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Reprogramming the Grid
Community Psychology’s Role in Urban Systems

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A Thesis submitted to the Graduate School of the University of Cincinnati in partial fulfillment of the requirements for the degree of

Master of Architecture in the School of Architecture and Interior Design of the College of Design, Architecture, Art, and Planning

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Abstract

Today’s fast-paced urban society is marked by busy schedules and repetitive routines, with most people being unaware of the affects they have on their surroundings, and how the built environment, in turn, affects them. Spaces that we occupy on a reoccurring basis, such as public transit hubs, tend to fade into the background as the user disengages from their environment and becomes more inwardly focused. These spaces, intended for public use, are only about passing through, rather than truly creating a sense of place. Despite this increasing isolation, it is natural for humans to identify themselves as being part of a community. This thesis will examine how designers can extract the psychological attributes of community organization and implement them as direct drivers in the design process. A building design for a community engagement center and public transit hub will be produced on an urban site, presented in models and drawings, and documented in a critical essay that discusses the increasing need for spaces that engage community members directly through active participation in the creation of their environment, and increase building use through flexibility of program. As a result, urban dwellers will become active members in their environment by participating in the design process of their spaces. The ability for users to leave their mark on the spaces in which they inhabit will result in a greater sense of “ownership” for the community.
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1.1 | Contemporary Life

Today’s society is marked by busy schedules and repetitive routines, especially in the urban condition. People are increasingly being caught up in the routine and the mundane. People have become singular and are more connected to their phones and technology than they are to each other. No longer do people see the need to interact with other individuals while carrying out their daily activities. Many in-person meetings can be supplanted at the touch of a button. Technology seemingly has the ability to instantly connect a user to a global network; however, this surface-level interconnectedness is underlined with isolation. We have become visually connected with the world while becoming physically isolated in our own homes and offices.

The end result of the over-use of technology is the retraction from one’s environment. Most people are never able to slow down long enough to acknowledge the spaces they occupy. As a result, one’s surroundings fade into the background as the user becomes progressively more inward-focused. Members of society are typically unaware of the impact they have on the spaces they occupy and, inversely, the influence the built environment has on their routine.

1.2 | Why Architecture?

The spaces we occupy are forever altered by our inhabitation. All spaces have their own life cycles that are influenced by a variety of factors. One way a building’s life cycle can be studied is through weathering and the deterioration of systems. This element of a space’s life cycle is focused on the physical qualities of a structure. Natural elements are constantly challenging the built environment’s ability to successfully meet the needs of the occupants. Age also plays a large role in the diminishing of building systems and need for repair or replacement. However, the life cycle of a place can be looked at in a much more varied sense. We, the occupants, also play a pivotal role in this constant evolutionary
state of decomposing and rebirth. Over time, the users’ needs and desires evolve. Changing trends often necessitate adapting the built environment. Places also have the ability to alter our daily experiences. Architecture has the unique opportunity to immerse its occupants and give a sense of place to the user. Our surroundings can protect, confront, challenge, and engage us.

1.3 | Bring the background to the foreground

Conscious efforts are necessary in order to reverse the trend of increasing isolation. Many of architecture’s unique capabilities often go untapped or unnoticed. A large percentage of how we perceive space is based on long-term memory. Similar experiences built up over time eventually lead to a processing of our surroundings that can occur in a subconscious state. According to John Brebner, “Acts of imagery are possible, allowing us to produce internalized representations of sensory experiences, so that we can conjure up images of familiar places and things.”¹ Our memory works does not store items as individual images and symbols. Rather, items are stored in our memory in their relationships to other items. These groups are then “abstracted from our experiences and allow us to anticipate the next events.”² This internal behavior tends to result in people disengaging from their surroundings because they are able to construct future experiences based on their past. This allows places that we occupy on a reoccurring basis to fade into the background.

Designers can give the user a renewed sense of place, therefore, by infusing new elements into the spaces people occupy. According to Brebner, “Even one new element can lead to a total reorganization of the perceived world.”³ If designers gain a better understanding of various psychological responses to the built environment, they will become better equipped to create spaces that better

² Brebner, John. 27.
³ Brebner, John. 28.
suit the needs of the users. In this manner, existing interpersonal relationships and social networks can be reprogrammed by architectural interventions.

1.4 | Architecture and Interaction

This new consciousness of how we occupy our surroundings can foster new relationships. Social barriers can be broken down and occupants can re-engage their surroundings. Architecture can directly affect a person’s desires to interact with others. The field of environmental psychology has termed these various spaces as being either “sociopetal” or “sociofugal”. Sociopetal spaces tend to bring people to them and promote interaction, while sociofugal spaces have the opposite effect of isolating people who are in them from one another. Each type of space has its advantages based on the programs occurring within. Sociofugal spaces are often desirable in environments where privacy is necessary.

The study of human spatial behavior suggests that flexibility should be allowed in the spaces we occupy. Users should have the opportunity to alter their space in order to create sociofugal spaces when necessary, while typically engaging in sociopetal spaces. Personalization of space is key in creating an environment that is intended for a varied user group. This is especially the case if it is desirable to occupy spaces that have the ability to adapt to our evolving needs. This interaction between person and place can serve to draw the user out of their isolation and into the community around them.

4 Brebner. 129.
2.1 | Definition

Public open spaces within cities are the centers for human interactions in their context and are, therefore, paramount in how urban architecture relates to urban planning and morphology. The idea of public space has been around since the conception of the city and can take many different shapes and forms. The term “public space” can be defined as: an area or place that is open and accessible to all citizens, regardless of gender, race, ethnicity, age or socio-economic level. The term also generally refers to a space that can be composed of any material, interior or exterior, which may or may not include vegetation, or green space. These spaces transcend a wide range of scales and can be plazas, city squares, or public parks. Although they are manifested in a wide variety of ways, all urban public spaces have the ability to engage the inhabitants of a city in both a “person to person” and a “person to place” manner.

The development of public space and what it means to the inhabitants of an area is constantly evolving, but these spaces have always held an important position within the urban fabric of a city across all cultures and traditions. These spaces are where people come together to create relationships with one another and where people become active within their physical surroundings. Most public spaces are identified by extremely high traffic areas and are easily accessible to local residents and visitors. One viewpoint on urban living is that “urbanization actually fosters a variety of cultures, leading to the development of urban villages.”

Public open spaces play a critical role in the cohesion of these villages.

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2.2 | Across Time and Culture

Public spaces have always been an integral part of the urban experience. Dating back to the Roman Empire, the Roman Forum (Figure 2.1) served as the region’s cultural center and was a part of citizens’ everyday life. The forum was the economic hub of Rome as a marketplace and business district. However, even more importantly, it was a place where all major social functions were carried out. The Forum was where Romans interacted with each other to create their culture. This idea is also evident in many smaller squares within Rome and other European cities. St. Mark’s Square (Figure 2.2) serves as the cultural center for Venice in much the same way as it did when it was first constructed. Outdoor cafes line the edges, surrounded by colonnades where shopkeepers sell their goods. Street performers and entertainers inhabit the center of the square, surrounded by visitors and townspeople. The square serves as the center for urban life for the entire city.

It is impossible to truly understand the experience of a city without seeing how people interact with one another and the physical space around them. Many of these same functions are still being carried out in similar spaces today all over the world. Town squares and public parks provide places for people to congregate and keep up with the interactions of their daily lives. According to John Sorrell, the chairman of London’s Commission for Architecture and the Built Environment (CABE), “A good public space is one that is full of people, a place that tempts those people to slow down, to stop, to chat, to simply watch the world go by, a place that enriches the lives of those who use it.”

Public plazas and squares have always been a place for urban inhabitants to pull back from the rigors of daily life and take the time to relax.

In more modern times, public parks were added to the list of possible places for citizens of an area to gather. In essence, public parks are very similar to

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town squares. Public parks can be even more focused on the idea of recreation and seclusion by encouraging people to step back from the patterns of daily life, thus allowing for individual interactions and relationships on a much more personal scale. They can vary greatly in size and material, but are usually considered to be composed, at least in part, of one or multiple green spaces.

The first public parks sprung up in the form of cemeteries that were a response to poor burial conditions in urban settings that offered little comfort to bereaved families. These parks often had a rural feel to them, and attempted to surround the visitor in lush gardens. Cities all across the United States began looking at cemeteries as places that could double for public use. With the founding of Spring Grove Cemetery and Arboretum in 1845 (Figure 2.3), members of the Cincinnati Horticultural Society created a picturesque park-like cemetery. The goal of the cemetery designers was to link the cemetery with an immense collection of flowers and plants to create a winding public space that a variety of users could enjoy.

These spaces served as much more than a place to bury the dead. They became pillars of social idealism, expressed through spaciousness and natural scenery. Cemeteries such as Spring Grove “were influential because they inspired the creation of public parks as a means of carrying these ideals into the heart of the city, where, it was hoped, they might provide a civilizing, spiritually uplifting, and socially instructive setting.”

These parks provided space that was an escape from the pollution and noise of the city. One physical manifestation of these ideals was Central Park in New York City (Figure 2.4), designed by Frederick Law Olmstead, Sr., a main proponent of the public park movement, in 1862. The park’s massive footprint was situated in the heart of Manhattan, but it was able to allow the users of the park to separate themselves from the rest of the city. The design provided a space for the essence of the New York culture to thrive.

The park movement that had begun with the creation of expansive cemeteries spread to multiple types of urban spaces that included parks and

3 Knox, Paul R. and Linda McCarthy. 249.
playgrounds designed for both children and adults. These spaces, which were originally intended for wealthy citizens, eventually became places of recreation for all classes. Public open spaces carried different values for the various classes, such as “recreation (for the masses), aesthetic pleasure (for the middle class), and enhanced property values (for the upper-middle classes).”

