The Dimensions of Performance Space

A Brief Anatomy of Space for a Moving Audience

Fabian Nyberg

2015

Bachelor Thesis
Supervisor: Heini Kiamiri

Aalto University
School of Arts, Design and Architecture
Department of Film, Television and Scenography
Major in Scenography
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td>Demarcation</td>
<td>7</td>
</tr>
<tr>
<td>History and Theory</td>
<td>9</td>
</tr>
<tr>
<td>Material and Method</td>
<td>12</td>
</tr>
<tr>
<td>The Three Dimensions of Performance Space</td>
<td>16</td>
</tr>
<tr>
<td>The Audience as a Part of Space</td>
<td>17</td>
</tr>
<tr>
<td>The Social Aspect</td>
<td>18</td>
</tr>
<tr>
<td>The Group Dynamics of the Audience</td>
<td>20</td>
</tr>
<tr>
<td>The Performance Space ‘An Sich’</td>
<td>23</td>
</tr>
<tr>
<td>The Fixed-feature Space</td>
<td>23</td>
</tr>
<tr>
<td>The Semifixed-feature Space</td>
<td>26</td>
</tr>
<tr>
<td>Time and Changes in Space</td>
<td>28</td>
</tr>
<tr>
<td>Light and Sound</td>
<td>30</td>
</tr>
<tr>
<td>Other Changes in Space</td>
<td>33</td>
</tr>
<tr>
<td>Reflection and Results</td>
<td>34</td>
</tr>
<tr>
<td>A Dramaturgy of Space</td>
<td>35</td>
</tr>
<tr>
<td>Conclusion</td>
<td>39</td>
</tr>
<tr>
<td>References</td>
<td>42</td>
</tr>
<tr>
<td>Literature</td>
<td>42</td>
</tr>
<tr>
<td>Performances</td>
<td>43</td>
</tr>
<tr>
<td>Appendix: Behaviour Mapping of the Demo Performance</td>
<td>44</td>
</tr>
<tr>
<td>1) The video material</td>
<td>44</td>
</tr>
<tr>
<td>2) The animation of the audience movement</td>
<td>46</td>
</tr>
<tr>
<td>3) The coding of the web application</td>
<td>48</td>
</tr>
</tbody>
</table>
This bachelor thesis work is an attempt to analyse in which ways the space can influence audience behaviour in performances where the audience is free to move in the performance space. By using an own demo performance as research material, I discuss the different aspects of performance space relating to audience behaviour. These aspects are very culture-dependent, and this text is based on a Western point of view.

My interest in this subject was raised when I saw the British theatre company Punchdrunk’s *The Drowned Man: A Hollywood Fable* in London in February 2014. The performance was situated in an old postal sorting office in four floors. The scenography was very detailed and the spectators was free to move around individually in the whole building. During the performance, I mostly roamed in the performance space and followed performers, and made only few very conscious choices.

Afterwards I started to reflect about where my impulses came from. What made me feel that some places were more interesting than others? What made me choose a direction in an intersection where I hadn’t been before? What made me leave a place and what made me stay? All these questions have slowly led to this text.

Even though *The Drowned Man* was an immersive performance, this text is not about immersive theatre. My aim is to discuss the relationship between the audience and performance space in non-traditional performances in more general terms. Therefore, the term space in this text is quite broad, and includes the social, the physical, and the temporal aspects of performance space. As main references I use texts from the discourses of environmental psychology and environmental theatre.
I think this is an important subject, because even if alternatives to traditional frontally viewed theatre has been around for quite a while, they are still very unknown to a regular audience. Already in 1981, theatre theorist and historian Arnold Aronson wrote: "Frontal staging [...] is so dominant in the Western tradition that even after nearly a century of environmental alternatives, many people still have some difficulty in accepting non-frontal scenography. The majority of theatre historians tend to dismiss environmental performances as little more than eccentric contemporary experiments."\(^1\)

Today, the main attitude towards these performances hasn’t changed much. But there are some groups, for example the already mentioned Punchdrunk, that has managed to brake through in a wider scale. Also, the interest in these kind of performances seems to grow all the time. One example of this is the popularity of the already discussed Punchdrunk. As another example one may take the Room Escape-games that are a growing form of interactive performance/installation in the form of a puzzle. These games are based on a concept of the spectators getting locked into a room and solving different puzzles to get out within a certain amount of time. This phenomenon has exploded during the past few years, and the Room Escape-games are now to be found all over the Western world. Therefore, the concept of a moving and active spectator, seems to be a concept that is here to stay and even something that is becoming mainstream.

Consequently, I think it is important for designers to start to think about space from this point of view. Although quite much has been written about different forms of environmental theatre and audience experiences, the subject about how space relates to audience behaviour has been left alone more recently.

Therefore, my aim in this text is to analyse the anatomy of space for a moving audience. I hope this text can function as a basis for potential further research in the subject both for myself and others.

