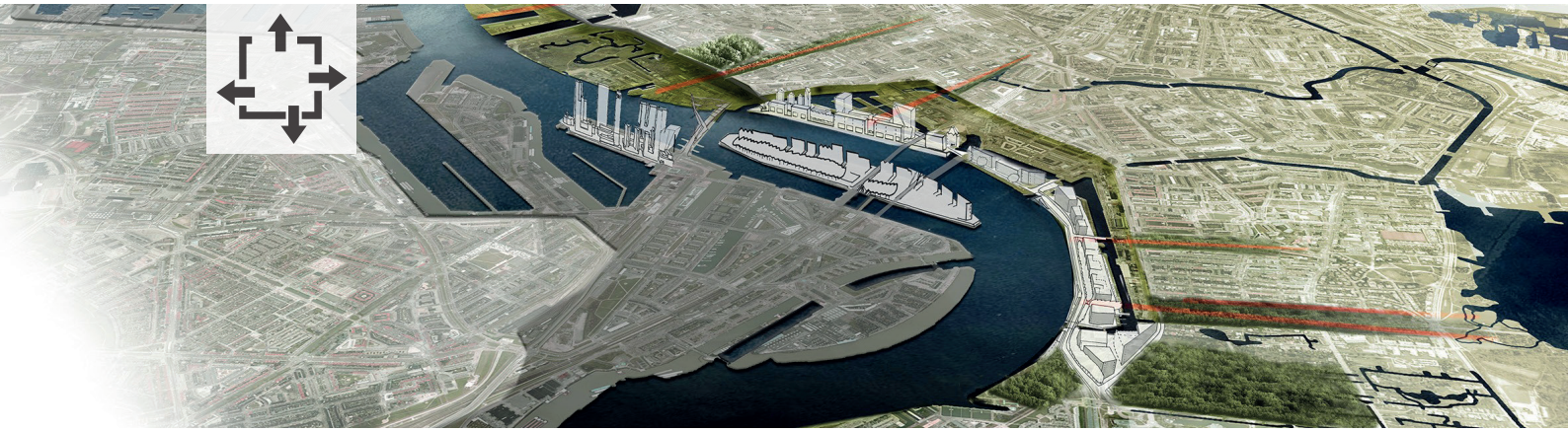
[META-PATTERN]

[L] Daily Urban System
[L] Public Facilities

[S] Mixed Neighbourhoods

[I] Neighbourhood Connections

[O] Open Space Networks
[O] Interaction Environments



Wolbert van Dijk © Example of a dyke as visual link between areas.

Context - Contact with peers or other residents and users of a disadvantaged neighbourhood can negatively impact individual's behaviours, attitudes and aspirations.

Problem - Local social norms are generally conveyed through neighbourhood role models and other social pressures. Negative role models are abundantly present in disadvantaged neighbourhoods, whereas positive role models are not. This increases the likelihood that youth will adopt these deviant local norms and start to display the same negative behaviours, attitudes and aspirations (e.g. teenage pregnancy, academic disinterest and lack of labor force participation).

Solution - By transforming disadvantaged neighbourhoods in open, outwardly oriented neighbourhoods, the social isolation of that neighbourhood will diminish. A more diverse social structure can be created by improving the visual links between neighbourhoods and their typology and physical form (Shibu, 2010). In achieving this, it will be important to pay attention to the design of the urban open spaces, most importantly the streets (Thompson, 2002). Moreover, recent research shows that chosing to either adhere to or contradict existing homogeneities and regularities such as architectural elements or urban block patterns to be effective urban design tools in stimulating urban tourism (Gospodini, 2001).

Scientific Clarification - An individual's behaviours, attitudes and aspirations can be changed through contact with peers or the identification with present role models. This effect is referred to as collective socialization (Galster, 2010). Collective socialization can act either as a protective factor, or as a risk factor for youth (Nicotera, Rankin Williams & Anthony, 2013). It can create trust and social cohesion that reflect the positive attributes of a neighbourhood, but it can also create the acceptance of deviant social norms. Moreover, collective socialization can occur in any setting where a group of people socialize together. Outside their own homes, youth are mainly influenced by peers, or role models generated by their school and neighbourhood environments.

Collective socialization is another one of the six primary social learning processes underlying the social problems in disadvantaged neighbourhoods (Galster, 2010). Local social norms are generally conveyed through neighbourhood role models and other social pressures (e.g. peer pressures). Negative role models are abundantly present in disadvantaged neighbourhood, whereas positive role models are few and far between. This is the reason why, for youth in disadvantaged neighbourhoods, collective socialization generally is a risk factor. Due to the predominant nature of negative socialization, youth oftentimes adopt deviant local norms and start to act accordingly. Examples are teenage pregnancy, academic disinterest and lack of labor force participation.

