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LYING ARCHITECTURE: EXPERIENCING SPACE FROM A HOSPITAL BED

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ABSTRACT
Patients experience a hospital from a particular perspective—lying in a hospital bed—which is highly under researched. To gain a better understanding of the spatial experience from this perspective, we combined a literature review with exploratory fieldwork and in-depth interviews with various stakeholders. Through qualitative data analyses, three major themes were identified that characterize this perspective: a hospital bed is a material object; it has a social dimension; and it is used to move a patient through the building. The combination of these three aspects suggests that the perspective of lying in a hospital bed, with its implications for social interaction and movement, may give important new insights in how hospital buildings could be designed.

Keywords
bed, building, hospital, lying, well-being

INTRODUCTION
Despite many efforts by healthcare providers, for most people a hospital stay is rarely a pleasant experience. The hospital building as such is part of this perception. Moreover, the specific situation of a hospital stay is largely determined by the building setup and materialization of the organization. Once you are admitted to a hospital your perspective changes completely. A bed is assigned to you and you turn from a visitor into a hospital patient [1]. The influence of patients' lying perspective on their well-being is largely under researched. By developing a profound understanding of the relationship between the patient, the objects that take part in his/her hospital life—especially the bed—and the building, we hope to enable architects to design an environment that adds to the healing character of the hospital building. The overall objective of our research is therefore to investigate what spatial aspects influence patients' well-being in a hospital setting through an improved understanding of people's spatial experience from a lying perspective. Ultimately, we aim to provide architects with sufficient evidence to design healthcare buildings that anticipate the needs of patients and other users.

This paper starts with a literature review which identifies three main themes: Evidence Based Design (EBD), how people experience the built environment, and the lying perspective. Findings from the literature review are confronted with the results of explorative fieldwork and in-depth interviews with different stakeholders. Based on the data analyses new themes are identified to develop a better understanding of the role of the bed in the hospital. By making this role explicit from a physical, psychological and sociological perspective, the spatial aspects that interact with the use of the building come forward. These aspects, observed from a hospital bed, may be of great importance to improve a patient's' well-being. A hospital is not limited to the patient room, neither is our study. We follow the patient with his/her bed wherever (s)he moves at whatever time.

LITERATURE REVIEW
Evidence Based Design of Health Care Buildings
In the literature about healing or wholesome environments Evidence Based Design (EBD) is an important concept that found its origin in the analogy with other evidence-based approaches to research and practice. When it comes to buildings for health care especially Evidence Based Medicine was a source of inspiration.

Since the late 1970's, mainly in the U.S., various studies about the spatial experience of health care buildings were conducted. However, it took until the mid 1980's before scientifically validated research came up with evidence for the beneficial influence of green [2] and views from a hospital window [3]. In the following years, the Center for Health Design was established. Since 1993, this non-profit organization collects and finances research about the qualities of care buildings. In 1998, a study was published based on the available literature at that time where 20 variables and their clinical outcomes were collected and evaluated in terms of the validity of their conclusions [4]. During the next decade, every few years a new report was published, collecting and analyzing studies from the last years [5-8]. All reports have a threefold objective: providing a literature overview, analyzing and criticizing the methodological rigour, and indicating how architects or other designers could use the results in practice. All of them come to a similar conclusion. Only very few studies result in clear clinical evidence and stand up to the methodological evaluation. Those that meet both criteria focus on perfectly measurable, quantitative data, such as daylight and fresh air (ventilation). Since both the research approaches and the results are so heterogeneous, it seems very hard to come up with concrete design guidelines [7][8].

Despite all efforts made in the past decades, the conclusions of the various studies are invariable: the research is not ready to hand architects what they need to start designing an evidence based building. The scientifically valuable, experimental studies cannot readily be generalized to complex, real-life settings. Moreover, they typically focus on a selection of isolated features. It is necessary that future research includes not only clinical but also non-clinical evidence [6]. However the collection of this non-clinical evidence requires a more general understanding of hospital architecture is experienced.

Experiencing a Wholesome Environment

A wholesome environment involves more than the measurable aspects that withstand the evaluation of EBD studies. To develop a profound understanding of spatial qualities as a whole, we take a step back and consider how architecture in general is experienced. Although architects are mainly visually oriented, architecture is not experienced through vision alone [9].