---


In a traditional, frontally viewed performance, the space defines a way to experience the performance. The structure of space gives the audience a defined point of view. Therefore there can only exist experiences within certain bounds in a traditional frontal performance. Likewise, different spaces offer different relationships between the performance space and auditorium, which in turn defines different points of view and different bounds for the experience. I think this is something very important to consider as a creator, as a certain kind of relationship between the performance space and the auditorium can be more suitable for a certain performance than other ones. For example, as the director and theatre theorist Anette Arlander points out, this relationship may give the audience a clue of how to interpret the performance.³

Something that may be important to mention here is that it – especially in a shared-space performance – is easy to confuse the relationship between performer and spectator with the relationship between performance space and auditorium space. These elements might overlap in certain cases, but I think it is important to consider them different from one another, as also Anette Arlander points out.⁴

I am mainly interested in how the space can influence the spectator. The way a performer can influence a spectator through verbal or non-verbal communication is another question. The people in a space are nevertheless always a part of the space, and therefore it is hard to draw a definite line between these elements.

History and Theory

During the 20th century the interest in the spectators has widened in theatre and performance art. For example, Tuomas Laitinen mentions this in his text "Katsoja esityksen tekijänä". He notes that this may be observed for example in so called audience enrichment programs. These programs includes for example post-show discussions, and aim to engage with audiences in other ways than performances.⁵

In the essay " Näytelmien tilat" Una Chauhuri gives a short summary of the history behind this development. She points out that during the 20th century a fair amount of experiments have been made regarding the performance space and the relationship between the space and the people in it. Starting from the experiments of the dada movement, through Antonin Artaud’s Theatre of Cruelty and Bertolt Brecht’s Epic Theatre, we have arrived to the point where we are today with a broad range of different forms. As examples of these forms, Chaudhuri mentions happenings, environmental theatre, performance art and site-specific theatre.⁶

The theatre theorist and historian Arnold Aronson also discusses the experiments Chaudhuri mentions. He points out that they “had one significant thing in common: all the experimental forms were conscious attempts to alter the spectator’s relationship to the performance.”⁷

Today the interest in giving audiences experiences that varies from the traditional forms can also be observed in the works of immersive theatre companies such as Punchdrunk and Shunt. In his essay "On Immersive Theatre” Gareth White defines the term "immersive" as "a widely adopted term to designate a trend for performances

³ Arlander, 1998, pp. 16-17
⁴ Arlander, 1998, p. 13
⁷ Aronson, 1981, p. 29
which use installations and expansive environments, which have mobile audiences, and which invite audience participation." These performances aim to give the audience a feeling of being inside the fictional world and to give every spectator an unique experience. For example, in an interview with Josephine Machon, Punchdrunk’s director Felix Barrett explains that “the audience have to make physical decisions and choices, and in doing that they make some sort of pact with the piece”.

As one theoretical reference for this text I use Arnold Aronson’s *History and Theory of Environmental theatre*. Aronson draws a line between frontal and non-frontal performances. In frontal performances the auditorium is facing the stage as it is in traditional theatre architecture today. In frontal performances the spectators are statically positioned and do not have to turn their heads very much in order to experience the performance. A non-frontal performance can require the spectators to turn around of to move around in the performance space, depending on the performance.

Another reference is Anette Arlander’s doctoral dissertation *Esitystila*. Arlander’s work is based on Aronson’s book, and has had an important role in the context of Finnish theatre theory. In Arlander’s discussion about Aronson, she points out that the focus of the spectator is not given in a non-frontal performance. Instead, the spectator is forced to choose what to experience. She notes that this can be achieved either through simultaneous action in multiple places or by placing the spectator in the middle of the set.

To discuss how the audience relates to performance space I will use theories from environmental psychology, with Liisa Horelli’s book *Ympäristöpsykologia* as a main reference. Environmental psychology is an interdisciplinary discourse which explores physical and social environments in relation to human behaviour. As an interdisciplinary discourse environmental psychology has its roots in behavioural sciences, sociology, anthropology, ecology and geography.

In environmental psychology humans are considered as a part of the environment as well as the environment as a part of human beings. We constantly communicate with our environment and we use the environment to communicate with each other. The environment is loaded with structures and semiotical signs that we are constantly interpreting both consciously and unconsciously. We also alter our environment, for example by moving things around. A big part of this is happening very automatically. Horelli points out that the effect of the environment may often be so hidden, that even behavioural scientists might occasionally overlook its existence.

As another reference I use the anthropologist Edward Halls book *The Hidden Dimension*. Horelli explains that Hall’s research about the human relationship to space as well as use of space in a social context is an important branch of environmental psychology. Halls term for this is proxemics. Halls proxemics defines three main aspects of space: fixed-feature space, semifixed-feature space and informal space. Fixed-feature space includes the structure of space – the architecture of a building or in a bigger scale the zoning of a city. Semifixed-feature space includes for example the furniture of a room and other things that may be altered in the fixed-feature space. The informal space refers to the distances between human beings in space.

Of these aspects of space, the informal space is the single most important for our perception of space. To give an example: an elevator may be experienced as a private space if you happen to be in it alone, but if it is loaded with people you don’t know the experience can be very tense.

---

11 Arlander, 1998, p. 35
13 Horelli, 1981, p. 40
14 Horelli, 1981, p. 21
Material and Method

As reference material I use a demo performance I made in December 2014 particularly in research purposes for this text. In the performance, that did not include any performers, the audience was free to move in the performance space.