Friedrichs and Blasius (2003), studied deviant adolescent behaviour and social norms in several disadvantaged neighbourhoods. The results of their study concluded that deviant social norms are oftentimes adopted as dominant local norms within these neighbourhoods. Interestingly, this effect becomes stronger as the social isolation of a neighbourhood increases. Furthermore, the same study also showed that annoyance serves as a proxy for hopelessness. Adolescents are therefore more likely to act out once these deviant norms are reinforced within their neighbourhood, since it implicitly puts a stamp on the disadvantaged position of the residents in that neighbourhood.

Other research looking into the importance of peer effects and role models in disadvantaged and isolated neighbourhoods has also shown it to be a strong determinant of deviant social norms and negative behaviours (Sinclair, Petit, Harrist, Dodge & Bates, 1994; Oberwittler, 1994; Ginther, Haveman & Wolfe, 2000). Moreover, studies focusing in the education of young people showed that having affluent neighbours has a strong, positive, influence on the educational achievements of these young people (Kauppinen, 2004).

These findings lend support for the hypothesis that collective socialization is mediated through the spatial configuration of a neighbourhood (isolated vs. open), as well as its resulting social configuration (the more open the neighbourhood, the larger the diversity of people). It is thus evident that the urban morphology of a neighbourhood determines not only which people live in a neighbourhood, but also who else makes use if this neighbourhood or travels through it (Vaughan, Clark, Sahbaz, Haklay, 2005). In the case of disadvantaged neighbourhood, a closed and inwards orientation increases the social isolation of the neighbourhood. To put it in the words of Lupton (2003, p5.):

"Physical characteristics, through their impact on population mix, lead neighbourhoods to 'acquire' certain other characteristics, such as services and facilities, reputation, social order and patterns of social interaction, as people and place interact. For example, disadvantaged individuals in an isolated area will form one set of social relations, while disadvantaged individuals in a well-connected area may form another."

Alternatively, if disadvantaged neighbourhoods were to adopt an open and outward orientation, it stands to reason that the chances of residents from adjoining areas using or traversing through the neighbourhood increases. This would result in an injection of affluence into the neighbourhood's urban life, increasing the chances of peers as well as role models from different backgrounds becoming a part of the neighbourhood's social structure.

05

DAILY URBAN SYSTEM

By creating a single urban system across disadvantaged neighbourhoods and the adjacent, non-disadvantaged, areas, the disadvantaged neighbourhood benefits through access to and participation in a larger, more affluent, environment.

[H] Open Neighbourhoods

[I] Transit Networks
[I] Centralities
[I } Public Facilities

[S] Neighbourhood Connections

[O] Open Space Networks
[O] Interaction Environments

Context - Negative behaviour patterns within a disadvantaged neighbourhood tend to cascade throughout that neighbourhood much like a contagious disease would. Moreover, contact with peers or other residents and users of a disadvantaged neighbourhood can negatively impact individual's behaviours, attitudes and aspirations.

Forces - Creating an open and outwardly oriented neighbourhood morphology will benefit disadvantaged neighbourhoods by integrating it into the morphology of adjacent, non-disadvantaged, areas, which decreases its isolation.

Kraaijvanger © Example of a public facility node in a shared urban system.

Clarification - Most contemporary neighbourhoods function as distinct, seperate, urban systems. This results in neighbourhoods becoming isolated, not only physically, but also economically and socially. The city network paradigm describes how, through participation in a larger network, cities exploit scale economies through synergies in co-operative activities and complementary relationships (Capello, 2000). It stands to reason that the same paradigm is also applicable on the smaller scale. This means that, in creating a shared urban system of economic actors across a larger area, disadvantaged neighbourhoods would benefit from participation in an environment that is more affluent and more diverse than their own neighbourhood.

Through integrating the existing facilities across a larger area, the separate systems will become part of a single system (Venturi & Scott Brown, 2005). Through their participation in this shared urban network, disadvantaged neighbourhoods will be able to acquire more affluent characteristics such as services, reputation and social order (Lupton, 2003). Moreover, the shared system will be more diverse, allowing residents to meet different people and accommodate their desire for variability and flexibility in travel and activities (Schönfelder & Axhausen, 1998). Furthermore, by capitalizing on the existing qualities within the shared system, its position is consolidated which further increase the systems reputation and could possibly attract outside investments.

06

PUBLIC FACILITIES

Disadvantaged neighbourhoods benefit from increasing the equity of public facility locations and decreasing their efficiency across the neighbourhoods and adjacent, non-disadvantaged areas, which stimulates the movement of people between these different areas.

[H] Open Neighbourhoods

[S] Daily Urban System
[S] Safe Environments

[C] Centralities

[O] Public Spaces
[O] Interaction Environments

Context - Contact with peers or other residents and users of a disadvantaged neighbourhood can negatively impact individual's behaviours, attitudes and aspirations.