Juhani Pallasmaa argues that all senses take part in the experience of architecture [10]. The way places feel, sound or smell have equal weight as how they look. Since the ancient Greeks, Western culture focuses mainly on the visual. During the Renaissance a hierarchical system between the senses was established, starting with vision, ending with touch. These priorities concerning the senses, their relative roles and interactions had a great impact on perception in architecture. In other cultures than the Western, smell, taste and touch do have a collective importance in behaviour and communication. Because of the obligatory distance between spectator and object it could be argued that vision rather separates us from the world whereas the other senses can unite us with it. This imbalance in our sensory system provokes an inhumanity of contemporary architecture. Pallasmaa states: "*It is thought provoking that this sense of estrangement and detachment is often evoked by the technologically most advanced settings such as hospitals and airports*" [10]. Since a hospital is definitely a place where lack of attention for all sensory experiences may lead to discomfort for users, especially here more attention should be paid to multi-sensory design.

Yet, even the five senses are not enough to grasp the full complexity of experience [11]. How you experience your environment is also influenced by time, movement and occurring activities. While sitting in a waiting room time is differently perceived than when hurrying for an appointment, this difference between astronomical time (or clock time) and social time also influences the attention paid to the environment and its impression ([12] in [11]). When moving through a building, the views change but also what you hear or smell can be different. While walking, you can also sense a difference in materials. It is through movement that meaning can be given to a space [13]. Only by paying explicit attention to movement and time as part of sensory experience, the experience of a building can be understood in its full complexity.

The Lying Perspective

Within the hospital you experience all sensory perceptions, time, movement and activities from one place: the hospital bed. From your bed you are confronted with the built environment, not only while being in your room but also while travelling through the hallways or waiting for an examination. The specific perspective and the mediation of the bed influence all these experiences. Still, this viewpoint is not only

under researched [14], architects do not explicitly take it into account either. The bed is often considered as a merely technical element, determining the dimensions of rooms and hallways. Already midway the 18th century, Nicolai Eigtved and Lauritz de Thurah designed the Frederiks Hospital in Copenhagen by basing all dimensions on the hospital bed [9]. Over the last centuries, hardly anything changed; optimizing logistic flows is still considered as the most important element in designing a hospital (*e.g.* [15]). Although of crucial importance and not to be underestimated, especially for the patient, there is more to a hospital stay than logistics. Yet, only very few studies approach the hospital from an anthropological viewpoint. The Dutch magazine *Medische Antropologie* devoted an issue to the subject of the bed in general and collected five articles about the sick bed in particular [16]. Different papers addressed different roles for the bed in a hospital, ranging from a practical [17] to a symbolic one [1].

There is the bed itself, in or around which all daily activities are centred. To this end many adjustments are made. As Myriam Winance describes for the process of trying out a wheelchair, there is the material adjustment, the emotional adjustment and the (ambivalent) negotiation between individual and device [18]. An analogue process can be expected for a patient's adjustment to a hospital bed. Due to the situation's temporality, the adjustments most probably differ in nature. Still, the hospital bed plays an important role in the relationship between patient and building. In terms of materiality, the bed is a combination of things, there is the frame with its entire technicality to move it up or down, or roll it back or forward, and there is the sheets, covers and pillows. There is no bed without bedding; the piece of furniture itself cannot be called a bed [19]. The difference between a hospital bed and your own bed at home should not be underestimated. It looks different, and it certainly feels different. The bed also symbolizes the emotional adjustment from being a visitor to being a patient [1]. It defines the patient as a person. The negotiation between patient and world takes place at different levels. The bed, as a mediator, can broaden the sensitivity to the building [20]. When rolled through a hospital building, a patient may feel different things than while walking; an uneven floor can be a major issue, which may be overlooked in other circumstances. Apart from active and passive touch also dynamic touch enters the picture [21]. Jasmien Herssens and Ann Heylighen [21] describe the three modes of touch as follows: "*We touch in an active way when we use our body directly to perceive tactile stimuli, for example, when we follow a handrail with the palm of our hand, or when we are looking for interior objects as landmarks. Passive touch takes place indirectly as movement does not emanate from our own body but as a result of external sources. We feel for example the heat of the sun, the atmospheric humidity, or the height of a balcony. Dynamic touching occurs when we use a tool to touch with; for example a white cane used by people with a visual impairment or a bicycle on which we feel the road when cycling*." Background relations are barely noticed until they start bothering. Especially passive touch can be a problem here—think of a draught, which makes the ventilation system suddenly noticeable. The specificity of the perspective also exemplifies how the relation or unity between person and technology—in this case patient and bed—can influence interpersonal relationships. The lying perspective determines the specific kind of relation with conversational partners, just as a sitting perspective does for wheelchair users [20].