The demo performance was built in two classrooms. Each one of these rooms had a door leading to the corridor. There was also a third door that connected the rooms. Using molton fabric I had divided the rooms into smaller parts, resulting in a small-scale labyrinthical space. This environment was filled with a quite detailed scenography.

The duration of the performance was 20 minutes. During this time there were changes in space, mainly through light and sound. There were five shows of the performance. Every show had an audience of up to ten spectators. The different audience groups entered the performance space in different ways. Otherwise the performance and the changes in space were the same each time. Because the performance did not include any actual performers I was able to observe the spectators relation to the performance space more purely than in a performance including performers.

Afterwards I analysed the audience behaviour in the shows. My method resembles a method called ‘behaviour mapping’ in environmental psychology. As the name implies, behaviour mapping is a method where the behaviour of people in space is observed and mapped for example visually. This method is used to map how different places in space relates to different behavioural patterns.16

I recorded the performance with five cameras. In my analysis of the video material I made a map of the performance space where I marked the spectators lines of movement as well as the places where the spectators had stopped during the performance. I then made a web application in which I was able compare behavioural patterns from different performances with each other. A closer description of the method can be found in appendix 1.

There were three main questions which the demo performance was based on. 1) How does the different way the audiences enter the performance space influence their behaviour and can any conclusions relating to this be drawn? 2) Are there any similarities in the behavioural patterns of the different audiences (even though they have entered in different ways)? 3) How do the audience members influence one another?

In addition to these questions I tried to influence the audience spatially in different ways. Firstly, I wanted to force the spectators to make choices. The labyrinthical design was based on this. As it was impossible to see into every part of the room at once, the intersections between different parts of the room would force audience members to choose to stay or to choose a direction to go. Secondly, I wanted to see if certain changes in the performance space would lead to certain behaviour. In the demo performance this was tested out mainly through changes in lighting and in sound.

16 Horelli, 1981, p. 19
Figure: 3D-model of the demo performance space and photographs from the actual space.
Arlander, in turn, talks about the performance space as a physical and mental space, that in its simplest form is based on the fact that everything happens in the same space.\textsuperscript{19}

In the following chapters I try to analyse the performance space and point out some important aspects of the spatial experience of a performance. This will include the social, the physical, and the temporal aspects of performance space. To do this I use the demo performance as an example.

### The Audience as a Part of Space

When placing the audience in the same space as the performers, the spatial experience changes. For example, the concept of visuality becomes another. Arlander notes that the visual experience in a unified space may reduce the visual experience if the spectator thinks of visuality as stage pictures. If the spectator, on the other hand, thinks of visuality as a spatial and three-dimensional it will increase the experience of visuality.\textsuperscript{20}

As Arlander’s example shows, the experience is therefore a matter of personal preferences and expectations of the situation. For example, Arlander says that she often has better experiences from performances where she in some way is physically a part of the performance world, than from performances where she is not.\textsuperscript{21}

As much as the expectations of the performance will influence the experience, the performance will also slowly form new expectations and even social rules. This happens in the audience as a whole, through group dynamics and social processes. In this chapter I will discuss this with the help of environmental psychology.
The Social Aspect

The social conventions of the theatre event are something everyone can relate to. In her thesis, *Tilan koreografi ja valon materiaalisuus teoksessa Sateenkaari maailmanlappu*, Aino Koski explains how the performance event leads us into a certain behavioural pattern. As audience members we are looking for some kind of auditorium and if there is none it may lead to an insecure feeling about how to behave.22

Horelli explains these social patterns that relates to certain spaces. She illustrates it with the following diagram that is based on Canter, 1977;23

![Diagram](image)

*Figure: The self-fulfilling conceptual system relating to a place (“Paikkaa koskevan käsitejärjestelmän itsensätoetettavuus”).*

This model applies to traditional theatre experiences. If we have been to the theatre before, we have seen how to behave, we expect that kind of behaviour and act according to the expectations. This model gets interesting when we consider performances that breaks the traditional patterns. In non-traditional performances new rules are in some way established during the performance. In this sense a new space with its own behavioural patterns is established.

Another way to think about this is in terms of the social agreement in a traditional frontal performance. If you think about it, per se it is not very natural for people to sit side by side with strangers in a semi-dark room as we do in an auditorium. It is the social agreement that makes the situation natural. It can be compared to the social agreement between the waiter and the customers in a restaurant. The waiter can come very close to a customer – maybe even put his or her armpit right by the customers face while serving – and still be nearly invisible to the people sitting around the table. These are merely social agreements.

When breaking the traditional duality between stage and auditorium the performance also breaks one social agreement. This makes the audience members more aware of each other, because they have to make an effort in understanding the social situation. The situation socially starts to resemble an everyday life situation where a group people of who do not know each other are together in a new environment.

Consequently, the behaviour in a space is not only defined by the space itself, but also by the expectations relating to it. Therefore the behaviour in a certain space is a mirroring of other peoples behaviour there. In a performance that breaks the traditional patterns, the new rules are established inside the audience as a group. The creators of the performance can influence this process by inviting to different kinds of behaviour, but the rules can exist only if they are accepted and acted out by the audience as a group.