Forces - Creating an open and outwardly oriented neighbourhood morphology will benefit disadvantaged neighbourhoods by integrating it into the morphology of adjacent, non-disadvantaged, areas, which decreases its isolation.

Kraaijvanger © Example of a specialized, incidental use, facility with a wide reach.

Clarification - A neighbourhood's social and economic isolation increases when the necessity for residents to travel outside their own neighbourhood is low as a result of a large supply of public facilities. In today's urban design practise, it is becoming more common to see large facility centres with a wide and diverse supply of facilities (a criterion referred to as "efficiency"). However, research indicates that these types of centres interferes with the degree of equality in the distribution of services among the population (McAllister, 1967). It is this criterion (referred to as equity) that would ensure a better spread of public facilities throughout the urban fabric, which would in turn increase the likelihood of travel between different neighbourhoods.

Better equity can simply be achieved by reducing the size of public facility centres and decreasing their spacing. Alternatively, public facilities could be spaced throughout the urban fabric. By integrated public facilities into the plinth, they furthermore stimulate pedestrian flows (Langelaar & van der Spek, 2003). To achieve movement between different areas, plinths would also have to be designed to accommodate a diverse and specialized supply of small retail that is not readily available in large centres (Schaap, 2003). The use of these public facilities throughout the week is also dependent on the type of facility (e.g. facilities for daily use, frequent use or incidental use) and the target group (e.g. everyone, elderly, teenagers, or children).

07

OPEN SPACE NETWORKS

Proximity and easy access to public spaces will benefit disadvantaged neighbourhoods by promoting social cohesion and control and can be stimulated through the design of public space networks of high quality open urban spaces.

[META-PATTERN]

[L] Public Spaces
[L] Safe Environments

[S] Open Neighbourhoods

[O] Street Scapes
[O] Neighbourhood Connections

Doepel Strijkers Architects © Example of a connective open urban space.

Context - The disorder within a disadvantaged neighbourhood influences an individual's behaviours, as well as their psychological reactions.

Problem - Disadvantaged neighbourhoods are burdened by disorder and a lack of social cohesion among their residents. In turn, this results in a reluctance to act on behalf of the common good, or in other words, the willingness to act against transgressions. This lack of social cohesion and control affects a wide array of behavioural outcomes such as the high reported levels of mental distress among residents in disadvantaged neighbourhoods, as well as the frequent incidences of criminality (e.g. assault and robbery).

Solution - By creating public space networks of high quality open urban spaces, the likelihood goes up that residents can and will access these public spaces. Open spaces are furthermore of great importance to the daily lives of people in urban areas, yet are easily forgotten in the debate between architecture and the built form (Woolley, 2003). Urban open spaces are not merely confined to easily identifiable spaces such as parks and squares but includes everything Gehl (2010) describes as "the life between buildings". Successful open spaces *"are responsive to the needs of their users, are democratic in their accessibility and are meaningful for the larger community and society"* (Francis, 2003, p. 1) and focus on people's experiences at eye-level (Gehl, 2010).

Scientific Clarification - An individual's behaviour and psychological reactions are influenced by the stability in their neighbourhood, expressed in terms of social cohesion and control. Within a neighbourhood, social cohesion and control can positively influence residents' collective efficacy, which is the willing to act on behalf of the common good (Sampson, Morenoff & Earls, 1999). In other words, collective efficacy describes the willingness people have to act against transgressions they observe. Furthermore, the presence of social cohesion and control has been positively linked to children's verbal ability and negatively linked to child behavioural problems (Kohen, Brooks-Gunn, Leventhal & Hertzman, 2002).

Social cohesion and control is one of the six social learning processes underlying the social problems in disadvantaged neighbourhoods (Galster, 2010). Disadvantaged neighbourhoods are burdened by disorder and a lack of social cohesion among their residents. In turn, this results in community norms, values and structures that do not promote acting on behalf of the common good (i.e. collective efficacy). This lack of social cohesion and control is a dominant reason why disadvantaged neighbourhoods report high levels of mental distress and depression among their residents (Aneshensel & Sucoff, 1996; Sampson, Morenoff & Gannon-Rowley, 2002), as well as frequent incidences of criminality such as assault and robbery (Hirshfield & Bowers, 1997).

It is the same group of researchers that has primarily been studying social cohesion and control (Sampson & Groves, 1998; Sampson, 1992). One of their more recent studies researched the spatial dynamics of collective efficacy for children (Sampson et. al., 1999). In this study, the main test parameters were the amount and type of adult-child interactions within a neighbourhood and the willingness of adult residents to act on behalf of the children. The results showed that residential stability, (low) population density and concentrated affluence predicted the amount and types of reciprocal exchanges between adults and children. Furthermore, results reported that residents of disadvantaged neighbourhoods that have a close proximity to areas high in closure, exchange and social control (i.e. supervision) have more collective efficacy than residents in disadvantaged neighbourhoods that do not have a close proximity to such areas. While different studies into the nature of social cohesion and control, as well as collective efficacy, have been conducted, none of them adopted a spatial perspective similar to that of Sampson et. al. (1999).