Apart from the processes of adjustment, concerning both the relationship between patient and bed, also a redefinition of the patient's self takes place during a hospital stay. Our identity is built on a combination of how we see ourselves, and how others see us. On top of that our body is clearly inter-subjective. We often do not pay much attention to it until something goes wrong [22]. The image a patient has of him/herself changes during the hospital stay. The hospital gown transforms the individual body into a body for medicine [17] and since the only place in the hospital that you can call your own is your bed, you put on the gown and get in bed once you arrive [1]. Also the duration of the stay influences how people deal with their new situation. One 'takes' bed rest, which refers to a limited period of 'rest' as prescribed by a doctor or as deemed necessary because of an acute illness, but one 'is' bedridden. Angelika Zegelin describes a phase model of becoming bedridden by older people [23]. Since being bedridden has a temporary status for most patients, the difference with taking bed rest is not always completely clear. In our research we consider a bedridden patient as someone who, due to a hospital stay, is assigned a bed and as a result identified with that bed. Each bed is allocated to a certain ward with a specific pathology. The person in the bed is, at least for the physicians, often reduced to a case with a certain condition [17].

RESEARCH METHOD

The main aim of the study reported here is to explore whether considering the patient's particular perspective—*i.e.* lying in a hospital bed—can provide new insights in the spatial qualities of a hospital

building that can benefit the well-being of its users. Therefore participants should be able to give any information that seems relevant to them. We were looking for open-ended, emerging data with the primary intent of developing themes from them. For this objective a qualitative approach seems most appropriate [24]. The data are collected through conducting explorative fieldwork, by volunteering in a hospital, and conducting semi-structured, in-depth interviews with different stakeholders.

Volunteering in a Hospital

The fieldwork takes place in an urban, Flemish, community hospital. During four months, every week half a day is spent there. The day is fixed on Monday mornings, a very busy moment at the hospital. The first author works as a volunteer to bring patients to their room at the time of hospital admittance. It is her job to guide them to the ward and introduce them to the room and bed. Every patient gets a brief explanation about how the bed can be adjusted, where to put his/her clothes, how to call the nurses etc. The close contact with patients at their first encounter with the hospital offers valuable insights in their reactions to the environment.

Although the hospital is aware of the researcher's intentions, it is agreed that, towards patients, there will be no difference with other volunteers. Since no difference is made, participants are not chosen nor assigned, and can thus be considered as a cross section of the admitted patients. None of the participants are aware of their participation. Therefore, the researcher cannot make recordings and has only limited possibility to take notes. Although certain highlights are written down during the fieldwork, most notes are taken several hours after the observations.

In-depth Interviews

To gain a better understanding of the daily routines in a hospital and the role of the building and bed therein, semi-structured interviews are conducted with various actors. In order to recruit participants different tracks are followed. At the start of the research a Belgian magazine for specialists publishes an article based on an interview with the researchers [25]. With the article, a call for information or possible participants is launched. A short summary is published in their online newsletter, which is picked up by various other medical sites. Seven persons, with various backgrounds, respond. Six are contacted for an interview; the seventh is not interviewed at this point because his work in a psychiatric centre transcends the scope of the study. The voluntary participants are complemented with the researchers' personal connections. We interview 12 persons in total: two architects, two technical directors of hospitals, three physicians (a general practitioner and two specialists), two nurses and three patients.