---

23 Horelli, 1981, p. 87
The third phase, which every group did not advance to during the time of the performance, was a phase where the group would start to function as a whole. There were two groups that reached this phase. These groups consisted almost entirely of people that knew each other from before, which is quite unusual in a bigger production. This led them to go through the first two phases much quicker than the rest of the groups, and in the end of the performance they started functioning as a whole. One of the groups played with the hay that lied on the floor in one of the spaces. The other group quite spontaneously sat down in the hay and held each others hands.

The amount of spectators as well as the size of space quite naturally defines how long it takes for the audience to move from one phase to another. A smaller amount of spectators makes it easier to grasp the group as a whole, while a bigger audience makes this harder. Arlander notes that a performance where the intention is to give an individual experience to a small audience, often strengthens the sense of community in the audience.

In a smaller space the spectators are closer to each other, while a bigger space scatters them. Punchdrunk’s *The Drowned Man* is a good example of how a big space (in this case four floors) and a big audience (in this case many hundred people) can make it impossible to reach the third phase. If one is aware of this phenomenon, it is therefore also possible to use it to build the kind of experience intended.

In addition to this it is interesting to think about the behaviour of the spectators in particular situations. In the material from the demo performance I often found situations where a person left a place when someone else arrived. This is an example of how we move in relation to each other. For example, it is considered polite to make room for other spectators either by going away or by taking a step back.

The most important factor that influences the behaviour of a spectator is consequently the behaviour of the rest of the audience. Edward Hall also concludes that the informal space (the spatial relation between people in a space) is the most significant factor that defines our behaviour in a space. This means that, for example, if the first person who enters a room chooses to sit down, it is more probable that also the second one sits down.

In a sense, the audience members therefore become performers, as the spectators will be aware of and behave in relation to the rest of the audience. Aronson gives an example of this while discussing amusement park environments. He points out that in almost any amusement environment, the crowd is perceived as a part of the experience. They become both a part of the decor and even actual performers.

The Group Dynamics of the Audience

In the demo performance I analysed how the spectators were moving in relation to each other. The structure of the performance was the same every time. The only difference was that the different audiences entered the performance space through different doors and in different ways – either as a group or with a little interval between the spectators. This way I was able to analyse the way of entering the performance space affected the behaviour.

Based on the material it is clear that every group went through the same phases. First the spectators explored the room and their relation to the rest of the audience. Second they started taking more initiatives – mainly touching and moving things, but also in some rare cases talking to each other.

---

24 Hall, 1990, pp. 111-112
25 Aronson, 1981, p. 27
26 Arlander, 1998, p. 49
If a person chose to stay even if someone else arrived, it often made other spectators curious because two people were looking at the same thing. This in turn often led to more spectators joining them. This behaviour was more common when a bit of the performance had passed, and the spectators already were familiar with the space.

These examples from the demo performance shows some quite simple mechanics of how a spectators behaviour relates to the audience as a whole. This question could be broadened much more, but because of its complexity that would require another discussion.

One of Horellis examples illustrates how the space can influence a group. She gives an example of the vestibules in kindergartens, which are often too small, regarding the big amount of children. If there is a bench, the children start to compete for it. Therefore, the lack of space leads to conflict between the children.27

This example is not directly transferable to the audience of a performance, but it is close enough for discussing the matter. The same kind of competition between spectators was for example observable in The Drowned Man. I especially remember a situation where I had wandered around in empty rooms for a while. Suddenly, in a corridor, an actor was walking towards me in a fast pace. When I saw that he was followed by a bunch of spectators that desperately tried to keep up with him and to get in front, I let the actor pass me, turned around and followed him. In some quite primal way this made me feel I had won some kind of competition.

Another important point in Horellis example is that the structure of space in fact leads to the conflict situation. The key factor is the lack of space. In the example from The Drowned Man it is the corridor that makes the situation a race – there is no shortcuts in space, only one long corridor that everyone has to go through in order to follow the actor.

Through the shape of the space it is therefore possible to make a kind of a mould for the spectators experience of the performance. We just have to understand the ways it works. In the following chapter I will discuss this further.

The Performance Space ‘An Sich’

In this chapter I will discuss how the physical shape of the space can influence the experience of a performance and the behaviour in the performance space. I will discuss this through Edward Hall’s division of space into fixed-feature space and semifixed-feature space.

In a performance the fixed-feature space includes the architectonic shape of the performance space, but also the more fixed-features of the scenography. The semifixed-feature space includes the movable parts of the scenography and the props.

My intention is to show that the physical shape of the space is a very defining part of the performance experience. I also reflect about how space can affect the behaviour of spectators in different ways.

The Fixed-feature Space

Firstly, I think it is important to keep in mind what I already discussed in the last chapter. Because the audience in a non-traditional performance enters a space and a situation that is not clearly defined, their situation is comparable with a child that has not yet learned the rules of society. Horelli takes an example of a child who stands by a busy road with a playground on the other side of the road. The child wants to go to the playground, but as been warned about crossing big streets alone. Therefore the child is in a situation of inner conflict.28

27 Horelli, 1981, pp. 41-42
28 Horelli, 1981, p. 42
The inner conflict of the child is comparable to the conflict situation a spectator may experience in the beginning of a performance, before he or she has learned the rules of the performance and of its space. This conflict may be either strengthened or weakened by the shape of space. In the same way a walking bridge over the busy road would help the child in the example, there can be physical structures in the performance space, which can help the spectators.

