Wayfinding in Stockholm; a study of three public buildings

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Abstract

This paper takes a closer look at navigation in public buildings and the built environment. The aim is to identify cues or wayfinding, and assess legal requirements and practise for wayfinding in this type of built environment. This paper assumes a post-occupancy perspective and discusses signage and wayfinding by analysing three types of public buildings in Stockholm.

The empirical findings were analysed per recommendations and research conclusions supplied by other architects and scholars. The analysis suggests that there are some common traits in public buildings which could be honed in on and made into rules. The research also shows the upside of a system where a set of common organisational rules could be adhered to.

Keywords

Wayfinding, human navigation, navigational systems, orientation, systemic observations, universal design

Introduction

Navigating in a new and unknown space can be a confusing and strange experience that challenges even the brightest mind. Then, add anxiety and stress to the picture, not to mention a potential disability of any type, and the mission will be even more daunting. Ultimately, the organisation of space into recognizable sections of space is part of the architectural design. Therefore, navigation in space and wayfinding is a challenge for this profession; how can we as planners, aid people in finding their way in space. In order to answer this question the most logic approach is to identify systems for wayfinding in existing buildings and built environment, and evaluate them in terms of functional or not. A working hypothesis for this paper is that there exist several undocumented rules about wayfinding that would simplify the work of architectural designers and make most buildings accessible to a broad group of users.

In order to fulfill this intention, I have taken a closer look at three public buildings and analyzed them according to what is known about human wayfinding. The buildings were visited during 20 minutes and observations were performed on how people navigate in space. These observations constituted the empirical findings of this study. In the final stage of the study, these were compared with findings by scholars in a process of validating or refuting observations.

"What are the most common rules of navigation and should they be common rules for us all to follow?"

Method

I visited three public buildings in Stockholm: Sofiahemmet, Stockholm House of Culture & City Theatre and the Stockholm city library. I decided to base this short survey on my own experience and regard the buildings as if I was a first-time visitor. I spent 20 minutes in each building exploring how the initial orientation system appears, see what I could find and what seems confusing. I wrote down some notes and took pictures to document my visits. I limited my research to the inside of the buildings.

To help me analyse my own findings I read some background texts; "The image of the city", "Brain landscape" and "Wayfinding". These books will be presented more thoroughly in the Theory section.

Theory

In Kevin Lynch's iconic work "The image of the city" he argues for the importance of Landmarks, Paths, Districts, Edges and Nodes in regard to forming our own mental maps over areas as big as cities. This theory can be broken down to partially apply to the inside of structures as well.

Eberhard writes in his book "Brain Landscape", that approaches architecture from a psychological point of view, about why symmetry and other such obvious systems of organisation can be beneficial in structures. We should make use of these second nature systems already hardwired into our brains. Symmetry is something that can help us relate to a space and understand it more intimately without having to be on intimate terms with the whole building.

> *"Humans can detect symmetry within about 0.05 second over all regions of the retina. This stimulus duration is too brief for a process based on serial eye movements or attentional comparison to be completed. This implies that human symmetry processing is a global, hard-wired activity of the brain."*
>
> Eberhard, "*Brain Landscape*"

In the book "wayfinding" there is much to read about how graphic information should be distributed inside a structure. The signs should be in one of two infobands they argue, the first one at or slightly below the eyelevel of walking people and the second closer to the ceiling/hanging signs from the ceiling. The signs closer to the ceiling can be larger with broader information whilst the ones in your eye line should be more detailed according to the book. All information relayed in in infoband2 is also supposed to be repeated in the first band, just to make the information available to everyone.

It also addresses how the signs should be laid out, discussing the size of the letters and how many items a sign should at most relay. There is also rules about spacing information in groups of three to make the signs more legible. We don't read signs the way we read books, but rather with a glancing scanning eye that searches for information more at random. Therefore the signs also needs to be placed in the right location in the building. In reliable intervals and always in important intersections or larger areas.

Result

The Stockholm city library

In many people's minds, The Stockholm city library is an important building in the city. It is an imposing building that throws a lot of information at you, so a key factor to observe is how they do that without overwhelming the visitor. When a visitor enters the building, architecture leads him or her straight ahead. The architecture of the entrance has a clear directionality which compels any visitor to move straight into the building. A play on darkness and light creates this movement: i.e. the visitor proceeds from a dark and narrow space into a large and bright room.