The first part of the interview has the same structure for all participants. It starts with general questions about the spatial aspects of hospital buildings, going deeper into patients' reactions to the building. In the second part the specific role of the bed in the hospital is addressed, but questions are diversified depending on the interviewee's role. These questions may have a more social or a more technical focus. For example nurses are asked about the reactions of patients during transportation in a bed, a technical director is asked how logistics influence the design of the building. All interviews are audio recorded and transcribed afterwards.

Data Analysis

After a first reading the interview transcripts are analyzed according to the three themes emerging from the literature review: EBD, the experience of architecture, and the bed. For each theme parts of the text are used as quotes to illustrate the topic as found in literature. Since the interviews and field notes are both in Dutch, quotes used in this paper have been translated to English. Because of the specific focus of the research, the coding is revised specifically based on the role of the bed. At this stage, the field notes and interview transcripts are both coded using qualitative data analysis software (ATLAS.TI). To establish a list of representative codes, we start from terms grounded in literature [24] and expand the spectrum by in vivo codes expressing topics that step forward through the process.

FINDINGS

The analyses enable us to identify three major topics related to the bed, which significantly influence patients' experience of the hospital stay: the bed as a material object, as a social space and as a moving object.

The Hospital Bed, a Material Object

The bed's physical appearance is a key element in a hospital's look and feel. A technical director of a hospital phrased the most important features as follows: *"Yes, the bed is one of the most important, euh, stuff. It has to be functionally good. It has to be technically good. Euh, in the past it was just a steel bed, now it has all these trimmings: electrical, self-adjustable. Also for the nurses, it makes things easier. When I want to put the head of the bed a little straighter, I used to have to call the nurse, now I can do it myself. Thus, that instrument, that is very important. And besides that, it has to be maneuverable; it has to be wide enough, long enough. Euh, yes, it has to be mechanically and technically right."* It is mainly the technology, which differentiates a hospital bed from a regular bed. This is probably why, when introducing patients to their bed, the most important thing that volunteers (or, in other hospitals, nurses) explain is the functioning of the arrays on the safety bars at both sides of the bed which enable moving the bed's head and feet, so the patient can make him/herself comfortable. While the functioning of the movable bed is fairly obvious, for some, it is a source of confusion and uncertainty [volunteering 10/2010-02/2011]. However, for others the possibility of adjusting their own bed gives them a certain autonomy and lowers the pressure on the nurses' already tight work schedule. A technical hospital worker mentions: "*I take it as the ability for the patient to be in charge himself, to be able to put his bed higher or lower.*" As a patient puts it, while showing the functioning of the buttons: "*… it is more interesting, because you can adapt the bed to your needs, yes, more flat*." Other technical features of the bed—like the possibility to move it up and down or lock and unlock the wheels—are mentioned only sporadically by patients, and are mainly addressed as useful and functional by nurses and physicians They mention: "*well yeah, it is useful that you can move it up and down […] definitely back saving.*" and "*the ergonomics, towards the nursing, is the high and low of the bed, so they can more smoothly.*" The bed's dimensions add to its ergonomics. For the patient, this reflects in a bed that fits. Some patients are too long, others too short for "the standard": "*What happens often, I find, nowadays, that the beds are not long enough. There are people that are 1m90 or 2m and they complain. You can enlarge some of the beds, but not all of them. That is a source of irritation*." The opposite is just as true: "*Some people are too short for their bed and slide down*." For the personnel having to take care of the patient the most influential dimension is the bed's width. A specialist states: *"… but it is mostly avoided to do an examination in bed. When you examine someone, a patient, in bed, that is very difficult working, because the bed is too wide. You have to bend over and that is bad for your back*." The technical features and dimensions both influence the maneuverability too. As this aspect closely relates to the built environment, it will be addressed later.