The effect of the park movement was significant for a variety of reasons. The movement had the power to change the shape of the daily life of citizens. Due to the successes of these spaces, environmental determinism became a strong element in city planning. On a basic level, these spaces provided a place to relax. On another level, they became places where people could interact with each other and feel linked with their surroundings. The influence of these spaces did not stop there. Public squares and parks have become icons of place. Many of these spaces in cities around the world function as symbols for the culture of the regions in which they reside and, therefore, have become main contributors to the identity of urban life.

2.3 | As Icon and Identity

Public squares and parks have the ability to mean a great deal to a city and its inhabitants. One reason for this is the possibility for these spaces to be very distinct from one another, in order to make each city unique. Every city has a different feel and atmosphere. If designed well, public spaces should somehow capture the essence of the urban fabric. Spaces that accomplish this task become icons of culture in their contexts and are deeply integrated into their communities. Icons such as public parks, to some extent, create a branding for cities. The term branding, when applied to cities, means the “derived social and cultural effects, such as an increased ‘pride’ in one’s city, increased identification and a feeling of cohesion, an enhancement of the public sphere and an improved and more.

4 Knox, Paul R. and Linda McCarthy, 505.
versatile infrastructure.” The branding results in the attraction of visitors to that community.

One public park that accomplishes this is Millennium Park in Chicago, designed by landscape architect Terry Guen. (Figure 2.5) Millennium Park is located next to Chicago’s Grant Park, a long-standing fixture in the city. It sits above a plot of land that was once considered untouchable by city planners and designers. The park covers a wide expanse of train tracks and parking lots that were, at one time, uncovered and had been an eyesore for the community. The Chicago community is widely known as one that is committed to sustainable design. Millennium Park had to incorporate these principles if it were to be a successful public park.

At 24.5 acres, Millennium Park is considered either the largest or one of the largest intensive green roof projects in the world. Although expensive (total cost of $475 million dollars) the park has become an icon for the city of Chicago. The public park covers two parking garages, a transit center, and a 1,525-seat indoor performance center while incorporating full-sized trees, landscape art, a skating rink, and a larger outdoor concert hall. Millennium Park has not only created a space for recreation, it has created a place where people can come together to experience urban life and the progressive goals of sustainability at the same time. The park has become a symbol for the city because it celebrates the city’s drive for environmentally responsive design and has become one of the city’s largest tourist attractions.

Another example of a public urban space that has become a cultural icon is Baltimore’s Inner Harbor. (Figure 2.6) The Inner Harbor, once a rundown port area frequented mostly by sailors and dockworkers, was revitalized in the 1960s. The revitalization was able to tie the city to its economic roots by making the harbor area safe and attractive to visitors. The area allows residents to connect to the history of their city. The harbor also breaks the boundaries of typical public open

Figure 2.5  Millennium Park
Figure 2.6  Baltimore’s Inner Harbor
space. It cannot be categorized as a public park or plaza; rather it is both of these combined with many other elements, as well. The designers made the Inner Harbor a multi-use public space that includes a great deal of shopping, dining, recreation, hotels, and entertainment in addition to the businesses along the waterfront. The harbor area became a cultural center for the region and the main attractor of tourists for the Baltimore. City planners and designers were able to tap into the city’s history, while still allowing for the infusion of contemporary buildings and planning that mesh together to create the space.

Urban public spaces can also be extremely successful without the direct link to the city’s past. Public spaces can serve as a monument to the area’s present and future conditions. Time Square in New York City (Figure 2.7) is a celebration of the city’s economic prominence. It is defined by its wealth of animated digital advertisements. Time Square, unlike some of the other projects discussed, is not a place for relaxation. It, unlike its near-neighbor Central Park, is at the heart of the energy and vitality of New York City. The area also serves as New York’s cultural hub, with multiple performance theatres nearby and numerous restaurants. Street vendors and performers constantly line the streets and attract tourists. The square is filled with commotion day and night and is surrounded by immense buildings that reach up into the sky. Time Square capitalizes on the consumer-based culture of today’s society and the diversity of New York. Citizens of the city use the square for many public events, gatherings, and celebrations, including the annual New Year’s Eve party that attracts approximately 300,000 visitors each year. There are few public spaces that serve as more of an icon for both a city, and even a nation, than Time Square.

As stated previously, public spaces can serve a wide variety of functions and mean very different things to the cities in which they reside. Some of them are defined by their physical environment and scenery, while others depend much more on the constant flow of activity that occurs in the space. However, these spaces all have a great deal in common. None of these spaces would have the effect that they do without the buy-in of the community. Each culture must
embrace the public space if it is to succeed. Many public spaces do not succeed in this way. As much as public open spaces have the opportunity to be an icon for a city, they can also be a stain on a community’s image.

2.4 | As Void

Not all public spaces experience resounding success. Many public parks and plazas are not in touch with the human element that surrounds them and, therefore, fail to tap into their potential. It is the human element that causes the evolving nature of cities. Public spaces are often created from a series of events that contribute to the overall feel of a space, rather than a single, prescribed design. Many public space designs either ignore this spontaneous element, or even rebuke its possibly positive contributions to the character of these places. In these cases, one author states that designers, “Through functional, ordered designs that turned their back on (and sometimes wiped out) the history and memories of their setting, they hoped to rectify the situation, start clean, and create the urban utopia of which the world dreamed.”6 Many people could not relate to these “clean-slate” designs, which leads to incredible under use, even in high-density areas. Barren spaces caused inhabitants to lose their sense of place, and created the reverse effect of the sense of ownership experienced in active, lively public spaces. Poorly designed public spaces disrupt the interaction between people and place.

This disjunction is extremely evident in architect Le Corbusier’s massive urban design project in Chandigarh, India. This government complex is of immense proportions to “exhibit an abundance of space that is designed to permit distant views of architecture rather than to accommodate specific use.”7 A 450-meter expanse of concrete connects the buildings and makes use of the space extremely uncomfortable. The over-scaled, lifeless expanse of concrete found here ignores

6 Kelpe. 12.
7 Kelpe. 13.
the human experience altogether. In addition to the concrete, large reflecting ponds surround the buildings, showing off their grandeur and creating more unusable space within the complex that makes the user feel even more distant from his or her cultural and social context. Maintenance of the complex eventually declined and the concrete wasteland is now filled with cracks and puddles where the concrete has sunken (Figure 2.8).

A similar situation occurred in the Boston City Hall Plaza, where the main design goal was to create a clean visual composition, rather than a space that stimulated its inhabitants and fostered relationships. The plaza here is composed of a series of small sets of steps set among a large expanse of wasted space (Figure 2.9). The design for this space excludes any connection to the city’s existing context. One author states, “a lack of programs and activities such as outdoor films, a market, or street festivals,” can contribute to a lifeless place, as is the case with the plaza in Boston. Not only does it not promote activity, Boston City Hall Plaza actually hinders it. The Space feels cold and uninviting, almost as if the space was intended to be empty so as to not disrupt the purity of the City Hall building.

These two projects were constructed around the same time, both under strict modernist principles that ignored the culture and history of place. Imagined as urban utopias, these places actually ended up becoming urban wastelands. Unlike these examples, it is possible for a contemporary space to link to its context, while being forward thinking and progressive. Designers should attempt to harness a wide variety of contextual ideas into public space design. Innovative design solutions can accomplish architectural goals without compromising the creation of spaces about which urban dwellers can have a sense of pride.

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Figure 2.8  Le Corbusier’s government complex in Chandigarh
Figure 2.9  Boston City Hall Plaza
Figure 2.10 Donaupark in Urfahr, Austria
2.5 | Trends Toward the Future

Many urban designers have already begun implementing new and innovative solutions to bring life to urban public spaces around the world. Public spaces that have “a tangible, visible sense of quality in the built environment, Belluschi says, helps foster a feeling 'of ownership that keeps people coming back to a particular place.’” He argues that the sense of ownership is linked to a sense of belonging, or delight, that one might feel about a favorite urban place. If designers can tap into the local community and create a place that has unique qualities, their urban public spaces will capture the heart of the culture and enliven the space. Public parks and plazas should create an excitement among the users. There is a multitude of ways that designs can engage the public and become symbols for the urban life of the city.

One such urban recreation space is Donaupark in Urfahr, Austria, near Linz. The park lies along the bank of the Danube River and links the history of the site with new spaces for culture and interaction. (Figure 2.10) The once empty space where the park is located had traditionally been used as a parking lot, an open market, and the visiting circus. Even after the re-design, the space still has ample parking, and serves as the grounds for the market each year. Donaupark also integrates an innovative lighting system, combined with built-in speakers that create a concert and event venue for the community. Rather than creating specific segments of the site for various programs, the design encourages flow from one zone of the site to the others in order to accept a wide range of events and gatherings. This is accomplished by mixing design elements from the various areas of the site, especially with the overlapping rectilinear vegetated surfaces that do not define specific uses.

The designers of the park have allowed the user to choose many elements

of the space by responding to their patterns and placing seating and design features where the local dwellers typically gather. This idea of adaptability is enhanced with what the designers call “terrain vague,” where they allow small vegetation to spread in what they call “seed bombs,” which causes unregulated background vegetation growth. The morphology of the park actually evolves based on public use. The designers did not want to force the user in any way, so they removed their hand from part of the design process. This process allows the user’s actions to directly effect how the space is formed, rather than the other way around.