Horelli gives another example of how labyrinthical and open spaces influence the behaviour in different ways. She describes a situation where a court house in Los Angeles was torn down and replaced with a new one. In the new house the cases were solved much slower than in the old one, even though the new house had a more open design that was thought to make the work more efficient than in the old house that had been a labyrinthical building with small rooms and corridors in every direction. The situation was analysed, and it became clear that the old architecture had offered places for the parties in cases to discuss their matters in private. This was a feature the new architecture lacked. Therefore the discussions that in the old building had happened outside the actual court room were now discussed inside the court room, which made the sessions much longer.\footnote{Horelli, 1981, p. 16}

This is a good example of how labyrinthical spaces and open spaces makes us behave differently. At the same time it is a good example of how unpredictable the behavioural patterns can be, and how much knowledge would be required in order to design a space that functions as intended.

In shared-space performances, the audience experiences the performance world from the inside. As Aronson points out when presenting the ideas of the architect and designer Frederick Kiesler, the proscenium stage does not allow the spectators to experience the space within it.\footnote{Aronson, 1981, p. 45} This changes when the performance space and auditorium are unified in one space, and the spectators experiences the space from the same position as the performers.

Although the positions of the performers and the spectators are the same, this unified space can contain temporary performance areas, as Arlander points out. She adds that this essentially demands an open space.\footnote{Arlander, 1998, p. 37} However, I don’t think this is always the case. In a plot-based play, it may be more functional with an open space. But as the form of \textit{The Drowned Man} shows, the temporary performance areas can also work very well in a labyrinthical space.

From the material from the demo performance some additional conclusions can be drawn on how the fixed-feature space influences behaviour. The material shows that intersections made people stop and think of where to go, or simply stop and observe. This behaviour is probably a consequence of that the intersection gives a good overview of many directions. Especially the space by the door between the rooms was a popular place to stop, and it was also the only place in the performance space offering a view into five different parts of the space (see figure on page 26).

From this, I would like to draw the conclusion, that open spaces that offers a good overview leads to less movement. Less overview, on the other hand, leads to more movement. The audience has come to see the performance, and if given the opportunity to move they will naturally seek a place where they can see well.

In a performance with actual performers, the performers get much more attention than space. The way the performers move in the space can therefore either strengthen or weaken the way the space influences the audience. If the performers, for example, mostly uses the same part of the space a quite static position of the audience will
The Three Dimensions of Performance Space

of it, we automatically choose to sit down in the chair in front of the desk (if the desk does not happen to be our own). Our everyday life is filled with this type of conventions.\(^\text{32}\)

These are good examples of how semifixed-feature space influence our behaviour. Edward Hall also verifies this. In *The Hidden Dimension* he summarizes the results of a test made in a hospital where the arrangement of the furniture was in direct correlation to how much people read and talked to each other.\(^\text{33}\)

The way to behave in different semifixed-feature spaces is culture-dependent. The rules of a performance are always different from the rules of everyday life. It is important to remember that the spectator’s relation to the semifixed-feature space therefore is different in a performance than in everyday life. For example, the examples that Koski gives are not necessarily applicable to a performance situation. Therefore, designing a functional performance space (with audience behaviour in mind) may be even more complicated than designing functional everyday life space.

Regardless how difficult this can be, the key is what the semifixed-feature space offers in terms of behaviour and spectating. If the space for example is an open, minimalistic space with no places to sit, it will probably lead to very little movement and a quite static being in the space. If the space on the other hand is filled with details and offers places to sit and maybe even to lay down, the behaviour will be more diverse, more exploring and will probably lead to more interaction and movement.

An example from the demo performance shows that the amount of detail in the space influences the behaviour. In the demo performance the amount of detail correlated to the amount of time spent in a room. I had made one room more detailed than the others, and the tendency

---

\(^{32}\) Koski, 2012, pp. 38-39

\(^{33}\) Hall, 1990, pp. 108-110
was to stay there longer. Some spectators stayed there even several minutes at once, which is quite much in relation to the performance duration of twenty minutes.

Another question is how the semifixed-feature space can invite to interaction between the spectators and the performance space. In the demo performance the spectators often touched smaller objects and objects that seemed like they were meant to touch. For example almost everyone read a bit of the Woyzeck-scripts left on one table, quite many were interested in a flip chart in one room, objects that were piled were often lifted to see what was underneath. Many spectators were also interested in the tools in one room, and some tried if an electric drill worked or not. A refrigerator with some beer led many to touch the beer cans, and some spectators to take a beer to drink.

It seems that people feel that it is more allowed to interact with smaller objects and details than with bigger ones. In the demo performance bigger objects were left alone – for example no furniture was moved. Nonetheless, the question about interaction is very complex. It depends much on the rules of the performance and the social community of the audience (as discussed above).