Besides the frame's intrinsic aspects, also its direct accessories make the bed. A bed is not a bed without its bedclothes and bedding [19]. This counts just as much for a hospital bed as for any regular bed, maybe even more. The bedclothes determine how the bed feels and make, to a large extent, the difference between your own bed at home and an unfamiliar bed in the hospital. Most hospitals still opt for sheets and a cover while at home most (younger) people sleep under a duvet. More than half of the participants mention this as an important aspect that generates the feeling of the bed. A practitioner mentions: "*The [patients] then want a duvet or something like that. Of course because they are very familiar with that*." When explaining the difference between younger and older patients a nurse says: "*Young people they are used to a duvet. These are things you do not find in a hospital so that seems something unnatural and then you just do not feel at home. I think that is for young people a reason to say: "this is strange, I do not feel at home.*"" One patient explains how it felt when she had her own bedclothes on her hospital bed: "*I do not like sleeping with sheets, and normally it are always sheets. It is like when you return from vacation, you get into your own bed. It is the same, your own little cover, even if it is a hospital bed, your own cover*." Apart from the bedding, a hospital bed is also equipped with an infuse standard and a handgrip. Although useful and necessary both are frequently mentioned as not very handy while handling patient or bed. Certain objects in a hospital room are directly related to the extended bed stay. Both the use of a lifting device and a bedpan influence in their own way how the bed is experienced and relates to its environment.

The spatial aspects addressed in EBD studies should obviously also be taken into account [5-8][28]. However, these cannot be studied without paying attention to the relationship between built environment and bed. The hospital's spatial organization influences many aspects that are mentioned by hospital users when asked about their experience of the building.

During the volunteering the two most frequent topics of conversation are the number of beds in a room and the bed's location in the room. Especially when patients ask for a single room and this is not available, it is a source of frustration. A good explanation helps a lot in this case. However, also the opposite is true. Patients who ask for a room with four beds and get a double room often protest even harder. Here the reason is not always clear, but questioning a little further often reveals the underlying, mainly financial motivation. When patients are assured that it will not be more expensive, they are mostly very pleased. Still, some refuse to stay in a single room. They feel more comfortable when someone is around. Offering choice to people always seems the best option. This confirms what is found in literature [8]. Apart from the number of beds in the room, people tend to like the bed at the window more than the other(s). Both the view and the increased privacy come up as a reason for this preference.

Beyond the patient room, the building in general may facilitate or limit the hospital's working and interaction between personnel and patients. Although the bed is considered a handy means to transport patients through the hospital, its dimensions can also be a restriction. One physician states: "*personally, I always hate it when a patient goes somewhere with a bed, because the consultation rooms are not at all designed for a bed and when it enters, there is hardly any space left. You can hardly do anything*." The spatial organization also influences the experience of sound, temperature, light, and views. Especially the fact that, while lying, you observe the room from a horizontal perspective makes the experience very different. All patients mention that they suddenly see the ceiling. One specialist who became a patient through an accident recalls that he hardly saw anything else, even though he never noticed it before: *"… you look up. Actually you see the ceiling all the time, and that is the hospital were you have been working for years, and then you are in the bed and you see the ceiling. Normally you do not look at the ceiling and that is strange*." The relationship between the bed and its environment is a physical given. People's reactions reveal the shortcomings or advantages of this relation.

The Hospital Bed, a Social Space

The meaning of the bed can be explored from different angels. There is the strategic and economic meaning that is ascribed to the bed. In a hospital, the term "bed" does not only refer to the object but covers both the number of available spaces in a ward as the patients occupying them. Often heard quotes are: "*Yes, we have "beds" available.*" or "*a big hospital has 1100 beds, yes, while there are probably way more beds but they only have room for 1100 patients*." Staying in bed is generally considered as a sign of being ill, as illustrated by quotes like "*For [the patients] the bed means being in need of care, bedridden*" or "*It is really, when you no longer need your bed this means you are getting better. Being bedridden always has a negative connotation.*"

When asked about the meaning of the bed on a personal level, people refer to it in a far more positive way. The bed is described as "*a little house*", "*his space*", "*your own little island*", and "*the only thing you have*". In these descriptions we read that the bed is considered as a retreat from everyday hospital life. Although the bed may be the patient's most familiar item in the hospital, it can never stand up to one's own bed at home. Remarks like: "*and you get into [the bed] and you know it is not yours*" and "*that bed is always worse than your own bed, maybe even when it is probably better, it just gives an uncomfortable feeling with the patients, I think*" make explicit what many want to say through stories about their house or the food.