Another innovative design that encourages the user to leave their mark on their surroundings is the Zaragoza Digital Mile in Spain, designed at MIT. The Mile is composed of various parks, pathways, and buildings along the city’s Paseo del Agua. The city of Zaragoza is well known for being a technological center. This large urban development will incorporate digital media into everyday aspects of the public realm to make places that respond to their users. Public spaces have the ability to incorporate new technologies to enhance public enjoyment. The use of digital media also makes public space more flexible and adaptable to different users, activities, and moods. According to the designers, the digital systems along the walk are programmable according to the user’s wishes and, therefore, make the person part of the space and experience. Lighting systems can change color to create different atmospheres and change in intensities based on the time of day and lighting levels in the space. The pathways of the park are part of a “Memory Walk,” in which digital pavers record pedestrians’ steps across a space by emitting additional increments of light each time a footstep falls on them. (Figure 2.11) People now become aware of the impact they leave upon a space.

Another element of the Digital Mile is the water wall, which is an interactive fountain where people can control the streams of water in various ways. The

streams can start, stop, or change in pressure based on human movements and desires. (Figure 2.12) Spaces such as the Zaragoza Digital Mile have the ability to turn the general public’s notion of urban public squares and parks upside down. People can interact with their environment and engage one another at the same time. MIT’s example of how spaces can engage the user is fairly extreme, but that is not to say that technology is necessary for this to happen. There are other, less intense ways to people to connect to their surroundings.

One way for this to occur is the use of temporary elements in a permanent space. Urban designs have long-term effects on a place and can, over time, become mundane. One author states that temporary installations in permanent spaces can create a special quality that can “permit many things that would still be inconceivable if considered for the long term.”\textsuperscript{11} Temporary structures can activate interest in a space and encourage user participation. These spaces contribute to their environments as “bottom-up” planning instruments and, counter to master plans, permit a trial and error approach to urban design. Creating a mesh of temporary and permanent objects allows spaces to evolve and engage long-term users who may become disinterested in monotonous, permanent solutions.

3.1 Varying Definitions

The term “community” has many definitions and can simply refer to a group of interacting organisms sharing an environment. In this sense, interaction can mean a number of things. It may describe a situation where multiple beings coexist in close proximity. It also may describe a more intimate situation where the individuals depend on one another for the success of the group. A second possible definition would be “a group of people with a common characteristic or interest living together within a larger society.” However, the word is also applicable to “a group that is organized around common values and social cohesion within a shared geographical location, generally in social units larger than a household.” Communities exist at every level of society, ranging from small clubs or social groups to local, regional, national, and global communities. Humans join communities at all stages of their life, beginning in early childhood with athletic teams and clubs. Communities, however, are not necessarily formal bodies, as people form communities with others through friendship.

3.2 Why Communities Form

We are not singular beings, and there are numerous benefits to aligning oneself with a community body of some type. Humans have been forming together in communities throughout history in every part of the world. According to psychologists David W. McMillan and David M. Chavis, two major uses of the term “community” have become highly used, especially within the field of psychology. “The first of these is the territorial and geographical notion of community – neighborhood, town, city. The second is ‘relational,’ concerned with “quality of

character of human relationship, without reference to location.” The two are not mutually exclusive, and both play a role in why humans form communities. One major theory for why communities are created and thrive is centered around the desire humans have for a “sense of community.” According to McMillan and Chavis, this desire can be defined by four main elements that include membership, influence, integration and fulfillment of needs, and shared emotional connection. These elements are at the core of why communities are formed and continue to exist. Being part of a community has meaning embedded within it.

3.3 | Sense of Community – Elements

Membership is the feeling of belonging or of sharing a sense of personal relatedness. One must invest part of oneself in order to become part of a group, but the reward for doing so is great. Communities create boundaries to distinguish themselves from outsiders. These boundaries can create a sense of emotional safety, but throughout history have also provided protection for group members. Boundaries are used to distinguish between insiders and outsiders. Membership is necessary to create a sense of identity for those who belong to the group. These boundaries can manifest in a variety of forms, including language, dress, and ritual. These boundaries are necessary in order for community members to feel a sense of belonging; that they have a place within the group, and are accepted by the other members.

Negative connotations can also arise out of the creation of boundaries within community groups. A necessary element of the boundary is that some are left outside the group. However, in community settings, this does not necessarily


have to be a negative. A group can employ boundaries without excluding people. The boundary can be set through personal investment in the group. For example, anyone who is willing to give of oneself may become a group member. Membership also deals with the idea of symbolism. A common symbol system is necessary in creating and maintaining a sense of community. These symbols may include, but are not limited to, a neighborhood’s name, a landmark, a logo, or an architectural style.  

The second element, influence, deals both with how the individual influences the group and how the group influences the individual. Humans are attracted to the idea that they have some input into what a group does. A sense of satisfaction arises from participating in the achievement of group goals. This notion, however, goes both ways. The groups we are part of also have a great influence on who we are as people and how we behave. Although these ideas seem to be contradictory to one another at first, these two ideas can work simultaneously. People who acknowledge that others’ needs, values, and opinions matter to them are often the most influential group members.  

The idea of influence also deals with the consensual validation construct, “which assumes that people possess an inherent need to know that the things they see, feel, and understand are experienced in the same way by others.” This is not to say that people will not wish to express their individuality and freedom. In order to thrive, communities need to appreciate individual differences. This can have an immense effect on how we relate to those around us. McMillan and Chavis state that, “Through collective action, (communities) cause the environment to be more responsive to the needs of the individual and the small collectivity.”

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also believe that this will lead to a greater sense of ownership and cohesion that the participants have with their surroundings.

Integration and fulfillment of needs also play a large role in engendering a sense of community. This idea translates to the notion of reinforcement as a motivator of behavior. People must feel rewarded for belonging in a certain community in order for them to wish to continue to take part in the group. Various factors exist that provide this for community members and include status, competence, and mutual benefit. Becoming part of a community can result in a level of status unobtainable by oneself. This status can then in turn be used to benefit the community. Many researchers have shown that group success brings group members together. This component describes how people work together for individual and group gains, placing importance on both. People are also attracted to others whose skills or competence can benefit them in some way. Mutual benefit is the idea when people who share values come together, they find they have similar needs, priorities, and goals, thus fostering the belief that in joining together they might be better able to satisfy these needs and obtain the reinforcement they seek.

Finally, shared emotional connection deals with history and memory. Members of a community are linked to one another in part by their past. Our past has an immense effect on how we relate with those around us on a daily basis. Community members do not all need to have participated in the history, but they all identify in some way with it. McMillan and Chavis outline seven features that are important to the principle of shared emotional connection.
1. **Contact hypothesis**: The more people interact, the more likely they are to become close.
2. **Quality of interaction**: The more positive the experience and the relationships, the greater the bond. Success facilitates cohesion.
3. **Closure to events**: If the interaction is ambiguous and the community’s tasks are left unresolved, group cohesiveness will be inhibited.
4. **Shared valent event hypothesis**: The more important the shared event is to
those involved, the greater the community bond.

5. **Investment:** Investment determines the importance to the members of the community’s history and current status. For example, homeowners who have invested money and time in their part of a neighborhood are more likely to feel the impact of the life events of that community.

6. **Effect of honor and humiliation on community members:** Reward or humiliation in the presence of the community has a significant impact on attractiveness (or adverseness) of a community to the person.

7. **Spiritual bond:** This is present to some degree in all communities, but more evident in communities of a religious nature.

These seven features all attempt to help describe the notion of shared emotional connection within community members.

The four elements of the Sense of Community theory are all interrelated and each has individual effects on the desire of members of society to join formal and informal community groups. An understanding of how they all relate to one another is imperative to understanding the theory as a whole. (Figure 3.1)

### 3.4 | Implications for Design

The four elements of the Sense of Community theory can have direct architectural implications for creating community spaces. Each element has the ability to affect the design process in tangible ways, resulting in spaces that are more in tune with the needs and desires of the user population.

### 3.5 | Membership

As discussed earlier, membership deals with the creation of boundaries in

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Figure 3.1 Elements of Sense of Community and their relationships

I. Membership

Boundary

Emotional Safety

Common Symbol System

Sense of Belonging and Identification

Personal Investment

II. Influence

A. Member openness to influence by community members — power of member to influence the community.

B. Member need for consensual validation × community's need for conformity = community's power to influence members (community norms).

III. Integration and Fulfillment of Needs

A. To the degree that communities successfully facilitate person–environment fit (meeting of needs) among members, members will be able to develop sense of community.

IV. Shared Emotional Connection

A. Formula 1: Shared emotional connection = contact + high-quality interaction.

B. Formula 2: High-quality interaction = (events with successful closure – ambiguity) × (event valence × sharedness of the event) + amount of honor given to members – amount of humiliation.
order to give community members a sense of belonging. Inherent in the idea of membership is the notion that interpersonal relationships are key to creating a sense of community. Architecturally speaking, this can be achieved by creating community spaces that are intentionally pulled back from high traffic areas. These could still be accessible to the general public, but they can be intended for community members. Spaces intended for community members, rather than simply everyone who may come in contact with a place, fosters an element of safety. Intended users have places that are specifically for them. This helps to create a sense of ownership and pride in one’s surroundings.

The idea of membership can also be incorporated into allowing community members to invest themselves into their surroundings. People must be willing to invest their time and efforts into the success of their surroundings in order for the community to survive. Community members can volunteer to become active members in the design process by being responsible, at least in part, for the maintenance and care of the facility. This does not necessarily mean that community members are charged with cleaning the facility, but does suggest that each member should do their part to ensure the success of the space by being mindful of how their actions affect the environment that surrounds them. Once people have invested themselves in their environment, community spaces can begin to become a positive identity for the local culture.