Time and Changes in Space

Together with the fixed-feature space, the semifixed-feature space forms the atmosphere and mood of the space. Some of these features – for example light and sound – may change several times during a performance. When these features change, the atmosphere changes with them. In this way, the changes in the semifixed-feature space is a very defining part of how we experience the space and how we behave in it.

Also the amount of time spent in the space influences the experience of space and the behaviour in it. As the space becomes more familiar, the experience changes. In the demo performance this clearly affected the behaviour. The spectators moved slower and more carefully in the beginning of the performance than later on. In the beginning the spectators also stopped less and for a shorter time before they moved on.

The urge of the spectator in the beginning of a performance is to form a picture of the performance as a whole, the space, and the social situation. Later on, when these aspects becomes clear, the focus shifts to the details and the behaviour becomes more confident. Therefore the stops also lengthens.

The exploring of the space and all its aspects starts from the place a person enters a room and widens from there until the person has managed to get a picture of the performance as a whole. This becomes clear when comparing the movement patterns in the first and fourth show. In both shows the audience entered the performance space as a group, but they entered from different doors in the different shows. When looking at the first four respectively three minutes of the shows, the spectators are almost solely exploring the room in which they entered. When comparing to the next four respectively three minutes of the shows, the relation has almost changed to the opposite (see figures on page 30 and 31). The difference in time between the audiences might be explained either by the dynamics of the groups, or by the spatial differences in the two rooms. Because the entrance point defines the order in which the space is experienced, it also means that the dramaturgy of the performance experience is defined by the entrance point.
Light and Sound

The most common changes in performances are changes in light and sound. These are important for the atmosphere and for the experience of space. Therefore they play a big part in the dramaturgy of space during a performance. They also physically affect the way spectators move and behave in the performance space.

Arnold Aronson also mentions light when he discusses amusement park environments. He points out that light is "one of the most effective instruments for the transformation of space and the control and creation of environment or localized space". He also notes that a light place experienced from within will make the dark surroundings invisible, while experienced from the outside it defines a certain place. Because of these features of light, the ways the lighting is arranged and the changes in light will also influence behaviour.

An example from the demo performance shows how light can affect the movement of the spectators. In darker rooms the spectators moved more carefully than in lighter ones. The materials of the floors then strengthened these behavioural patterns. In one room, for example, the floor was covered with dried peas, which made the floor quite slippery. When this room was dark it made the spectators extremely careful in their movements.

Over all, the tendency seemed to be that spectators were led by the light. Darker rooms were avoided and more time was spent in lighter rooms. In the end of the performance I tried this out by fading out
the lights in all the rooms but one. This led to about three quarters of all the spectators ending the performance there. Based on this, it may be concluded that light has a great power in guiding audience movement in the performance space.

As the fading of the light in the end of the performance was quite subtle, it also worked in a quite subtle way. There were not a defined moment for the spectators to move to the room that was lit in the end. They moved there gradually one by one.

More cutting lighting changes, on the other hand had a more immediate effect. The best example of this is one room that had been quite dark the first eight minutes of the performance and then suddenly lit up with blinking lights. This lighting change caught the attention of many spectators quite fast and they gathered there to see what was going on.

The sound equipment I used only allowed me to play the same sound from all the speakers, and not to play different sounds from different speakers. Therefore I could not, unfortunately, test how the direction of sound would influence audience movement.

Regardless of this, there were some moments where people in the audience caused sounds by interacting with the objects in the performance space. This draw the attention of other spectators to them, and someones even rushed from one room to another to see what was going on. I think this shows quite clearly how the direction of sound can draw attention and cause movement and change in the behavioural pattern.

The material also shows that the soundscape can influence for example the pace of audience movement. For example the sound in beginning of the performance was ambient and lacked any rhythm. The next part of the soundscape had an upbeat rhythm, which made people move faster compared to the beginning. In the end, when the soundscape changed to melancholic music, the opposite happened – the spectators started to move slower. This shows that the contents of the soundscape can be very important in defining the pace of movement.

Other Changes in Space

Changes in space can be very powerful in defining audience behaviour. For example, if a door that has been closed opens during the performance, it is quite probable that people want to go there, as long as they know about the change.

In the demo performance I was able to test how some smaller changes in space affected the audience. For example, on a table I had placed a fan blew on a pile of papers and consequently made the papers drop from the table. This draw some attention to the papers, and some spectators came to look at what was happening and then reading the text on the papers.

Another small-scale spatial change in the demo performance was a bottle of shaving cream from which the cream flowed out slowly during the performance. This drew the attention of almost all of the spectators at some point of the performance, and some people watched the shaving cream flowing out for quite a long time before continuing.

In a bigger scale Punchdrunk’s The Drowned Man works as a good example of how spatial changes can draw attention and consequently affect the behaviour of the spectators. For example, there was a bar that opened about an hour in, which interested many spectators once it opened.

Because the performance space in The Drowned Man was so big and there were happening several scenes at once in different floors and places, it was also common that some places had changed after a scene when arriving there again after a while. It was extremely interesting to try to figure out what had happened there by just observing the changes in space.
Reflection and Results

Based on the discussion above, some conclusions may be drawn about the dramaturgy of space and the influence it has on the audience. As the environmental psychology shows, the way people are in a space defines the experience in it. A traditional frontal performance can only offer experiences within certain bounds. The variations inside these bounds are endless, but the bounds exist.