Dark leading to light

There is also a lot of written information, both more permanent looking signs in style with the architecture, these signs seem to be located closer to the ceiling and are attached to the building in some way. There are also larger signs with text in a smaller

size that are not attached to the walls or ceiling but are placed in the room more like objects in the space. Another thing that becomes apparent is that there are a lot of people around to ask for help. There are information desks in almost every room and what is more important there is an information desk straight ahead up the stairs.
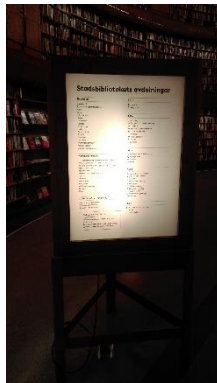
When following the stairs to the second floor, architecture gives a clear impression with a large central area with adjoining wings. There are large windows and doors which supply clear sightlines that connects you with the outside. The building gives a clear impression of being symmetrical, therefore, once the visitor has identified this pattern, the building can be easily understood.

Hard to find rooms in the wings	Sightlines that connect to the outside	Signage, object in the space	Information desk	Signage – inkeeping with the architecture

It is the flaws in the building design that make this fantastic piece of architecture difficult to understand, when the spatial organization is no longer self-explicative. Especially the space in the adjacent wings reflect this problem; there are additional rooms in the wings which are hard to perceive if you don't know that they are there. Also on the first floor beyond the cafeteria lies parts of the library and the return station for borrowed books. This is also harder to find because it is not in the primary part of the library and it is cut off from the library by putting a different program in between the connection.

Stockholm House of Culture & City Theatre
Stockholm House of Culture & City Theatre is also considered to be one of the iconic buildings in the city. The house holds many activities on several different levels but the interesting thing about the house is that the program is mainly laid out in a horizontal direction. As you enter the structure you are immediately facing a reception where you can ask someone for help. You are also facing an open plan layout, where you can see your immediate surroundings. The café to your left and the library to the right can be seen through large glass walls. In your immediate sightline when you enter is also the escalators that feel like the natural connection to the upper stories. To the left there are elevators but not as immediately evident, you must look for them.

In regards to the signage there is one board, to your left when you enter the first floor, with a vertical elevation of the building. There are also red and black signs around the escalators that guide you around the house. There are also some signs hanging from the ceiling but without any significant contribution to help human navigation in this space.

| Entrance angling towards escalator. | Vertical elevation of the building. | Open plan layout and sightlines in glass. | Signage | Information desk |

In most cases, escalators are strategically situated to guide the visitor around the structure. The problems are on the mezzanines where there are many escalators in many directions, this only adds to the larger problem which is that this level does not give the impression of being a separate floor in the building. In consequence, the visitor will be confused here. This plane is called level one and the one below (which is the second entrance level) is called level 0 and the first entrance level is called E (probably meaning entrance level or entrance), this naming system is confusing to visitors, there should probably be no level 0.

Sofiahemmet
This is a large structure with a complex floorplan, as such it has more navigational challenges therefore it must facilitate many tools to make wayfinding possible. This is a theme you find as soon as you put your foot inside the door, there are maps and plan drawings with explanations plastered all around the corridors. This is also necessary because the architecture is not guiding you in a similar way as the one found in the Stockholm City Library. Here people have worked with the space they were given to guide you. Things that are lacking are for example an information desk and a clear special directionality. The architecture is not aiding the visitor but rather other a collection of other tools. A smart trick they have used is putting carpets in strategic ways to guide the visitor. They also get an excellent signage system and of course maps to bring with them as they try to find their way.

The signage is well designed with a clear cohesive scheme, these signs all serve to help you navigate the building. The cohesive scheme makes it easily to keep an eye out for them, the signs hang from the ceiling or are mounted on the walls.

Carpets directing   Signage   Map, diagram   Sightlines inside   Signage and main corridor

There is hierarchical order in the organization of communication routes of this building, since there is only one long corridor and this corridor has a common colour theme and is very straight. It is not hard to understand where you are supposed to walk, where this main communication route turns or splits. It is clear if you are stepping off this path and moving on to one of the connecting wards. The strongest and arguably most architecturally significant aid must be the sightlines that again become apparent. Although not at all as successful as in the library the big corridors still try to keep you connected to the outside and uses sections with glass (windows to the other rooms inside as well as to the outside and glass doors to connecting buildings) to establish sightlines all around the building.

Preliminary conclusion

From these three investigations we can determine that there several ways of helping people to find their way in new places. The most commonly used is signage, but the quality varies, some signs are legible and easy to read others become messy and it can even take you plenty of time to determine what information the sign is trying to convey. Based on the three case studies, the signage should have a coherent font and in a coherent colour scheme. The signage should follow a clear logical pattern. The ceiling signs guiding you towards where you are going and the wall mounted once telling you where you are, duplicating the directions and telling you more detailed information.