3.6 | Influence

Influence, which touches on the notion that humans are attracted to the idea that they have some input into what a group does, is imperative in the success of community spaces. If community members are active participants in their surroundings, the spaces they occupy will embody much more meaning. Community members should have input on the design of their spaces, both during the initial design phases and after construction. The architect should be just one player in the design process. The intervention of the architect is only one segment
on the life-cycle timeline of a place. The community must take ownership after a space is designed, and the architect can encourage this transition by including local residents in the design process. According to the Sense of Community theory, people who have some amount of influence over their surroundings will develop a sense of ownership, leading to an increased desire to care for the space. This goal of self determination for community members should also include various avenues for people to decide what type of spaces will best benefit the community at large, including local exhibits, design competitions, events, and meetings. Through these methods, community members will have a vested interest in their environment, with a thriving space representing a thriving local culture and community.

3.7 | Integration and Fulfillment of Needs

Integration and fulfillment of needs deals with the idea that a sense of status can result from participating in community functions. It also says that group success will bring about great satisfaction for the individual. A space that is thriving due to the efforts of local community members will engender a user to place connection. Community members will see the effects their actions have on the progression of the place. This type of engagement can also be found in interactive spaces where the user completes the design and the built form is somehow altered by the presence of the users. Spaces that react to their occupation can create a very specific link between community members and their environment.

Another way to positively reinforce the user’s participation in a place is to allow the space to be adaptable to their changing needs. The needs of a community could change on a day-to-day, seasonal, or yearly basis. A space that plans for or encourages this type of change will be better suited to an evolving community and culture. Author Robert Kronenburg states, “Architecture that is designed for adaptation recognizes that that the future is not finite, that change is inevitable, but that a framework is an important element in allowing that change...
to happen.” Spaces like this can also allow for individual reinforcement of the user by encouraging personalization. Small ways users can manipulate their spaces can have large psychological impacts and satisfaction for the user. Alberto Pérez-Gómez states, “It is here that architecture ‘happens,’ disclosing an order that is both spatial and temporal: the ‘meaning’ of architecture can never be grasped through a mere ‘visit’ of an aesthetic object.”

3.8 | Shared Emotional Connection

Shared emotional connection deals directly with the sense of place as it relates to the local culture and community. The history that community members can in some way identify with ties into each individual’s memory. Every experience that a user has of a place will alter future experiences of the same place. The user’s sense of place can also be altered by his/her childhood, and the memories of similar places and experiences. A shared emotional connection with respect to a specific location can situate community members within their social surroundings.

Designers also have the ability to tap into the history of a specific site, which can link the residents both to the place and their own past. Spaces that take into account and acknowledge the community’s past are better prepared for the future. Ethnic and economic backgrounds could weigh heavily on how a space is used and what it means to a community. Community spaces should also take into account local traditions and events. These temporary events are part of the community’s identity and should be part of the built environment.


4.1 | Definition and Distinction

For the purposes of this thesis, the term “community space” refers to a more specific type of public space. Although they are still open to the general public, community spaces are intended for a smaller user group. The main users of these spaces all belong to some type of community, as discussed in the previous chapter. This targeted group consists of repeat users of a place. Typically, but not necessarily, this will include local residents of a specific neighborhood or area. For this reason, community spaces usually serve a relatively small group of people within a minimal geographic area. The architecture becomes one of the boundaries that separate the group from outsiders.

Unlike public space, community spaces may be pulled back from high traffic areas. Community spaces do not need to be out in the main right of way because the people who use them already know where they are and will seek them out. The result is that these spaces are much more intimate than public spaces and allow for more personal interactions among community members.

Another characteristic of community space is that community members often volunteer to help administer the day-to-day operations. In order to encourage this action, community spaces must in some way benefit the community in which they reside. In order for community spaces to survive, members of the user group must see the benefit in the space’s existence and be willing to work for its success. If the residents of a neighborhood, or group of neighborhoods, feel a connection to a community space, it will have much longer enduring value. This connection needs to be made in the design process of these spaces. The design goals for these spaces should align with the ideals of the local community. In order for this to happen, community members should be an integral part in the design process.

Community spaces also tend to become somewhat of an identity for the local culture. They often serve as the meeting place for local clubs and small groups, and can also be used to host community events. Community spaces are where people come together to interact with their neighbors, friends, and other
local residents. Even though community spaces create somewhat of a boundary between insiders and outsiders, they also serve as a connecting point between the two groups. They allow local residents to interface with the general public. This typically occurs when word gets out about a certain space, and other members of the public become interested. Community spaces encourage the investigation of the typical user to explore deeper into the community. This discovery requires some effort on the part of the user. Typical passers by may never notice what is occurring inside a community space without some level of curiosity and exploration.

Designers must be very aware of a place’s meaning to the community. The local culture must be willing to engage with their environment to infuse life into community spaces. From this viewpoint, the design process is not finished when construction on a project begins. Instead, the process is ongoing, as the space evolves as the local culture occupies it. In a society that is constantly evolving and changing, community spaces will have to embrace this notion and adapt to the culture. One author calls this a “vulnerable urbanism,” which does not focus on the final product of a space by means of control, but rather “proposes more punctual interventions that contribute to activating places through the creation of thresholds or places of intensity.”

This type of design creates porous membranes that encourage a mixing of neighborhoods, cultures, and traditions. Designers must embrace change and flexibility in order to create spaces that people desire to inhabit.

4.2 | Examples

Designers of community space should work with the elements of the Sense of Community in mind. These four elements should be present in the design and execution of community space. The result of integrating these ideas into the

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design process will be an increased link between person and place. Community spaces have an amazing ability to breathe life into urban environments and create enduring value for many communities.

4.3 | Membership

Many community spaces have the ability to tap into the idea of membership for groups of people. Architecture has the ability to create a space that provides the security necessary in order to engender this feeling of belonging and connectedness with one’s environment. One such space is The Boring Store in Wicker Park, Chicago, Illinois. The Boring Store, upon first glance, appears to be a typical store along Milwaukee Avenue in Chicago. (Figure 4.1) Like many of the other shops and boutiques, it has a unique quality that is hard to find in other locations. The concept of the design of the store is to create a series of filters that the user must pass through. (Figure 4.2) If a person walks past the store and continues on about their way, they will never find out what is actually inside. The space makes a playful attempt at deceiving those who walk by.

The name of the store may be enough to turn people away. However, those who do decide to enter the store will find a gift shop filled with children’s toys and books. However, this is not the final destination. A small window behind the cash register gives the user a glimpse of what is beyond. (Figure 4.3) Upon further investigation, one will discover that volunteers run the store, with the proceeds benefitting the after school writing workshop beyond. Here, children of the community can come and are given a way to work creatively with friends and other members of the community. The boundaries employed here are not intended to keep people out, but rather to encourage curiosity and bring outsiders in.

The experience of this space will vary greatly depending on the individual. The shop provides a point of interaction between community members and the interested public. This space also encourages engagement through volunteer work.
Figure 4.4  The Circa building
Figure 4.5  Vertical fins allow views in and out
that benefits the community at large. Additionally, the Boring Store supplements the education provided by the local school district by offering after school writing and tutoring programs that provide local youths with positive ways to spend their time.

Another example that employs the use of barriers to give users a sense of membership is Circa, an art gallery and event hall designed by studioMAS architects + urban design located in Rosebank, Johannesburg, South Africa. Located on a busy site, surrounded on three sides by heavy traffic, the design of the building needed to create a boundary between interior and exterior. (Figure 4.4) However, it was important for the barrier to allow glimpses into the interior of the building in order to draw people in. The solution was a series of vertical fins that create visual linkages into and out of the building, while the main gallery remains private and removed from the hustle and bustle. (Figure 4.5) These elements create ‘enclosure’ while maintaining views from exterior to interior. The design also pulls the more private spaces above the ground plane, allowing more public spaces to be out in the open. (Figure 4.6) Proceeding to the higher spaces requires more effort on the part of the user, again providing a point of interaction between community members and outsiders.

4.4 | Influence

Architecture also has the ability to allow users to take control over their own environment. The designer should provide opportunities for users to interact with their surroundings. One way to do this is through infusing temporary objects into permanent space. This notion that objects within the environment are changing and evolving along with a community links a community to the places they inhabit. Temporary objects and installations can also encourage creativity among community members, either through the creation of the pieces or simply creative use patterns.

One project that does this is the BA_LIK pavilion designed by Vallo & Sadovsky
Figure 4.7 The BA_LIK Pavilion as urban furniture
Figure 4.8 The pavilion’s pieces move independently
Figure 4.9 The pavilion as a performance venue
Architects in Bratislava, Slovakia. The goal of the architects was to show that small interventions could have a large impact within the existing context. The pavilion, when collapsed, appears to be a piece of urban furniture within a town square. (Figure 4.7) However, the pavilion can split and accordion outwards to create a multi-use piece. (Figure 4.8) The moveable sections have a wide variety of use. One section can become a bulletin board to announce community events, while the rest can become a stage and seating areas for small performances (Figure 4.9) The pavilion gives people the opportunity to have some say in how they experience space. It also encourages other types of interaction. The designers state, “Naturally also various unintended types of interaction occur: the homeless sleep over, young people party inside, writers spray graphics, however none of them proved disruptive or destructive.” Flexibility and mobility become the main characteristics of the pavilion, rather than the aesthetic moves the architect made.