By changing the way the auditorium works we can move the bounds for the ways the performance may be experienced. For example, by allowing audience movement, it will not only change the audiovisual experience of the performance, but also make the experience more kinetic.

The quality of the performance is therefore defined by the position of the audience. The way the auditorium is arranged can even change the whole question about dramaturgy in a performance. For example the dramaturgy in Punchdrunk’s *The Drowned Man* cannot be discussed in traditional ways, as every spectator affects the dramaturgy of his or her personal experience by moving around and choosing what to experience next.

What tools and questions does the creators of the audience have to consider in order to design a functional performance for a moving audience? In this chapter I will try to answer these questions and discuss them from the creators point of view.

A Dramaturgy of Space

When we make the performance more three-dimensional by placing the action around the audience, or in any way make the audience an important part of the performance space, it changes the way we have to think about space. For example, we have to consider questions that we don’t have to consider making a frontally viewed performance.

A big difference is that we have to consider how the audience will move in space in order to reach the intended results of the performance. This means we will have to consider how the space can guide the audience and what patterns of movement the space will offer the spectators. Also, the focus shifts from a two-dimensional visual composition to a three-dimensional composition for all the senses. We cannot think about space as pictures that are to be viewed from one static position. The space has to be considered a place to be experienced and used.

As it is impossible to fully predict the movement of the audience as it always is depending on the audience as a group, the design process will have to include a lot of scenario-thinking. What will it mean if someone chooses to do this? What if someone chooses to do that? As it is impossible to have a test audience on every rehearsal, the creators will heavily have to rely on their intuition and imagination.

When working with performances that breaks the conventional relationship between performance space and auditorium one has to consider the potential feelings it may lead to. For example breaking the convention can lead to a insecure feeling because the social situation is new. This may lead to unexpected behaviour if it is not considered by the creators.
Also, the convention leads the spectators to search for an auditorium or at least for a position to view the performance from. If such a position is found, it can be almost impossible to get the spectators to move from there on their own initiative, because this may feel as improper behaviour, as Aino Koski points out. Therefore, I think one key to get the spectators moving in space is to design the space so that it will keep the spectators in the mode of searching for a viewing position so long that the searching itself starts to feel as the correct way to experience the performance. Practically, this means that there can be no structures in the room that reminds us of an auditorium and makes us go there. For example – if there are places to sit, they have to be scattered enough.

Here, I will go through the different aspects I have found, and discuss the tools we can use when designing a performance for a moving audience. These tools can be summarized as the following: 1) The structure of the space and the entrances, 2) The atmosphere and the semifixed-feature space, 3) The rules of the performance, 4) Building conflicts between the space and the audience.

1) The structure of space and the entrances. The structure of space correlates to the movement of the audience. For example, an open-structured space where it is possible to see everything from one position invites to less movement than a labyrinthical space where the position has to be changed in order to see everything.

The entrance point of the audience will define the spatial dramaturgy for the audience. If they are not guided otherwise, spectators are likely to start exploring the space from the point they enter the space. Therefore order in which a spectator experiences different parts of the performance space is defined by the entrance point. If the intention is to make the experience more individual it can also be a good idea to scatter the audience from the beginning.

Punchdrunk thinks about the entrance point as a decompression chamber before entering the world of the performance. They also intentionally scatter spectators around the performance space from the beginning of the performance. In The Drowned Man this was done by letting the audience enter the actual performance space through freight elevators. The capacity of the elevators was about 15 spectators at a time. The spectators were then let out from the elevator in different floors in even smaller groups.

2) The atmosphere and the semifixed-feature space. By manipulating the main atmosphere of the performance space – for example by sound and light – it is possible to influence the behaviour of the audience. If the space for example is dark and creepy, it will affect the movement in a different way than if the space is warm and welcoming.

The way the semifixed-feature space is arranged will affect the way people behave in space. The rules are different in a performance situation than in everyday life, because the cultural and social conventions of performance space are different from everyday life spaces.

When the performance space is shared by both the performers and the audience, there will always be a question about whether an object is meant to be used by the performers, by the spectators or perhaps by both. This is something to be researched further, but perhaps one could imagine that if it becomes clear that something is meant to be used by the audience, the everyday life rules will start to apply.

35 Koski, 2012, p. 39

36 Machon, 2011, p. 91
The amount of detail in the performance space will also affect the way the spectators behave there. A space filled with detail will, for example, keep the spectators occupied with exploring them longer than a space with little detail.

Changes in space will also draw attention. It would be possible to imagine a performance that consists only of changes in space. In this sense, the space itself could become the main performer in a performance.

3) **The rules of the performance.** The rules of the performance are a social agreement that is made during a show. The features of space itself can teach the audience how to behave during the performance. Therefore the space can be one of the factors that forms the social agreement. This could be compared to how a video game teaches the player to play the game. Good games are often built up so that the player does not have to read any instructions before playing the game. The learning happens in the game itself.

This may be compared to how the audience learns the rules of the performance. Some instructions can be given for example through a performer, but another way is to let the structure of the space guide the audience into the rules. By building a space that clearly shows how it is to be used, the rules can be communicated to the audience very seamlessly.