Colour coding is also a helpful tool that could assist in distinguishing different parts of the buildings. In Sofiahemmet we could see different colour themes the corridors off the main communication route. This is a helpful tool, helping you to remember more easily where you have been, recognising where you are and telling you when you are transitioning into a new area. Dark areas can also help leading into lighter areas.

Other common ways in assisting people to navigate a space is by sightlines included in the architectural design. Sightlines that connects the inside of the structure to the outside can be a navigational tool because you can orient based on things outside; trees, other buildings etcetera. There are also sightlines inside the buildings, sightlines can be established by using glass so you can more easily see the functions of the space around you. The adverse of this is that some people, especially those with visual impairments sometimes can become confused and mistake the glass sections for openings.

Regarding the architectural qualities of space one of the most important tools for wayfinding is symmetry and how you angel the space. Symmetry is important and we as humans are much more prone to understanding a space if we perceive it as somewhat symmetric. This can be a great tool to use for architects that want to make their structures more legible. To the second point, I think an important thing to think about is where you angle the visitors in the space, so they can find their way. Things that are straight ahead is of course the natural thing to walk towards and is there for a strategic place to put important things for wayfinding such as receptions or information desks.

Discussion

My findings align with those of other works that discus how wayfinding can be improved we can for example see that some of the most common themes for navigation is directly applicable to Lynch's findings. The colour coding works to distinguish the different districts from each other. The landmarks are why the sightlines are important, the edges are mostly walls, nodes can be larger rooms designed to be important decision-making points wayfinding wise. The paths are of course corridors or other means of handling the flow of people moving through the building. These are the most elemental of the tools for forming our own impression of a building.

We can also recognize the similarities between the signage system in Sofiahemmet and the system talked about in *Wayfinding.* The system included a common scheme and certain places where the signs should be placed, this system was followed to success in Sofiahemmet where the informational system guiding you around the structure was close to infallible on these points.

I have been able to identify some of the most common navigational rules. They have also been backed up by already accepted material. There is much to say about wayfinding and if it is really architecture, maybe especially the signage part. I believe architects jobs very much entails knowing how the spaces we create are being perceived and used. Therefore knowing at least the basics of wayfinding will help us all, and the more architects use and think about navigation while designing the less amounts of extra things such as signs are needed. If we want to make a complete building that can function, these things need to be included in the original plans for the building. A great building is intuitive and easy to use for everyone and wayfinding

can be a big part of that. There is much signage and graphic information can do to enhance the architecture and to make spaces more relatable, and nothing can relay detailed information in the same way. I believe Arthur and Passini said it well in their subchapter on planning the architectural information system:

> *"Architecture and graphic information systems go hand in hand. The basic information about entrances, exits, the location of paths and vertical accesses, and the nature of the circulation system are all in the realm of architectural communication. Graphic information may well reinforce and describe the circulation in more detail but it can rarely effectively replace missing and misplaced architectural information."*
>
> Arthur & Passini, "*Wayfinding*"

> *"To illustrate, I return to my example of the Washington National Cathedral: within milliseconds after you enter the cathedral, interactions occur in your brain that connect memory systems (of past visits or visits to similar places) with the perceptual categorization formed by the images now being sent to your visual cortex. This connection establishes what Edelman and Tononi call primary consciousness. The neuronal groups activated by your experience thus construct a scene of the objects you are seeing, hearing, touching, and perhaps smelling that are distributed across the networks linking the thalamus and the cortex—the thalamocortical system. /.../ Your past visits to the National Cathedral (or a similar place) are linked to the perceptual experience you are having at this instant. You have used this process to construct a relationship between the past and the present that is unique to you—no one else will have memories that are identical to yours, and no one else will have established value systems that are the same as yours. This ability leads to consciousness and explains why it has been preserved during eons of evolutionary development."*
>
> Eberhard, "*Brain Landscape*"

Kevin Lynch´s theories define the most fundamental tools for forming your own mental map, these are the things that will most likely linger on in our memory. According to Eberhard these memories will later prove important to future visits to similar buildings. Thus our own ability to form mental maps and to remember similar environments are fundamental to our ability to form new impressions of our surroundings. It is impossible for us to accurately predict how other people will read a room, a building, or a city but this individual relationship to architecture, formed by our past experiences, shouldn't deter us from trying to follow/create a system for wayfinding. The more buildings and structure we encounter in our lives that follow the same rules, the more accurate our inner mental map will be, the better our subconscious can guide us around new structures. Therefore, it seems like rules for wayfinding should be defined and be implemented as a conscious choice within each new building. This will help everyone, but might be a necessary improvement for some.

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