A second example of bringing temporal elements into a permanent context is the Serpentine Pavilion in the Kensington Gardens in London, England. A different signature architect designs a new pavilion every year. (Figures 4.10 – 4.12) It may be a bit of a stretch to qualify the Serpentine Pavilions as community spaces because they are extremely well known and draw in many people to come see the structure. Additionally, by rule, the architect must have never designed any other project in England. This results in pavilions that are intentionally disjointed from their context, and stand alone within an expansive landscape. However, only locals get to experience the pavilions on a daily and yearly basis. Therefore, the temporality of the pieces creates a community of repeat users that experience the changes from year to year.

4.5 | Integration and Fulfillment of Needs

As discussed earlier, this element of the Sense of Community theory deals with reinforcement as an effective tool for encouraging interaction. Architecture
should be able to bring the user into the creative process, acknowledging that the presence of the user completes the space. No place is the same when users are absent. Greyworld, a group of artists working in the United Kingdom, design with this concept in mind. The group creates art in urban spaces with the goal that people become actively part of the creative process. The works are not complete without the hand of the user. Their work seeks to “short-circuit” social and environmental expectations, “actively lifting urban areas away from the banal and the ignored.”¹² The physical impact is often very minimal and much of the work is not immediately visible, but the social impact can be large. Projects like these encourage creativity and create strong memories for the user, heightening their sense of place. One project entitled Benches and Bins attempts to actively lift urban areas from being ignored. Benches and trash bins use solar power and GPS systems to move independently. Benches are social, while bins are more solitary. (Figure 4.13) This causes the user to experience the space in a new way every time they visit because the benches are constantly in new arrangements.

Another project by Greyworld employs the curiosity of children to complete the design. What appears to be a simple railing is actually tuned to play a song when a user walks by and drags an object along the posts. (Figure 4.14) No instructions or props are provided and many users may simply walk by and never know that the piece exists. However, once the user puts forth a small amount of effort, the project is realized.

Fulfillment of needs also states that people are more inclined to interact with group members and participate in community functions if they see a benefit for themselves. One project that deals with this idea is the Little Black Pearl in Chicago, Illinois. The facility holds after school and summer art programs for youths in the local community. The facility, run by local volunteers, uses the building layout to create a point of interaction between the community and the public at large. A coffee shop and art gallery filled with student work lines the exterior wall of the community space.

Figure 4.13  Benches and Bins by Greyworld
Figure 4.14  Musical Railing by Greyworld
building facing the street. A large atrium space separates the gallery from the classroom spaces beyond and provides an area for events and performances. The gallery also gives students the opportunity to sell their pieces, creating a tangible connection between community members and the public at large. (Figures 4.15 – 4.16)

4.6 | Shared Emotional Connection

The fourth element is probably the most evident in architecture and urban design. Architecture can easily link a community to its past and touch upon the memories of its community members. Encouraging the personal investment of community members through time and dedication can also make a shared emotional connection. When people see that others are working with them to achieve a common goal, they are much more likely to give of themselves. A project that specifically attempts to achieve this is the Open Air Library designed by KARO Architecten, located in Magdeburg, Germany. (Figure 4.17) The Open Air Library sits in an urban area characterized by abandoned industrial plants and fallow land. The space was designed in collaboration with local residents. Local residents were also responsible for collecting and donating over 20,000 books for the library’s collection. The residents, which take care of the reading café and library, call it a “library of confidence”. No registration is needed. Locals can take a book away and are expected to bring it back voluntarily. The shelves are never closed; patrons can go to the library and take a book whenever they want – 24 hours a day. In order for the library to succeed, the buy-in of residents is absolutely necessary. The library provides spaces for a variety of group sizes to congregate and use the outdoor facility for a variety of functions. (Figure 4.18) Finally, the Open Air Library allows local artists to take part in the completion of the design aesthetic. Local graffiti artists were encouraged to help paint the base of the structure. (Figure 4.19) The library became a symbol of what the community could achieve when they worked together for a common purpose.
Figure 4.17  The Open Air Library
Figure 4.18  Zone for small group activity
Figure 4.19  Local artists participate in the design
The community of Wicker Park is a neighborhood located just northwest of the Loop in Chicago, Illinois. The Great Chicago Fire of 1871 spurred its first wave of development, as homeless Chicagoans looked to build new houses.
Wicker Park proved to be especially popular with German and Swedish merchants, who built large mansions along the neighborhood’s choicest streets. In the 1890s and 1900s, immigration from Poland and the completion of the Metropolitan West Side Elevated Lines greatly boosted the population density of West Town, especially in areas east of Wicker Park.
The corner of Division, Milwaukee, and Ashland once known as ‘Kostkaville’, retains the moniker “Polish Triangle” to this day. After World War II, many Poles moved to newer, less crowded housing further northwest, and Wicker Park became more ethnically diverse with a large influx of Puerto Rican immigrants.

Topographically, the area of Wicker Park is incredibly flat, with virtually no elevation change across the area.
Polonia Triangle has been a contested area for years, with many different ethnicities feeling as if the space is theirs. One group of area residents wishes to redevelop the triangle as the “gateway to Wicker Park.” Other residents feel money would be better spent elsewhere. Currently, “It’s a bleak, brick-paved island at the intersection of Ashland, Division, and Milwaukee, three graffiti-covered bus shelters and a Blue Line entrance sharing space with some honey locusts and a fountain.”

Figure 5.4 Bird’s eye view of Polonia Triangle
Wicker Park is an extremely vibrant neighborhood, comprised of diverse people with a variety of ethnic, socioeconomic, and ideological backgrounds. Residences in tightly packed rows vary greatly in size, with many multi-unit buildings situated among single family residences. Small boutiques, shops, restaurants, and bars line Division, Ashland, and Milwaukee, three of Wicker Park’s main arteries.
Division

with its sizable sidewalks, is as broad as the range of uses that it hosts. It serves all walks of life – the people who inhabit the residences, frequent the local shops and bars, dine on the sidewalks, attend the schools, work or seek care at the hospital, lounge in the parks, or even bathe in the Russian and Turkish baths. The vision for Division Street is about continuity and surface – about extending the aesthetics and vibe of the street by extending the locals-only entrepreneurial district eastward and westward from Damen Avenue and maximizing the potential of the streetscape by making full use of the sidewalks and institutional edges.

Milwaukee

is a gritty collage, bravely navigated by an army of cyclists. The vision for this tight and individualistic diagonal corridor, which bisects Wicker Park is about character and theater – augmenting the quirky charm and unique cluttered streetscape, carving out new public spaces where locals and visitors alike can come together.

Ashland

is a wide and auto-dominated corridor marking Wicker Park’s eastern edge. The vision for this thoroughfare is about motion and movement because – sometimes – it is okay to design for the car; it is about contrasting speed with stillness and finding time to pause.

Figure 5.6 Images of Wicker Park’s three main corridors
The local public spaces, shown in red, line the three main streets and include a variety of typical uses. Almost all of these buildings only house public space on the street level. Offices and residences dominate upper floors.

The beige denotes other possible site in the immediate area where community-based interventions could take place. These have been chosen because they are slightly more secluded (to varying degrees) than Polonia Triangle.
Polonia Triangle is an extremely high-traffic area and serves as a hub for mass transit. Multiple bus routes are located on Division, Ashland, and Milwaukee. Three bus stops are located within the triangle itself, and several others sit in the immediate vicinity.

The Chicago Transit Authority’s Blue Line train runs underneath Milwaukee Avenue and is accessed from within Polonia Triangle. A taxi cab line also runs along the northeast side of the triangle on Milwaukee Avenue.

Green space is scarce, leaving residents with little space for informal recreation.
A variety of amenities are immediately adjacent to the site. There is a relatively small amount of adjacent buildings immediately surrounding Polonia Triangle.

Figure 5.11 Diagram of local typologies
These are views of the three streets that line Palonia triangle as they extend outward in different directions. Most of the buildings in the area are low lying - usually topping out around four stories. One larger structure that stands approximately 30 stories tall is located just southeast of the site.

Public spaces are denoted in red.

Figure 5.12 - 14 Images of approach to site
Most transportation to Polonia Triangle consists of either mass transit, pedestrian, or bicycle. A large percentage of area residents do not use automobiles on a daily basis. Pedestrians arrive at the site from all directions.

This area is composed of a dense mix of architectural styles, ranging from neoclassical to contemporary. This is mainly to do with large revitalization efforts within the past 15 years and an increasingly young, progressive population.

Figure 5.15 - 18 Digital model of Polonia Triangle
Shading studies were conducted from surrounding buildings at various times of the year and day. For a large part of the day, most of the year, the site will experience direct sun exposure.

Figure 5.19 Shading Studies

March 20
June 21
However, winter months will leave the site entirely shaded for a large portion of the day.

Figure 5.20 Shading Studies
Users arrive at the site in two primary, distinct ways that result in very different experiences. Bus travelers, pedestrians, and bicyclists arrive on the surface level. Many of them descend down into the subway station to continue their commute.

The opposite is true for subway travelers, who emerge through the center of the Polonia Triangle and continue on to their destination.

These different entry sequences can lead to a unique interaction of the users of the space, with the two groups meeting for very short periods of time as they continue on their path.

Figure 5.21 Arrival and Departure diagram
The section of Milwaukee Avenue between Division Street and Ashland Avenue will be reclaimed for pedestrian and bicycle use. Bus and automobile traffic will be rerouted to accommodate the change.

One of the main goals of the project will be to use the space more efficiently, while maintaining the triangle for the neighborhood. The project should not dominate its surroundings. Polonia Triangle’s prominent location will place heavy importance on the architectural interventions for the site, offering high reward for a well-designed space.

The current program of the triangle encourages program to develop above and below street level, while maintaining at least part of the outdoor public space at grade. This area can allow the users to enjoy outdoor space, which is highly desired by the local residents.