This research suggest that several spatial characteristics influence the development of social cohesion and control within a disadvantaged neighbourhood. All of these characteristics are linked to the types, locations, and spatial qualities of public spaces that residents of a disadvantaged neighbourhood have access to. A positive influence on the establishment of social cohesion and control within disadvantaged neighbourhoods is derived from high affluent public space, that furthermore have a high amount of closure, exchange and social control. It therefore stands to reason that disadvantaged neighbourhoods benefit from connections between the public spaces inside and outside their neighbourhood. By establishing connections, travelling to and from these public spaces by residents of the disadvantaged neighbourhood, as well as residents from the surrounding neighbourhoods, the entire network could benefit from a perceived increase in affluence, closure and control. Furthermore, creating a network of diverse public spaces also increases the possibility of encountering likeminded individuals within these public spaces which promotes positive social exchanges.

08

PUBLIC SPACES

Creating demarcated public spaces in the vicinity of well-used, public areas will benefit disadvantaged neighbourhoods by promoting social cohesion.

Context - Interpersonal communication of information and resources within a disadvantaged neighbourhood is heavily attenuated.

Forces - Proximity and easy access to public spaces will benefit disadvantaged neighbourhoods by promoting social cohesion and control.

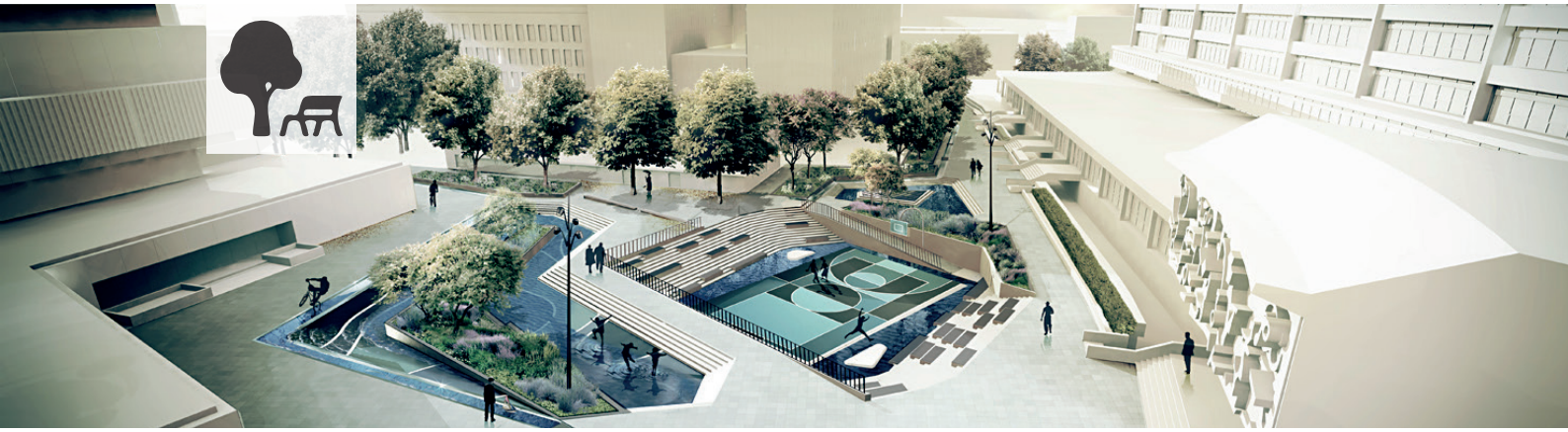
[H] Open Space Networks

[S] Diverse Environments

[C] Safe Environments
[C] Interaction Environments

[J] Communal Spaces

[O] Street Scapes



De Urbanisten © Example of user-oriented public space near a college.

Clarification - The physical designs of the public spaces that are accessible to people in disadvantaged neighbourhoods actively influence the formation of social cohesion. Disadvantaged neighbourhoods benefit from spaces that are high in closure and exchange (Sampson, Morenoff & Earls, 1999). In this context, closure refers to the extent to which a public space is clearly demarcated and defined. Exchange refers to the social interactions between users of the space. Ensuring that public spaces are designed with these two requirements will promote their usability and legibility, which in turn will positively influence the formation of social cohesion.

