

Extended research abstract - (c)openhagen

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Keywords: porosity, (in)determinacy, boundaries, open systems, hybridity

Problem statement

In *The Open City* (Sennett, 2006), Richard Sennett states that current city planning - and therefore the architecture within - suffers from over-determination within a closed system. The city can be seen as a system where integration and relatedness are highly valued and supported by rules and practices, creating an emphasis that limits experiment and advancement which stalls progress, making it a closed system. Current city fabrics and buildings seem to last a remarkably shorter amount of time than a large part of older structures, which causes a phenomenon called "The Brittle City" (Sennett, 2006). While the Brittle City also grows with time, it does so by a process of decay, removal and rebuilding, instead of current structures adapting. The apparent problem with this is that people usually stop interacting with an area when decay starts showing, not allowing it to become *lived in*: the process of adaption caused by people appropriating the space to their wishes.

A majority of the blame given to the cause of this over-determination by Sennett is control, which manifests itself in the urban fabric. The effects of control can also be seen in a neighborhood like the Haraldsgadekvarteret, which is a historically working-class neighborhood with mostly uniform, sizable apartment blocks and wide, car-centric streets. The space these blocks form is sometimes quite elaborately furnished, with playgrounds, fireplaces, pergola's and barbecues. However, the presence of a large amount of camera's and the seeming lack of usage of these spaces paints an undesirable reality.

The combination of the uniform blocks, wide streets and apparent lack of (usage of) public space make the neighborhood feel more like a place of passage, rather than pause. This means that control in this neighborhood expresses itself through over-determination of function and

organization, skewed in a direction that produces a fragmented whole and undesirable results when looking at the quality of public space and social interaction.

This leads to the following main research question:

How can a public condenser in the Haraldsgadekvarteret be designed so that it decreases existing fragmentation and does not fall victim to decay?

On Porosity

Porosity can be defined as the "... ratio between the volume related to flows and the total area." (Vigano, 2009). Research done by The Why Factory in 2018 describes a porous building as a building where there is ample consideration for fluidity, percolation and permeability (The Why Factory, 2018).

When looking at porosity as an instrument for organizing a public condenser, it needs to be expressed along with permeability. Porosity in this case describes the amount of "pores" (accessible spaces) present and permeability describes the amount of individual connections between these pores. This allows gradations of public and private space to be created. This also means a strong argument for the link between porosity and hybridity can be made. Either through making multifunctional circulation space or through directly adjacent or even overlapping pores, a fabric hybrid can be created (Fenton, 1985). The elements that define the boundaries of these "pieces of fabric" could be anything ranging from a closed, solid wall enveloping urban greenery to an implied boundary through material or color. Thus, expressing the permeability through a variety of boundary conditions allows porosity to be employed holistically, ranging from the attachment with the urban fabric to materiality and color.

Another way the notion of porosity contributes to hybridity exists on the urban and landscape scale. The act of passage through a city is how we know it (Sennett, 2006), because it forms a very important part of our experience of it. The act of passage implies crossing a boundary, a threshold. Many buildings have a harsh threshold for entering caused by their largely impenetrable barriers, creating "dead space" besides them. Here, porosity could offer a solution as well. A possible location of the public condenser is

at the intersection of two main streets, being restructured in the future to include more greenery. This allows a porous public condenser to smoothly nestle itself in this new fabric and incorporate the greenery into it. The green space will be able to grow into the building, by utilizing passages and terraces.

On (In)determinacy

In case of overlapping pores, the area of overlap can be seen as indetermined, "chaotic space". On this plane the interaction between the two spaces will be at its highest, causing the highest probability of unexpected use. This possibility of unexpected use means the building can become "more than the sum of its parts", creating hybridity and multiplicity due to natural oscillation between different uses. Massey (2006) describes discrete and continuous multiplicity. Discrete multiplicity refers to "distinct entities, the realm of diversity", while continuous multiplicity refers to "evolution, rather than succession". Multiplicity is in this case interpreted as a form of hybridity: the merging of different, sometimes yet to be discovered functions, able to grow with the people that use it as time passes. The public condenser will use (in) determinacy to shape the right conditions for this to happen.