After the audience has learned the rules of the performance, there are other factors that has to be considered. After learning the rules the spectators becomes more confident, and their behaviour gradually change. When the spectators becomes more confident, they will be more likely to take initiatives if that is allowed.

If the rules are changed during the performance, the audience needs the proper guidance into the new rules as well. For example if it is intended that the audience is free to move in one part, and gathered as a group in another, one has to remember that the audience knows as little about the new rules as they did in the beginning.

4) **Building conflicts between the space and the audience.** When designing spaces for everyday life use, Horelli points out that the goal often is to design a space that is optimal for its users. This may not always be the best way to design a performance space. Some degree of conflict is always welcome in a performance, and the design of space can help to raise such conflict.

For example, regarding audience movement, in some cases it can be interesting to place the audience in too small spaces. This will lead to an urge to move away and seek a better place to experience the performance from.

Therefore, it is always worth to consider designing a space that in a way can be a little non-functional. This can lead to interesting conflict between characters, among the audience or an inner conflict in a spectator.

**Conclusion**

As I mentioned in the beginning of this text, the performing arts have become more and more interested in the audience experience. From the audience point of view the interest in these kind of performances seems to grow all the time. For example, the popularity of immersive theatre performances as *The Drowned Man*, or immersive spatial experiences like the Room Escape-games, shows that this is the case. Consequently, the idea of the active spectator becomes more common all the time.

---

37 Horelli, 1981, p. 29
Personally, I often feel frustrated about the fact that my spectating becomes passive when I sit down in a chair in a dark auditorium. It is somehow amusing to think about how Wagner switched off the auditorium lights in order to make the audience more aware of what was happening on the stage. It feels that the effect Wagner intended has worn off during the years. Today the passivity of the spectator only gives him or her the opportunity to drift off.

Also, using one of Aronson’s examples, the much used approach of moving some of the action into the auditorium in traditional theatre buildings, is nowadays a cliché that almost never works. In its own time it was yet perceived as a radical approach.\textsuperscript{38} In this manner many old approaches are slowly worn out, and in order to achieve new experiences we also have to think in ways that fits our time and society.

For a performance maker, and especially scenographers, this is an interesting opportunity to create performances which focus lies in the space itself. I feel that the demo performance that has been the base for this text is just the beginning of a journey, that could be very long.

I think the results I got from the demo performance very well may be used in the work with performances for a moving audience. Maybe the most important result for me is that everything I had planned for the demo performance worked surprisingly well. I think we often overlook the effect the space can have on the behaviour, and some guidelines regarding this are good to have.

Through the work with this text, I feel like I have arrived to a point, which – at least for me – has made the question about how space relates to audience behaviour much clearer. Consequently, if we really start to think about the ways the space can affect the audience – or the performers, for that matter – and start to trust the fact that it really does, we get a whole new toolset to work with as scenographers.

Therefore, if we forget about the conventions that are attached to the performance space, and we start to think about performances with space as a starting point, I think we can come up with new concepts of performance and build new experiences for our audiences. I think there will always be room for traditional frontal performances. But in an era of easily accessible movies and two-dimensional visual material, there is also need for real spatial experiences. And the more we understand about space and spatial experience, the more we will be able to fill that need.

\textsuperscript{38} Aronson, 1981, p. 30
References

Literature


Performances


Appendix: Behaviour Mapping of the Demo Performance

The process of analysing the demo performance was made in a bunch of steps. In this appendix I describe the technical process of the work.

I recorded the shows with five cameras, synced the material, manually animated the movement of each spectator on a floor plan of the space in Adobe After Effects. Then I transferred the data into a web application I coded myself. The analysis is based on the video material itself, the animations of the movement, and the web application. I will describe each step of this process technically.

1) The video material

The cameras were situated so that they covered almost all corners of the space (see figure).

I transferred and synced the video material from each show into one video file, so that I had the material from all the cameras on one screen (see figure).
2) The animation of the audience movement

Based on the video files, I manually transferred the movement and the stops of each spectator to a plan of the performance space (see figures). I also added the lighting changes to the animated video files.
3) The coding of the web application

After I had animated the movement of the spectators in After Effects, I exported the coordinates of each spectator to a text file (see figure).

I then wrote a code in PHP that read the text files and wrote out a dot for stops and a line for movement based on the coordinates. The code also read the duration of the stops, and had an option to scale the dots depending on the duration.

I then coded some tools for the app. For each show, there were options for making the material visible or invisible, changing the colour, and changing the opacity of the lines and dots. There were also sliders that affected all the shows. There were one slider for choosing what part of the performance was shown, one slider for the minimum amount of time of a stop shown, and one slider for the scale of the dots. There was also an option to show all the dots the same size.

![Figures: A screenshot of the PHP-code in Adobe Dreamweaver (left) and a screenshot of one of the text files with the movement coordinates (right).]
Figure: A screenshot of the functioning web application. In the picture, the application shows the movement patterns from all the shows from 9:05 minutes to 15:05 minutes. The different shows are shown in different colors. The dots that represent stops are scaled in relation to the length of the stop.