While usability and legibility improve social cohesion, good public spaces are also inclusive of other criteria. Following their analysis of seven types of public spaces, Marcus & Francis (1998) offer 15 requirements of good public spaces that include usability and legibility but also focus on themes such as user-design and place making. Furthermore, public spaces benefit from including "loose" space; highly accessible spaces with ambiguous physical elements that allow people a freedom of choices (Franck and Stevens, 2007). Such spaces also contribute to the diversity and vitality of a city or neighbourhood (Montgomery, 1998). Lastly, all types of public spaces will benefit from a design that is tailored to the human dimension and focuses on designing life (Gehl, 2010).

09

SAFE ENVIRONMENTS

Disadvantaged neighbourhoods benefit from public spaces that promote social control by designing them to be lively, interconnected and easily visible during every time of the day and in every season.

[H] Open Space Networks

[I] Public Facilities

[C] Public Spaces

[O] Street Scapes
[O] Communal Spaces

Context - The disorder within a disadvantaged neighbourhood influences an individual's behaviours, as well as their psychological reactions.

Forces - Proximity and easy access to public spaces will benefit disadvantaged neighbourhoods by promoting social cohesion and control.

MVRD © Example of a clearly visible and easily policed public area.

Clarification - The physical designs of the public spaces that are accessible to people in disadvantaged neighbourhoods actively influence the formation of social control. Disadvantaged neighbourhoods benefit from spaces that are high in control, that is, the extent to which these spaces are naturally policed through, for instance, frequency of use and transparency of design (Sampson, Morenoff, & Earls, 1999).

Safety and control can be promoted through exchange, that is, through increasing the frequency with which the space is accessed and used. This is mainly derived from supportive public functions around public spaces and the way in which they are integrated and designed as part of the street at eye-level (Gehl, Kaefer & Reigstad, 2006). Furthermore, public spaces will benefit from a transparent design; joining building together to limit secondary access, continuous entrances to dwellings or facilities and maximization of inter-visibility (Hillier, 2004). This is also the case for more natural spaces, in which it is important to create a balance between foliage and visibility and shade and lighting so that users of the space can see, and be seen, during every time of the day and in every season (Luymes & Tamminga, 1995). Lastly, traffic safety must be taking into account by focusing on separating access roads, removing sight barriers and designing for slow traffic (Hamilton-Baillie & Jones, 2005; Press, 2010).

10

MIXED NEIGHBOURHOODS

Establishing a heterogeneous population within disadvantaged neighbourhoods will benefit residents' opportunities by enriching their social networks.

[META-PATTERN]

[L] Diverse Environments
[L] Interaction Environments

[I] Open Neighbourhoods

[J] Building Communities

[O] Neighbourhood Connections
[O] Daily Urban System

Kraaijvanger © Example of the dyanmic in a mixed facilities and households area.

Context - Interpersonal communication of information and resources within a disadvantaged neighbourhood is heavily attenuated.

Problem - The volume, depth and breadth of social relationships in disadvantaged neighbourhoods are attenuated in comparison to the social relationships in other neighbourhoods. This negatively affects the amount of opportunities residents of problem neighbourhoods receive, especially in terms of employment. Moreover, the social composition of people's daily environment determines, for a large part, the richness of their social network. This means that, in a homogeneous neighbourhood, social networks remain attenuated.

Solution - Creating mixed neighbourhoods that house people from different backgrounds and offer mixed use diversify a neighbourhood's social structure by promising economic vitality and social equity (Grant, 2007). A diverse social composition of people's daily environments will increase the possibility of creating rich social networks. In creating mixed neighbourhoods, it is important to note that social networks tend to be comprised of people with a similar background. Therefore, mixing the highest and lowest social classes or over-specifying mixed use design will not achieve the intended results (Roberts, 2007). Instead, more moderate mixing will ensure that not only the neighbourhood, but also people's social networks, become richer.

Scientific Clarification - The way in which interpersonal communication of information and resources is relayed throughout residents in a neighbourhood is referred to as social networks (Galster, 2010). Prudent to note is that not all networks between residents are of equal strength, there is a different between strong ties (e.g. family and close friends) and weak ties (e.g. neighbours and classmates). Social networks are largely dependent on the social structure of a neighbourhood. This is not surprising, after all, the demographic composition of a neighbourhood determines which social actors are present in that neighbourhood. Dyadic ties are then created between certain actors, resulting in a web of social networks and patterns.

Social networks are one of the six social learning processes underlying social problems in disadvantaged neighbourhoods. In these neighbourhoods, the volume, depth and breadth of social relationships are attenuated in comparison to the social relationship in other neighbourhoods (Fernandez & Harris, 1992). This, in turn, affects the amount of opportunities residents of problem neighbourhoods receive, especially in terms of employment (Tigges, Brown & Greene, 1998). Bayer, Ross and Topa (2004) observed that people exchange information about possible job opportunities very locally, even when controlled for personal characteristics. In that local environment, people are more likely to interact with others who speak the same language (Bertrand, Luttmer & Mullainathan, 2000), have a similar education (Bayer et.

al., 2004) and are not too distant in terms of social class (Andersson, Musterd, Galster & Kauppinen, 2010).