The fact that patients feel the need to retreat from their environment already indicates that interactions can be complicated. The bed, and possible accessories, influence interactions between people. These interactions are very diverse. There are encounters with strangers and people familiar to the patient, and there are different ways to connect, visually, tactilely, through sound, verbally, or even through smell. The interactions directly related to the building organization have been discussed above. Still, this organization also influences more personal interactions. In any multiple person room, one has to deal with snoring, visitors, or toilet visits from roommates. Because of the limited private space also very personal actions like going to the bathroom sometimes take place within a few meters from each other. While using a bedpan mostly only a thin curtain separates one from the other(s), it functions as a visible barrier but

hardly as an auditory or olfactory one. Yet, to a certain extent, the interrelation with roommates is often also mentioned as possibly distracting or making the stay more pleasant.
On a more personal level, the building in general and the bed in particular can work as an invisible threshold between patient and people close to him/her. One patient summarizes: "*People have a certain reserve, for example to give a kiss or a big hug. Especially with whom you are not so close, they also keep the distance. They would not easily come up to you: "hello, happy to see you!" and "how are you?" Yes, spontaneity, that is a big restraint of the bed. What is very important, I experienced, is that you can tell people you know quite well, to come sit on the bed: "Come, sit on the side of the bed." That makes it easier to talk because the furniture in a hospital room around the bed, a fauteuil, a normal chair, a little stool to put your feet on, those are not the things people like to sit on…*" Indeed, the bed forms a physical barrier to come close to the patient, while the room often does not provide visitors an adequate alternative, thus those who actually want to connect to the patient need to overcome this boundary. Once this is done the bed becomes the center of shared activity.
Apart from family and friends, also nurses intervene within this limited personal space. Whether changing the sheets or assisting the patient to get washed or sit up, they cannot avoid that their actions, although necessary and caring, are often felt as an intrusion of the personal space.

Outside his/her own room the patient is even more exposed to (unwanted) interactions with others. At the same time the patient is often literally overlooked. During volunteering we catch ourselves interacting with the nurses over the patient's head. Our field notes mention: "*At a certain moment I take the elevator together with a nurse who pushes a patient in a bed. The nurse smiles at me over the head of the patient. I realize that I look over her myself. When I look at her, I see that she is trying as hard as she can to be as inconspicuous as possible.*" On the other side, a patient in a bed seems to attract stares from other users. Especially while waiting for an examination, they are very vulnerable for these. Both physicians as patients mention: "*yes, everyone is watching, …*" or "*and then when you are lying there, waiting in a hallway, you are really a little lost, I think, with your bed. Then there are passerby's that just walk along…*" Addressing this problem in the hospital's design does not seem easy. When a niche is created, so the patients waiting in their bed are not that visible, a frequently heard complaint is that they are totally neglected because of the lack of visual relation.

The Hospital Bed, a Moving Perspective

Apart from the fact that it makes you experience the environment from a horizontal perspective, a hospital bed is not static, it moves. For this reason a hospital bed is not like any other kind of furniture. Perhaps a wheelchair would come close. The perspective and movement both influence the experience of the building considerably. With regard to the hospital's material aspects, different sensory observations step forward. The haptic experience changes with the bed as a mediator. Dynamic touch becomes increasingly important, and also passive touch has its influence. The visual impression is different too. One patient tells us: "*So, the experience of riding out of the room, going out of the door, turning into the hall, then usually waiting for the elevator, rolling into the elevator. Euh, you have those doorsteps, euh, the transition from the flooring in the hall to the elevator and obviously you feel that in your bed. The elevator seems totally different because you realize more that you are in a cage. And when you ride out of it, you have that vibrating feeling at your bed and then the hall, again those rhythmic movements from the light fittings that you pass and your temperature, the difference in temperature when you pass from one hallway to another. It flashes by, all that is on the side, left and right, it flashes by, and what is on the ceiling, yes.*" Nurses, for their part, do not deny that travelling through a hospital in a bed can be a bumpy ride. One says: "*We ride around with them, we bump into things at all sides with the bed, everywhere. For us that is only a trifle, but when you are lying in there*." A little later she admits: "*We knock up against all these things till they break. As nurses we are very, very good at that.*" The traces of this use can be read throughout the building and can be considered an important source of information for our research.