A not fully determined space can be considered an open system (Sennett, 2018), systems that allow for the aforementioned "unexpected activities" to happen. A very important aspect of structures that stand the test of time is their ability to embrace the natural way humans inhabit any space. This means the structures allow themselves to be *lived into*. This can only happen when at least part of the structure is indetermined, not only giving the users the freedom to make the space their own, but therefore also allowing a variety of usage.

Finally, indeterminacy can be an instrument for sustainability and resilience by increasing the structures adaptability, which decreases future threats of obsolescence. This means that the notion of (in)determinacy and porosity can be employed in a complementary way, allowing them to holistically form space together.

These descriptions form the foundation of the exploration by means of research-by-design that aims to answer the following sub-question:

How can porosity and (in)determinacy be used to create temporally resilient, hybrid spaces?

Denmark and the Haraldsgadekvarteret

An important aspect of Danish society and culture is the word Hygge. Hygge can be translated as the Dutch "gezelligheid", Canadian "hominess" or German "Gemütlichkeit" (Wiking, 2016). According to Wiking, there are a few drivers that achieve the feeling of Hygge: casualness, company, closeness to nature and being in the present moment. Hygge asks for simplicity, improves happiness and therefore health. The act of Hygge in its nature is something everyone does differently, making employing the notions of porosity and (in)determinacy more strongly founded for a public condenser in Denmark. As mentioned above, these notions can be used to integrate the public condenser into the urban fabric, allowing closeness to nature, and they can be used to create gradations in public and private space, allowing everyone to find a space they are comfortable with.

Zooming in, the Haraldsgadekvarteret is inhabited by a large variety of people, with there being an (almost) equal distribution between men and women. The birthplace of the population is almost equally distributed into thirds: Copenhagen, Denmark and foreign countries (City Population (2024)). However, the amount of people with a non-western background is around 70% (Spektrum Arkitekter, 2023). A lot of the non-western inhabitants in the neighborhood (and Norrebro in general) are Muslim (Schmidt, 2011). This makes this demographic important to consider when creating the qualitative brief for the public condenser. For example, extra attention towards spaces that allow for religious activity or spaces that, through their organization, abide by the values this demographic holds is necessary.

This provides the foundation for the following sub-questions:

How do Danish social traditions and the demographic buildup of the Haraldsgadekvarteret inform the creation of space?

Followed up by:

How can the notions of porosity and (in)determinacy co-operate with the nature of Danish society and the inhabitants of the Haraldsgadekvarteret?

Conclusion

In short, the Haraldsgadekvarteret (and many cities in the world) suffers from control that expresses itself in over-determination of function and organization. This is expressed in large, uniform housing blocks, wide car-centric streets and a lack (of usage) of public space. This makes the neighborhood feel fragmented; more like a place of passage rather than pause.

The notions of porosity and (in)determinacy can be used to create a public condenser that creates a place for pause, opens the neighborhood to the rest of the city and suits the needs of the varied population. It also aids the sustainability, hybridity, multiplicity, resilience and healthiness of the building and neighborhood, by creating space for free usage and future changes in usage.

Goal

The goal of this research is to obtain knowledge about the creation of space using the aforementioned notions, and therefore putting more emphasis on the essential notion of time and spatial relations in creating architecture. Within the notions, the right balance will be researched between - in this case - the level of porosity and the level of (in)determinacy. The goal is explicitly not to create an open floorplan where people figure out for themselves what to do. It is instead

to organize space and interior design as such, that everyone can use the building and its functions to their preference.

Methods

The main research method that will be used to design the public condenser is qualitative research in the form of research by design. The nature of the chosen terms (porosity, permeability, (in)determination) asks for an experimental approach: by making diagrams, drawings, sketch models, perspectives etc., different arrangements, volumes, compositions and boundary conditions can be researched. Additionally, case studies will be observed to obtain knowledge about real world examples. Some quantitative research will be done to determine demographic aspects and other statistics.

Significance and greater contribution

The significance of this research can be explained through the nature of the neighborhood as mentioned above. The public condenser designed following this research will try to combat problems that exist within the Haraldsgadekvarteret and in many other places, and pose a way of making these types of buildings so it can be applied to other contexts. Because the terms chosen are broad, they can have meaning and significance in multiple contexts.

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