Simultaneously, researchers have also observed that ethnic groups within a neighbourhood are less likely to interact with native groups when the percentage of people with their own ethnic background living in the immediate area goes up (Farwick, 2004). Moreover, Buck (2001) looked at the relationships between relative disadvantage, unemployment rates, the probability that an individual has no close friends employed and the probability that an individual will not start work and thus remain in a position of relative disadvantage. He concluded that, when looking at all the data, the results support the hypothesis that local job information networks are an important mechanism that transmit neighbourhood effects.

These findings provide evidence for a spatial characteristic underlying social deprivation and competition, namely, the diversity in a neighbourhood and the distribution of that diversity. The social composition of people's daily environments are a strong predictor of the richness of their social networks. By creating mixed neighbourhoods that house a wide variety of people with diverse background (e.g. ethnic origin, socio-economic class and educational background), opportunities go up for residents to enrich their social network. However, it must be said that this mixing is a delicate balancing act. Research conclude that, ultimately, people are more likely to create social ties with people whom they share common ground with, such as language, education and social class. Therefore, in mixing a neighbourhood, attention must be paid to the extent to which the different target groups differ. For instance, disadvantaged residents are more likely to create ties to, and thus benefit from, residents with an average social class as opposed to more affluent residents from a higher social class.

11

DIVERSE ENVIRONMENTS

More diversity throughout a neighbourhood will benefit disadvantaged neighbourhoods by drawing in a wider public, which in turn increases the likelihood residents will meet different types of people.

Context - Interpersonal communication of information and resources within a disadvantaged neighbourhood is heavily attenuated.

Forces - Establishing a heterogeneous population within disadvantaged neighbourhoods will benefit residents' opportunities by enriching their social networks.

[H] Mixed Neighbourhoods

[I] Public Spaces

[C] Interaction Environments

[J] Communal Spaces

[O] Neighbourhood Connections
[O] Daily Urban System

De Urbanism © Impression of what a diverse urban environment can look like.

Clarification - Disadvantaged neighbourhoods are oftentimes caught in a social isolation. This isolation is not just due to the spatial characteristics of the neighbourhouhood, but can also be attributed to outsiders' persistent bias towards the people of and environments in disadvantaged neighbourhoods. Creating a more diverse neighbourhood is a first step in breaking the social isolation disadvantaged neighbourhoods are subject by promoting the influx of different types of program, as well as different types of people. These diverse environments are most likely to succeed if they offer services and experiences that are unique (or scarce) in the larger region. Diversification decreases the homogeneity of the neighbourhood.

Through diversifying the available public functions and spaces, the homogeneity of the neighbourhood will decrease. Neighbourhoods with a larger amount of diverse environments share physical characteristics such as strong edges, grids with commercial corridors and mixed typologies (Talen, 2006). It are these types of mixed land uses that also promote more sustainable travel such as walking and cycling (Van & Senior, 2000), creating more opportunities for social interactions. Furthermore, such neighbourhoods have been reported to be more diverse in terms of education, income, and age (Cabrera, 2013). Another way of ensuring more diversity is to design for flexibility and freedom, allowing the neighbourhoods to change to better support current needs (Friedman, 1997).

12

NTERACTION ENVIRONMENTS

Disadvantaged neighbourhoods benefit from spaces that promote social interactions between different types of people.

[H] Mixed Neighbourhoods

[C] Public Spaces
[C] Interaction Environments
[C] Street Scapes

[O] Public Facilities
[O] Open Neighbourhoods

Context - The disorder within a disadvantaged neighbourhood influences an individual's behaviours, as well as their psychological reactions. Moreover, interpersonal communication of information and resources within a disadvantaged neighbourhood is heavily attenuated.

Forces - Proximity and easy access to public spaces will benefit disadvantaged neighbourhoods by promoting social cohesion and control. Furthermore, establishing a heterogeneous population within disadvantaged neighbourhoods will benefit residents' opportunities by enriching their social networks.

EXCEPT © Example of a space that stimulates social interactions.

Clarification - To successfully mix neighbourhoods, interaction environments are a must. These environments can promote interaction between people with a similar background and lifestyle, however, they could also promote interaction between people with a different background and lifestyle. The location, type and accessibility of these environments will determine which people will be attracted to the space and where they come from (Gehl, 2010). Streets, for example, are public environments that offer many possibilities for social interaction as part of people's daily routines (Mehta, 2009), but only when designed appropriately (Press, 2010). Important is to design the physical, programmatic, and social structure of the environments (Holland, 2005).