Adjacent buildings can also house new programs.
The project will be an experiment of how multiple programs can fuse together to create an active space where members of the community can come together. It will be a community engagement center that will link a public transportation hub with various spaces programmed for public use across a variety of scales. The design will include indoor and outdoor program and will provide a variety of spaces essential to strong urban communities. Certain programmatic elements may be temporal in nature in order for the space to adapt and evolve as the community’s needs and interests change over time.
Figure 6.4 Program diagram
Users of the facility will be categorized into various user types based on both their mode of transportation to the site, and the main activities they are engaging in while at the site. Since I am designing a transportation hub, the means of arrival to and departure from the facility are paramount in how the users engage in various activities. Users will arrive at the site in one of six main ways: bicycle, bus, foot, skateboard, subway, and taxi. Many of the on-site activities will depend greatly on which mode of transportation brings the users to the facility. Some user types, however, will transcend one particular mode of transportation and may arrive at the site in a variety of ways. These groups include employees, neighbors, and visitors. “Day in the life” exercises will be performed for each of these eight user types, with some overlap of activities among them. The first set of user groups includes users that are specifically using the space as a transit hub, and therefore are conducting specific activities based on their means of arrival and departure.
Bicycle

The user rides their bike towards the site on one of three main access roads, each with delineated bicycle lanes. They enter the site from a specific access along Milwaukee and slow their bike down so they can enter the bike ramp. Multiple users may need to do this at a time due to high traffic volume at certain times of the day. Next, the user needs to secure their bike in a bicycle “parking space” in the storage area. Once they have done this, many bicycle riders will need to shower and change clothes because they are on their way to work. They will also need to secure their belongings while they are gone for the day. Many of these users may want to grab a bite to eat along their commute, or read the paper. Periodically, these riders will need to have their bicycle serviced. Other users may want to purchase bikes. Some may simply rent them for the day if they have specific errands they need to run, or if they are only visiting the area. Some renters may need local maps that show where area businesses or attractions are. Many users, involved in bicycle riding clubs, will come together for various events and meetings at this location.

Activity listing

- Enter / dismount at a specific location within the triangle
- Ample circulation to bicycle storage
- Park bicycle
- Shower / change / secure belongings
- Bicycle service
- Eating
- Reading / relaxing
- Bicycle purchase / rental
- Maps and local information
- Meeting
Bus

Bus users arrive and depart from one of the two bus stops that line the outer perimeter of Polonia Triangle. Due to the rerouting of Milwaukee, busses pull up and stop on Division and Ashland and do not actually enter the triangle. People exit the busses and enter the triangle from these two sides. Many users may want to get something to eat or read while on-site and may spend time waiting for a transfer bus or subway train. Bus users may also need to check bus routes and times or get other local information. They will also need to have access to public transit ticket dispensers.

Activity listing

- Enter from Division or Ashland
- Eating
- Reading / relaxing
- Waiting for transfer busses or subway trains
- Maps and local information
- Public transit ticket dispensers
People who arrive to the facility by foot could be doing so for a variety of reasons. Many will arrive from all angles and come with the intention of getting on to one of the many public transportation options. For this reason, they will conduct many of the same activities as the other users of the building, such as waiting for busses, subway trains, and taxicabs. They will also access maps, local information, and public transit tickets. People who walk to the site may simply intend to have something to eat and purchase something to read. They will use public seating and lounge areas.

**Activity listing**

- Enter from all sides of the triangle
- Eating
- Reading / relaxing
- Waiting for transfer busses, subway trains, or taxicabs
- Maps and local information
- Public transit ticket dispensers
The program includes a covered skate park area. Skaters will also have access to a great deal of the triangle itself. Many may wish to congregate outside. Others will use the area specifically designed for skateboarding. These users will also need to be in close proximity to the gathering and restaurant areas.

**Activity listing**

- Enter from all sides of the triangle
- Eating
- Informal recreation
Subway

People who arrive at the site via subway train will exit the train onto a platform below the existing surface level. They will, however already be outside because the existing ground plane is being removed, opening up the terminal. Many will disperse onto busses or will leave the site on foot. The inverse will be true for many who enter the site on the surface level and descend down to the train platform. This group of people could include bicycle riders along their commute to and from work. Subway travelers will partake in a very similar activities list to the bus riders. They will be in close proximity to all other programs, rather than being separated out, as before.

Activity listing

- Enter from all sides of the triangle (if departing via subway)
- Enter onto train platforms and disperse to all sides of triangle (if arriving via subway)
- Vertical circulation to / from surface
- Eating
- Reading / relaxing
- Waiting for transfer busses or subway trains
- Picking up / dropping off bicycles
- Maps and local information
- Public transit ticket dispensers
The majority of taxicab users will arrive at the site by one of the other various means of transportation. The northeastern border of the triangle along Milwaukee Avenue is used as a taxi line. However, once that section of Milwaukee is reclaimed, the taxi line will need to be relocated to either Division, Ashland, or a piece of surrounding real estate. Here users wait along the sidewalk for the next available cab. They would partake in similar activities to those using the bus and subway systems.

Activity listing

- Enter from all sides of the triangle (depending on their method of arrival)
- Eating
- Reading / relaxing
- Maps and local information
- Waiting in a specific taxi line area
Employee

Employees could work at one of a few different locations within the facility. The bicycle storage / service / sale/ and rental areas will need to be staffed, as will the restaurant, art studio, and exhibit spaces. Workers will likely arrive via all transportation types and would benefit from all amenities already listed. Upon arriving at the site, employees will need a place to store their personal belongings. While on breaks, they will be able to take advantage of the on-site restaurant and seating areas. In addition, employees will need to meet with one another in small groups. Some workers will need personal space to conduct business and store work-related materials. Employees of the gallery will need ample circulation space to bring pieces into the space. They will also need to store pieces while they are not on display.

Activity listing

- Enter from all sides of the triangle (depending on their method of arrival)
- Secure storage for personal belongings
- Eating
- Reading / relaxing
- Staff meeting
- Private offices
- Ample circulation space
- Bicycle service
- Bicycle sale and rental
- Kitchen for restaurant
- Food service area
- Art storage
- Art display
Local users could come to the facility for any number of reasons and are categorized mainly on their repetitive use of the space. This user group most likely lives or works fairly close to the site. They are of primary importance while programming the facility. In addition to using the facility as a public transit hub and partaking in all of the activities along with that part of the program, neighbors may come to use all parts of the space. Many locals will bring their bicycles to this location for repair, even if they do not typically store them on-site. This could also become the place where they go when they need new bicycles or accessories. They will need to be able to view the items for sale. They will also use the restaurant and shop. Local users may frequently come to the facility to purchase food and spend time reading / working at the facility. They need seating and tables. Other local users will come to view art created by local artists. It is possible that this occurs throughout the facility and may not need dedicated space. Community members will hold meetings for both small and large groups. Some community events will also occur on the triangle.

**Activity listing**

- Enter from all sides of the triangle (depending on their method of arrival)
- Eating
- Reading / relaxing
- Working
- Meeting / gathering for small and large groups
- Ample circulation space
- Bicycle service
- Bicycle sale and rental
- Art display
Visitor

Visitors to the area could arrive at and depart from the triangle by any of the various methods of transportation that have been previously mentioned. After arriving, many will need to retrieve information about local business and attractions, such as local tours, restaurants, bars, and nightlife. Although bicycle sale is unlikely for this user group, bike rental and tours could be of utmost importance. Many will take time to read or relax and have something to eat. Other users will also be interested in the art on display.

Activity listing

- Enter from all sides of the triangle (depending on their method of arrival)
- Eating
- Reading / relaxing
- Ample circulation space
- Bicycle rental and tours
- Art display
- Maps and local information
Figure 6.5  Exterior / Interior Program Diagram

- Exterior:
  - Taxi Line
  - Vendor Space
  - Gathering / Meeting
  - Skating Ramp
  - Maps / Info / Tickets
  - Bus Stops
  - Bike Storage

- Covered Exterior / Interior:
  - Terminal
  - Restaurant
  - Lounge / Seating
  - Exhibit Space

- Interior:
  - Lockers / Showers
  - Bicycle Service
  - Bicycle Sale
  - Bicycle Rental
  - Art Studio
Figure 6.6 Blend
The design methodology will be comprised of three main strategies that have been extracted through the analysis of precedent.

The first of these is the concept of blending. Community spaces are often found in conjunction with public spaces, or are at least in close proximity. Community members and the general public should have the opportunity to blend and intermix with one another.

This concept also applies to the blending of programs. A variety of functions should be performed interactively.
Figure 6.8 Filter
The second strategy to be employed is the idea of filtering. Filtering can be used to encourage personal investment of the user through investigation of the space. Filtering, in an architectural sense, creates boundaries to provide a sense of privacy for community members.

Filtering may also give a outsiders a glimpse of what lies beyond. It is important to make continual visual and programmatic connections between spaces. Users should be able to puncture through boundaries. This strategy creates an immediate feedback loop for the occupants of a space.
Figure 6.10 Manipulate
Finally, occupants should have the ability to manipulate space to meet their exact needs. This interaction between person and place is crucial. The short and long-term needs of individuals and groups are constantly evolving.

Coupled with manipulation is the concept of “questioning the container.” Temporal, flexible objects in spaces encourage the user to rethink their traditional notions of the built environment. That which once seemed rigid and unwavering is no longer fixed.