With movement, also speed enters the picture. Patients often have the impression that travelling through a hospital in a bed goes extremely fast. As stated above, both the ceiling as the walls flash by. Because they cannot be observed properly patients easily become disoriented. The direction in which the bed is pushed can add to the feeling of disorientation. When lying in the direction one travels, the patient sees, at least more of less, what comes, but there is little relationship with the nurse pushing the bed. When one lies in the other direction, everything on the way is a surprise but permanent contact with the nurse is possible. Both have their advantages and disadvantages. Regardless of the direction, patients seem to isolate themselves from the world around them while travelling through the hospital. One patient explains

it as follows: "*I think that I consciously do not look. Maybe my eyes are open but maybe I cut myself off so I do not have to see everything, so I do not have to visualize everything, because that is too much. All the flashing, that is not pleasant for me*." Although dependency is probably an important aspect throughout the entire stay, many respondents point it out as especially important in relation to the bed transport. Signs indicating direction or points of orientation are all aimed at users experiencing the building from a vertical perspective: "*It is the feeling: "Where am I going now?" The signs that hang there or the remarks that hang on the wall, you can hardly read them, so you are completely dependent on your bed with the person who transports you*." Because of the loss of control, also the sense of distance and time is distorted. This holds both while travelling and while waiting. A little more interaction with others can help in these situations: "*Then you are put there, without telling anything. And what are two minutes? What is a quarter of an hour? And it can take a lot of time. Then you say: " Are they forgetting about me?" and that is not necessary in that state. So that is important*."

Interestingly all technical directors and architects mention the importance of flows while designing a hospital. However, solving the problem of separated flows is unlikely to guarantee a genuinely wholesome experience. Experience clearly is a complex given that entails more than just functional elements.

DISCUSSION AND FUTURE WORK: THE SOCIAL SPACE OF A MOVING OBJECT

EBD as presented from the 1980's on, mainly focuses on aspects of health care buildings with clinical outcomes. Moreover, it pays little attention to the different perspectives of hospital users. To develop a more articulate understanding of how a hospital environment is experienced, sensory perception with explicit attention for the experiences of movement and time should not be overlooked. By taking these aspects into account the specific experience from the hospital bed can be more fully understood.

Although most themes emerging from the literature review do turn up in our fieldwork and interviews, the evidence does not always point in the same direction. For example, one aspect considered extremely important in the qualitatively approved EBD studies is the presence of ventilation and fresh air [6]. However, draught and difference in air temperature between rooms and hallways are mentioned as important downsides while staying in, or moving through a hospital. Obviously we do not want to plea for the absence of fresh air. Examples like this just illustrate that there are two sides of the picture. Also the interpretation of certain aspects needs to be differentiated. Orientation is an important element for patients (and others) to feel comfortable in a building [8][26]. How orientation should be facilitated, however, may be completely different depending on the user's viewpoint. While signs and arrays may be interesting to direct a visitor to the right department, a patient who is wheeled through the building may need different reference points not to become disorientated.

Compared to the themes emerging from the literature review [1][17], other themes were far more prominent in our data. A frequently occurring topic was the object of the bed itself, its bedding and accessories. The technical possibilities, which enhanced the comfort, were brought up and the relationship between bed and environment was considered an important factor. Around the bed much social interaction, between patients but also with personnel and visitors, takes place. This interaction can be supported or counteracted by the built environment. Since the hospital bed is the one place were the entire hospital life of the patient takes place and the object traveling through the entire building, the trajectory of the bed is expected to provide a unique perspective to take a closer look at the built environment.

At this stage of our research, the aim of this study was to find a way to approach patients' experience of a hospital environment from an architectural point of view. Different spaces in the hospital are perceived differently depending on the situation. Based on insights in EBD, the experience of the built environment and the perspective from the bed, we are looking to fine tune our research question. As patients' particular perspective, lying in a hospital bed, is marginally addressed in the literature so far, our research will further investigate this perspective. A central question in our future research will be: "How should we design space when all daily activities are reduced to one (moving) perspective?" Since classic pathologies do not give information directly related to space, we are looking for a different angle to approach the subject. At this point the trajectory followed by the bed through the building seems the most suitable. Ultimately, gaining insight in how space can be designed to optimally support the experience

from the bed is expected to contribute to the improvement of the well-being of hospital users in general and patients in particular.

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