The important question to ask is for whom and for what purpose the interaction environment is created; to bind or to diversify. While we can not claim that we are able to design environments that ensure interaction between the users of the environment, we can attempt to promote this interaction through its physical design. The most important aspects to take in mind while designing such spaces are the extent to which the space offers interest and stimulation, the degree of comfort, the degree of simplicity, and the placement of focal points (Holland, Clark, Katz & peace, 2005). All of these aspects can promote either inclusivity or exclusivity and increase the likelihood of interaction between either similar or different groups of people that make use of the space.

13

BUILDING COMMUNTIES

Disadvantaged neighbourhoods will benefit from the clustering of housing typologies (and their surrounding living environments) that attract people within a similar socio-economic class.

[META-PATTERN]

[L] Communal Spaces
[L] Street Scapes

[J] Mixed Neighbourhoods

[O] Public Spaces
[O] Safe Environments
[O] Interaction Environments

EXCEPT © Example of similar housing typologies in an interactive environment.

Context - An individual's behaviours, attitudes and aspirations can change as a result of continuous confrontation with one's own disadvantaged position.

Problem - In disadvantage neighbourhoods, the presence of affluent neighbours (i.e. neighbours that are "well off"), can be a source of perceived inferiority and dissatisfaction for the general populace. Furthermore, when a disadvantaged neighbourhood has a very heterogeneous population, the chances that spontaneous and positive social interactions occur decrease. This has an adverse effect on both social binding with and participation within one's neighbourhood, which negatively affects social cohesion and control.

Solution - Building communities by clustering housing typologies and their surrounding living environments will ensure that people with a similar socio-economic class live in close proximity to each other. While separate dwellings are more common, an alternative is to include cohousing (Williams, 2005). In building communities, it is important to pay attention to designing the public space that ties the residents together, such as the street, to support social interaction (Lund, 2002). Furthermore, building strong communities can not merely be a top-down design intervention but has to be combined with bottom-up participation (Sanoff, 2000). Key is to build communities within a neighbourhood while keeping the overall population heterogeneous.

Scientific Clarification - The way in which an individual's behaviours, attitudes and aspirations can change as a result of continuous confrontation with one's own disadvantaged position is referred to as relative deprivation (Galster, 2010). Closely linked to this process is the competition mechanism. Competition refers to the way in which unequal distribution of resources within and between neighbourhoods can cause conflict between residents (Galster, 2010). For example, if a neighbourhood has few spaces for adolescents to use, they will start to claim other types of public spaces, or occupy public spaces in adjacent neighbourhoods. This will oftentimes cause conflict with the other users of these spaces due to, for instance, annoyance or overcrowding. Moreover, the outcome of such competition scenarios can be described as zero sum games, which are games in which the loss of one party means the gain of the other and vice versa. Because of this, the probabilities of "winning" such a competition can influence the behaviour of both the advantageous and disadvantageous party.

Relative deprivation and competition are two of the six social learning processes underlying social problems in disadvantaged neighbourhoods. They are often combined because, as Galster points out, "[...] to my knowledge, there is little extant statistical research that can distinguish between them." (Galster, 2010, p.6). In disadvantage neighbourhoods, relative deprivation is oftentimes a problem when the presence of affluent neighbours (or neighbours that are, in comparison, "well off") is clearly visible. The presence of such neighbours

can be a source of perceived inferiority and dissatisfaction for the neighourhood's general populace. Furthermore, when a disadvantaged neighbourhood is comprised of a heterogeneous population, competition between the different groups will lower the chances that positive social interactions occur. This has an adverse effect on both social binding with and participation within one's neighbourhood, which negatively affects social cohesion and control, as well as residents' collective efficacy.

The research conducted into social deprivation and competition oftentimes results in findings that are directly opposite those of the other meta-patterns. Research conducted by Oberwittler (2007) observed that adolescents living in less affluent households scored higher on an index of relative disadvantage when the neighbourhood they lived in was more affluent. Similarly, disadvantaged women have been reported to be more likely to experience a number of outcomes if they live in affluent neighbourhoods and health issues in both disadvantaged men and women have been reported to be more problematic when they lived in more affluent areas (McCulloch, 2001; Duncan & Jones, 2005). Furthermore, research conducted by Sampson and Groves (1989), concluded that an increase in ethnic heterogeneity within a neighbourhood corresponded with a lack of neighbourhood participation and supervision of children and adolescents.

These findings provide evidence for a spatial characteristic underlying social deprivation and competition, namely, the distribution of different households throughout a neighbourhood. As well as the types and distribution of public spaces in relation to these present households. Remarkable is the fact that these findings provide a stark contrast to the research conducted into the other social learning processes. This is particularly evident when reviewing research on social contagion and collective socialization, which concludes that the presence of affluent residents in a disadvantaged neighbourhood positively influences the less affluent residents of that same neighbourhood. Taking a bird's eye view of the evidence, there is far more support for the hypothesis that affluent residents convey positive externalities to their disadvantaged neighbours (Galster, 2010). However, social deprivation and competition are undeniably present within disadvantaged neighbourhoods.