Appendix | Influential Readings

Environmental Psychology in Building Design

This text, by Dr. John Brebner, is part of a group of texts entitled, the Architectural Science Series. While most of these books deal with the application of the physical sciences to architectural design, Brebner’s text is one of a few exceptions. This text combines the application of physiological and psychological principles to architectural design. Dr. Brebner worked on this text while being a member of the Department of Psychology and the University of Adelaide in South Australia. The coverage of the text is comprehensive, ranging from human physical characteristics, heat, light, sound and odor, color theory, aesthetics, and ergonomics. However, the subject of this review will focus primarily on the sections of the text that deal with what is stored in our memories from experiences, traffic in buildings, and spatial arrangements for interpersonal interaction.

Brebner begins by discussing how difficult it can be for designers to discover what the eventual users of a space will want, and that simply asking them does not necessarily give a true picture. The main problem here is that buildings are far more complex than most people can conceptualize before actually experiencing being in and around them. He offers that understanding environmental psychology better can improve techniques for how information is acquired from the users and translated to the architect, resulting in more appropriate designs.

In a section of the book entitled, “Psychological Factors,” the author discusses memory’s relationship to experiences. We know that acts of imagery are possible, allowing us to produce internalized representations of sensory experiences, so that we conjure up images of familiar places or things, or of things recently experienced. However, what is important to realize is that these images and symbols that make up memories are not stored separately and disconnected; they are stored in their relationships to other items. These relationships are abstracted from our experiences and allow us to anticipate next events. Such is the case in our daily activities. Memory of past experience allows us to anticipate future events.
The absence of these events can interrupt the smooth flow of behavior. Adding even one new element to our experience can lead to a total reorganization of the perceived world and the reprogramming of relationships and associations. Figure A.1 demonstrates this phenomenon. Once the frog has been detected, the perceptual experience is quite different from that before detection. Once organized in a meaningful way, it is virtually impossible to disorganize the pattern once more. This concept can be applied to space and how we perceive our environment. The small action of looking at something in a different way one time changes perception forever.

Traffic within buildings can also be greatly affected by psychological factors. Brebner discusses a variety of outside factors that can influence our behavior. For example, music can be used to alter how we move through space. The level of complexity of the design can also achieve similar results. Users tend to travel in the most direct routes that require the least effort. People also tend to match the speed of their progression through a space to that of others, perhaps in an attempt to maintain constant distances between yourself and others to avoid invasions of your own personal space or that of others. This section of the text also deals with how people respond to barriers in their environment. Research shows that people will slow down when they approach barriers, even if they are mainly psychological barriers. One example of this is the changing of materials on a walking surface.

A significant section of the text deals with spatial arrangements for interpersonal interaction. Dr. Brebner briefly discusses places as tending bring people to them and promote their interactions (sociopetal), or having the opposite effect of isolating people who are in them from one another (sociofugal). Both types of spaces can be appropriate given different design situations. The author also discusses the value of user consultation at various stages of design. In addition, user satisfaction studies can often be very revealing to a building's performance level. Flexibility for users is important. Encouraging personalization enables sociopetal and sociofugal spaces to be created by the users.

Many factors affect a space's ability to encourage sociability. Crowding
in high traffic areas tends to reduce interaction, as do extremely large or small spaces. Noise is another factor in determining how the users of a space relate to one another. According to Brebner, research has shown that urbanites tend to be more secluded from those around them than people who live in suburban or rural conditions. This is possibly due to a combination of the lack of control felt by the individual and stimulus overload in hectic areas. The limits of human information processing can be easily surpassed.

Brebner then moves on to discuss various ways the connection between designer and user can be made stronger. One way for this to occur is for the designer to contemplate how every move they make will affect the user on different levels, and what that in turn will do to the experience of the place. Research has shown the different personality types user space in very different ways. More aggressive users will use space in a different manner than more submissive personality types. Architecture can begin to take these traits into account in the design of spaces.

The text is very successful at introducing the reader to a broad range of psychological factors in building and space design. Every architectural element can affect the user on multiple levels, which can be different from person to person. However it is often not the aesthetic qualities of a space that remain with the user. Brebner states that buildings are often remembered in terms of their functional significance rather than their architectural features. This demonstrates the importance how well spaces within a building work together to create long-lasting experiences for the user.

While the author is very thorough in most respects, he neglects to mention some of the positive results that can accompany the introduction of altered spaces to users. He speaks in favor of encouraging user personalization of space and interaction between person and place. However, Brebner also discusses the possible negative effects of altering someone’s daily routine. It seems entirely possible that the positive effects could far outweigh the negative.
Robert Kronenburg’s text, Flexible: Architecture That Responds to Change, examines the growing trend of structures that respond to change rather than reject it. He identifies this type of architecture as being more apt to solve current and future problems associated with technological, social, and economic change. Flexible examines the discipline from a variety of standpoints, subdividing the topic into smaller categories. Kronenburg first partitions the subject into flexible home, community, and architecture by viewing flexible architectures at all scales of design. He then further separates flexibility into four typologies: Adapt, Transform, Move, and Interact. Robert Kronenburg is a professor at the University of Liverpool and has completed published works in the genres of portable architecture and the impact of technology on architectural form.

The topic of this review will focus mainly on the “Adapt” section of the text. In this section, the author states that architecture designed for adaptation recognizes that the future is not finite, that change is inevitable, but that a framework is an important element in allowing that change to happen. Adaptability can further be compartmentalized into current functions, patterns of use over time, and specific user requirements. Adaptive design strategy recognizes that the design process is not something that is the vision of a sole creator in advance of construction; it is an ongoing process that continues to enrich the space as it ages and includes the collaboration of a range of participants. This design strategy results in spaces that remain relevant within their context. Adaptability allows the user to have a hand in the creation of their space.

Kronenburg weaves the idea of adaptability through various case studies and examples, situated in a variety of contexts. He also speaks about multiple design strategies that can result in adaptable spaces. The section also discusses a few of the criticisms that can arise due to the implementation of traditional methods of designing for adaptability, such as the creation of spaces that are not a close fit to the functions they house. Another criticism is that adaptable spaces can tend to be bland and uninspiring.
The “Adapt” section of the book serves as a good introduction to this topic in the architectural discourse. It provides a variety of key examples and images to support the text and is a valuable resource. However, the text falls short on the theoretical basis of adaptability, relying heavily on case studies. The text does not probe much beyond the surface of the topic. Even with its shortcomings, the book *Flexible: Architecture That Responds to Change* does successfully begin to address the need for spaces that respond to the context and culture in which they are created. A design methodology that includes the user as a critical element in the design process could result in a space that much more effectively engages the user.
By David W. McMillan and David M. Chavis (1986).

David W. McMillan and David M. Chavis, authors of essay, “Sense of Community: A Definition and Theory,” are both incredibly well respected individuals within the field of social psychology. David W. McMillan is a community psychologist who has authored two books and several articles on psychology. David M. Chavis is internationally recognized for his 30 years of work including a distinguished career award from the American Psychological Association and the 2002 Outstanding Evaluation Award from the American Evaluation Association (AEA). He is Principal Associate/CEO of Community Science (formerly Association for the Study and Development of Community). Throughout his career, Chavis has conducted extensive research and theory development on support systems for community development and other community systems change and prevention initiatives. He has authored numerous articles in scientific and practitioner publications on community psychology.

This essay discusses how humans have been forming together in communities throughout history in every part of the world. They propose a definition for “sense of community” that explains why people desire to come together in this manner. Their definition is composed of four main elements that include membership, influence, integration and fulfillment of needs, and shared emotional connection. These elements are at the core of why communities are formed and continue to exist. Each of these elements reinforces one another and work in concert, as shown in Figure A.2. Being part of a community has meaning embedded within it.

Membership is the feeling of belonging or of sharing a sense of personal relatedness. One must invest part of oneself in order to become part of a group, but the reward is great. Communities create boundaries to distinguish themselves from outsiders. These boundaries can provide emotional safety and can create a sense of belonging. Boundaries are used to distinguish between insiders and
Figure A.2  Elements of Sense of Community and Their Hypothesized Relationships

I. Membership

- Common Symbol System
  - Sense of Belonging and Identification
  - Personal Investment

II. Influence

- Boundary
- Emotional Safety

A. Member openness to influence by community members → power of member to influence the community.

B. Member need for consensual validation × community’s need for conformity = community’s power to influence members (community norms).

III. Integration and Fulfillment of Needs

A. To the degree that communities successfully facilitate person–environment fit (meeting of needs) among members, members will be able to develop sense of community.

IV. Shared Emotional Connection

A. Formula 1: Shared emotional connection = contact + high-quality interaction.

B. Formula 2: High-quality interaction = (events with successful closure – ambiguity) × (event valence × sharedness of the event) + amount of honor given to members – amount of humiliation.
outsiders. Membership is necessary to create a sense of identity for those who belong to the group.

The second element, influence, deals both with how the individual influences the group and how the group influences the individual. Humans are attracted to the idea that they have some input into what a group does. A sense of satisfaction arises from participating in the achievement of group goals. This notion, however, goes both ways. The groups we are part of also have a great influence on who we are as people and how we behave. This can have an immense effect on how we relate to those around us. McMillan and Chavis state that, “Through collective action, (communities) cause the environment to be more responsive to the needs of the individual and the small collectivity.” They also believe that this will lead to a greater sense of ownership and cohesion that the participants have with their surroundings.

Integration and fulfillment of needs also play a large role in engendering a sense of community. Various factors exist that provide this for community members and include status, competence, and mutual benefit. Becoming part of a community can result in a level of status unattainable by oneself. This status can then in turn be used to benefit the community. This component describes how people work together for individual and group gains, placing importance on both.

Finally, shared emotional connection deals with history and memory. Members of a community are linked to one another in part by their past. Our past has an immense effect on how we relate with those around us on a daily basis. Community members do not all need to have participated in the history, but they all identify in some way with it. This element fosters interaction between community members.