It therefore stands to reason that disadvantaged neighbourhoods would benefit from the clustering of housing typologies and their surrounding living environments. This will ensure that people with a similar socio-economic class live in the closest proximity to each other. Furthermore, it will be beneficial for problem neighbourhoods to house multiple different types of public spaces that different groups can claim as their own and identify with. By controlling the degree to which the affluence in a neighbourhood differs and the way in which this difference is visible, affluent residents can still convey positive externalities to their less well-off neighbours without the negative backlash of social deprivation or competition.

14

COMMUNAL SPACES

By designing communal spaces that different groups of people can claim as their own, disadvantaged neighbourhoods will benefit through the stimulation of communities and by no longer having to compete for the available spaces.

[H] Building Communities

[C] Street Scapes

[J] Public Spaces
[J] Diverse Environments

[O] Safe Environments
[O] Interaction Environments

Context - An individual's behaviours, attitudes and aspirations can change as a result of continuous confrontation with one's own disadvantaged position, or as a result of competition over scarce resources.

Forces - Disadvantaged neighbourhoods will benefit from the clustering of housing typologies (and their surrounding living environments) that attract people within a similar socio-economic class.

EXCEPT © Example of a communal spaceconnected to residential appartments.

Clarification - Communal spaces differ from public spaces because they are not designed for everyone, but rather, for a specific group of people. Furthermore, their location in residential areas changes their use and activity pattern (Zhang & Lawson, 2009). This semi-public nature of communal spaces provides challenges while designing them because of the importance to balance the public and private realm. In communal spaces that support one or multiple living complexes in the near vicinity, the balance between public and private must be sought in the transitions from the public real to the collective realm, to the private realm. These communal spaces can either be accessible to everyone, or in some way shielded from the general public. However, in communal spaces that aim to support a specific group of people (e.g. teenagers), it is a little harder to find this balance. Oftentimes, there is one communal space for a specific group per neighbourhood, which means that it must be publicly accessible. The answer to designing these communal spaces must be sought in its location and proximity to group-specific functions (e.g. a school in case of a communal space for children), as well as its accessibility and edge design. Furthermore, the design of these communal spaces can promote interaction and community formation (Coley, Sullivan & Kuo, 1997; Kuo, Sullivan, Coley & Brunson, 1998), as well as benefit the physical, social and economic position of its users (Francis, Cashdan & Paxson, 1994).

15

STREET SCAPES

Creating streets as mini-communal spaces that promote exchange benefit disadvantaged neighbourhoods because this increases liveability and safety, which promotes interaction between neighbours.

[H] Building Communities

[S] Interaction Environments

[C] Communal Spaces

[O] Networks
[O] Open Space Networks
[O] Public Spaces
[O] Safe Environments

Context - The disorder within a disadvantaged neighbourhood influences an individual's behaviours, as well as their psychological reactions. Furthermore, an individual's behaviours, attitudes and aspirations can change as a result of continuous confrontation with one's own disadvantaged position, or as a result of competition over scarce resources.

Forces - Proximity and easy access to public spaces will benefit disadvantaged neighbourhoods by promoting social cohesion and control. Moreover, disadvantaged neighbourhoods benefit from the clustering of housing typologies (and their living environments) that attract similar socio-economic classes.

Gemeente Rotterdam © Example of a lively, interactive, dwelling street scape.

Clarification - While disadvantaged neighbourhoods benefit from public spaces high in closure, exchange and control, streetscapes dominate the public realm of any neighbourhood and are therefore just as important in the daily urban life of a neighbourhood. It will thus benefit disadvantaged neighbourhoods to ensure that the streetscape is clearly defined, offers opportunities for social interaction and facilitates safety and social policing (Hillier, 2004; Dumbaugh & Gattis, 2008). Because streets generally consist of similar types of houses, they are also a great way to facilitate interaction between neighbours and promote the formation of communities (Lund, 2002).

To ensure that this approach will work, the street must become an active environment of the daily urban life within a disadvantaged neighbourhood. This can only be achieved through quality streetscapes that support public life and invite residents to make use of it for more than just travelling purposes (Moudon, 1987). In order to do that, attention must be paid to the physical qualities of the streets such as imageability, enclosure, human scale, transparency and complexity (Ewing & Handy, 2009), as well as greenery, traffic speed and car parking (Sauter & Huettenmoser, 2008). Moreover, by creating a connection between the street and the private environments behind the facades, the street will also become a part of the daily life within the adjacent dwellings.

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