McMillan and Chavis state that strong communities are those that offer members positive ways to interact, important events to share and ways to resolve them positively, opportunities to honor members, opportunities to invest in the community, and opportunities to experience a spiritual bond among members.
They believe that the characteristics of “sense of community,” as a theoretical framework, have the potential for a broad range of applications. These applications are relevant for lawmakers, planners, and architects.

This essay made a strong attempt to delineate a concrete definition for why communities form. The authors make solid arguments supported by numerous publications within the field. Their definitions seem well rounded and deal with many different aspects of community. This article gives a very good base and even offers a few applications for the ideas brought about within it. Although often a force for good, McMillan and Chavis also explain the possible negative effects of a “sense of community” in that it can cause confrontation between groups of people. The article itself does not go into great detail about the application of “sense of community” to other disciplines, but multiple later articles have been written to further this topic. The group of articles should be read conjunction with one another.

The question, architecturally speaking, is how do all of these elements come together in the design of community spaces. Embedding these ideas into the design process will result in spaces that are directly connected to the culture in which they exist. I believe that these components can be looked at directly as drivers for design. Communities are groups of people working together for mutual benefit. Architecture should be an extension of this situation, championing many of these same values. Humans should play an active role in their environments, just as in their communities. A design process that truly includes the user as participant will result in community spaces that are connected to the people who inhabit them.
Florentine Sack’s book, *Open House: Towards A New Architecture*, looks at contemporary Western architecture and compares it to the traditional Japanese style. The book discusses whether or not architecture can tackle the more complex demands of our time in an adequate way, do justice to the user’s rising needs, and influence the relation between man and his environment. Sack points to various successful examples by well-known architects, such as Rem Koolhaas, Herzog & de Meuron, Peter Zumthor, and others. The book is of a manageable size, measuring approximately 7”x 9”x1/2” thick and employs a clear layout, with the original German text on the left-hand side of the page, and the translated English text on the right hand side of the page.

Florentine Sack, the author of the book, was born in 1968 in Karlsruhe, Germany. She studied architecture at the Technical University Braunschweig and at the Architectural Association School of Architecture, in London, where she acquired her PhD in 2002. Sack taught at the Institute for Construction and Design at the University of Innsbruck until 2004. She currently lives and works as a freelance architect in Berlin, Germany.

The book begins with a section that describes the author’s inspirations for writing the book. The book is from the author’s own unique experience, so it is to be read almost as a personal confession. She had experienced a special connection with traditional Japanese architecture because of an underlying quality of the buildings that deal with life cycles. She describes the buildings to be without a beginning or end, and with the possibility for change being ever-present. The author states that architecture’s highest goal is giving human beings the opportunity to enter an open and free dimension through a carefully composed ambience.

The book’s introduction discusses how architecture connects us to our living space and nature’s constantly changing appearance. The world is constantly in flux, with every movement creating a counter movement. Sack also discusses how
one must reconcile with the idea that illness and death are an inevitable part of
their life in order to truly experience life. These ideas translate to built context. The
book states that the International Style was “faceless” and lacked a connection
to the environment or the humans who inhabited it. Architecture represents the
society within which it was constructed, and is therefore tied to the life cycles of
cultures. The author feels that much of today’s architecture is attention seeking
and power hungry, which pulls it away from connecting to its environment. In
contrast to typical western architecture where symmetry had always been viewed
as beauty, Japanese architecture has shown an affinity for asymmetry, with open
structures that correspond to the growth of natural forms. This open architecture
connects man with his entire being by blurring the distinct lines between inside and
outside that seclude humans from their surroundings. She then states that there
are examples of contemporary architecture that show how humanity is again
becoming aware of itself within a wider context.

The bulk of the text is a series of chapters that each deal with a certain
theme and how it relates to the idea of open architecture. The book includes
chapters on Change, Imperfection, Growth, The Open House, and Towards a New
Architecture. These chapters discuss how the ideas inherent in the title word or
phrase can impact how architecture is realized in our culture.

The chapter on change deals with the idea that the only constant in life is
change. According to the author, flexible architecture creates a relationship for
change and, therefore, becomes transcendent. Traditional Japanese architecture
is designed with this idea in mind, and allows for seasonal, temperature, wind, and
light changes to be felt inside buildings. In contrast, many modern building facades
seclude humans on the inside from the environment and destroy this relationship.
The author concludes this chapter by saying that if architecture wishes to be part
of human life; it has to create a space for change.

Another chapter, Imperfection, describes this idea as the constant
interaction between a human and their environment. She uses various Japanese
buildings and works to discuss imperfection. From her viewpoint, the representation
of imperfection can invite humans to strive for completion. It is the interaction of humans with their space that allows for perfection.

Growth, another chapter in the book, furthers the idea of how harmony lies in striving for completion and the resulting dynamic. With asymmetrical structures, architecture displaces the viewer and liberates them from habitual patterns of deception. Sack uses Enrique Miralles’ Benedetta Tagliabue, living room, in Barcelona and Herzog & de Meuron’s storehouse of Ricola AG in Laufen as examples of this idea.

The book’s final chapter, Towards A New Architecture, deals with the various elements that have been discussed and how they come together. The author states that the purpose of this book is to highlight how architecture can create lasting impressions with the impact of the link between body and mind. Her task has been to transform comfort into movement. Sack believes that the increased political and economic complexity of daily life will foster connections between art, science, religion, and philosophy that will make ground breaking discoveries possible and will hopefully arrive at a holistic awareness of life.

The book uses numerous visuals in the form of drawings and photographs to support its themes. The larger images possess a distinct clarity, but there are many images that are too small and are pushed up to the top of the page. These images, often in grayscale, make it difficult to understand the information they are intending to show. The link between the text and the images could be stronger if these images were large and more legible. The book does show a great deal of projects that exhibit a variety of qualities and ideas from many different contemporary architects. The author shows an extensive knowledge about the works and styles she has written about. The text is written for an audience with some type of formal architectural background, or at least a passion for the discipline. Many of the text’s themes would only come across to this type of audience. The book has a few flaws, but overall it has achieved its purpose of familiarizing the reader with various ways of looking at architecture in a different manner that could result in the creation of much more meaningful and transcendent spaces.
Lars Spuybroek’s book, *NOX: Machining Architecture* is a collection of writings and projects by his firm, NOX. The firm deals heavily with how digital technology is continuing to influence and invigorate the process of architecture and design. The essays, which serve partially as Spuybroek’s manifesto, are the driving force behind the methods in which his firm works. This experimental architecture is heavily process based and continues to evolve post occupancy.

Lars Spuybroek is the founding principle of his firm, located in Rotterdam, where he has conducted extensive research into the relationship between architecture and the computer. He holds professorship at the University of Kassel in Germany, where he heads the CAD/Digital Design Department. Spuybroek has won many design awards, is exhibited all over the world, and lectures internationally.

This review will focus on Spuybroek’s essay, “The Structure of Vagueness,” where he speaks about how his own research relates to that of Frei Otto at the Institute of Lightweight Structures in Stuttgart, who dealt with what they called “optimized path systems.” The experimentation is in search of a new design methodology. This methodology is based on the idea that materiality changes the geometry created by the designer to produce the end result that a human could not produce on his or her own. Figure A.3 is an experimental representation of this process that deals with optimized path systems. Step 1 (Fig. A.3-A) maps all of the targets of the system on a circular board and connects them using wool thread. This step creates only neat geometry, without materiality. Without materiality involved, each path runs directly from one target to another. Step 2 (Fig A.3-B) gives each length of wool an 8% overrun, intended to simulate the fact that no roads or paths are ever completely direct in real world applications. We are forced to take detours in cities. Step 3 (Fig A.3-C) shows the entire system after it has been dipped in water and combined with materiality. The geometry reforms to create larger and smaller paths, resulting in a system of gaps. The final form is
Figure A.3 Frei Otto and Bodo Rasch - optimized path systems
based on looseness, but is itself not loose. It is not weak, but rigid and completely tight. It is a strategy of flexible, individually weak elements cooperating to form strong collective configurations.

This type of experimentation leads to products where every element has an effect on every other. This interconnectivity arises because the geometry of the design co-evolves along with materiality. The author states that this design strategy consists of an inherent plasticity and flexibility that enables change and fluidity. As shown in Figure A.4, this experimentation lead very directly to physical results in the form of the Soft Office, a conceptual project by NOX developed from these optimized path systems.

Spuybroek touches on flexibility within an architectural context where the engagement of the building and future events is unforeseen. He views the typical result as being a generalized openness. This openness is neutral and unproductive because the type of space is not engaged in the emergence of the events themselves. The architecture is indifferent. In the past, the choice has always been between determined functionalism and undetermined multi-functionalism. Spuybroek believes that we must replace the passive flexibility of neutrality with the active flexibility of vagueness, which will relate the space through continuity. The product would be a cyclical, machine-like process that continues throughout the life of the architecture.

The highly conceptual essay focuses on design methodology and the process of creating. Spuybroek is highly successful at explaining the basis for his design process and showing how it could affect the architectural discourse as a whole. However, he fails to complete the connection between his process and his product. The machine methodology is successful as a form generator, but there is a disconnect between the method and Spuybroek’s conclusions about flexibility.

However, the essay does force the reader to completely reconsider how flexibility can relate to built form. It speaks not necessarily about a flexibility of use, but a flexibility of mind. What Spuybroek names Machine Architecture merges built space with human psychological responses. Since the design methodology
is circular throughout the life of the space, it does not matter when we enter the process. Flexibility of human action is looped into flexibility of structure, which is in turn looped into flexibility of perception.

Figure A.4 Soft Office by NOX