

Freja Ståhlberg-Aalto

THE AESTHETICS AND ARCHITECTURE OF CARE ENVIRONMENTS

A Q METHODOLOGICAL STUDY OF
TEN CARE ENVIRONMENTS IN JAPAN
AND THE EUROPEAN COUNTRIES OF
FINLAND, SWEDEN, THE UK,
FRANCE AND AUSTRIA





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ABSTRACT

This study explores the aesthetic dimensions of the care environment as experienced by the users and stakeholders of ten case studies in Japan and the European countries of Finland, Sweden, the UK, France and Austria. The evaluation of the built environment in a comprehensive manner is both challenging and topical. The surrounding environment influences us in a multitude of ways and healthcare buildings, in particular, are complicated and their effects on the users difficult to estimate. To overcome these problems the study applies experimental Q methodology for this context in search of a new way of evaluating care environments. The aims are to increase our understanding of care environment aesthetics and architecture, and thus contribute to the design of future care buildings that fulfil the values and expectations of the users.

In previous research, first-hand user experiences have been overlooked in favour of comparing medical reports, survey questionnaires or environmental features, thereby leaving many of the underlying reasons unaccounted for. The aesthetic is often reduced to the appearance of things, assessed by random respondents reacting to photographs. This study instead approaches the aesthetics of care environments in a holistic manner, founded in the multisensory experience of architecture, and affected by contextual, social and functional considerations. The study compares different types of healthcare buildings; hospitals, clinics, rehabilitation centres and facilities for the elderly, by asking users and stakeholders to react to their actual environment. Differences are explored in the aesthetic definitions and solutions of the different building types, the cultural contexts and the user groups. In a broader sense, the study touches on the role of care environment aesthetics in users' perceptions of wellbeing and quality of life.



To operationalize this framework, a Qmethodological study was conducted on ten case studies in Japan and five European countries. Q methodology is a qualitative method used for systematically analysing human subjectivity. In accordance with Q methodology, I invited 45 respondents – including patients and residents, family members and visitors, care staff, administration and architects – to arrange a set of 48 statements describing the aesthetic features of the care environment on a scale of preference. These preferences were statistically analysed, identifying five aesthetic discourses: the *'putting patients first'* (ADI), the *Nightingale discourse* (ADII), the *nature – wellbeing – personalization* (ADIII), the *'my home is my castle'* (ADIV) and the *rational wayfinding system* (ADV).

The findings show that although some aesthetic values and solutions stem from building type specific and cultural considerations and that they reflect users' and stakeholders' backgrounds, there also exist *shared* aesthetic values that transcend the specific. A set of consensus statements was uncovered revealing aesthetic preferences shared by all discourses. As a synthesis, best-practice features are put forward as lessons learnt from the case studies. In the future, reconciliation between the various aesthetic discourses is called for in order to respect the values of *all* stakeholders and users.

PREFACE

Some of the research material of this study has been earlier presented at conferences and appeared in publications and has therefore benefitted from the comments received when submitting and presenting work. The pilot study on Japanese care environments was published as a separate research report in 2013. The preliminary Q findings were presented in a paper at the ARCH14 conference in Helsinki in 2014 and the results of the final Q analysis at the ARCH19 conference in Trondheim in 2019. The peer-review criticism received in Trondheim, in particular, proved helpful in the final adjustments to the text.

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Lastly, my greatest appreciation goes to the participants of the study, who gave so much of their precious time and shared with me their subjective viewpoints by participating in the *Q* experiments, as well as the care facilities that opened their doors to me. Without these, this study would have been void of content.



INTRODUCTION

The first ideas for this study came about over fifteen years ago, when I, first as a student of architecture and then as a freshly qualified architect, had the wonderful, albeit extremely challenging task of designing a care building for adults with an autistic disorder. The Käpylä Autism Centre, one of the case studies in this study, was a pilot project where the goal was to develop a model for combining housing solutions and rehabilitation spaces that respect the special needs of adults with severe autism, and would not be the type of large scale institutional facility that many care facilities for the disabled were in Finland in the 1990s. At that time, this special user group had very few custom-designed care environments and design recommendations were sparse. Therefore, I set out to examine in what kind of care facilities the autistic users of Finland and other Scandinavian countries lived and were rehabilitated. This began as a small research project, which then turned into my Master's thesis for the Department of Architecture. During the fieldwork, the design and construction phases of the Käpylä building, I was often struck by the gap between the different perceptions and aims of the stakeholders, the user groups taking part in the process and my own viewpoints as an architect. It felt as if we talked different languages. Many of the challenging issues were related to what I at the time intuitively thought of as the *aesthetic* features of a care environment, such as the spatial solutions, surface qualities and details of the building. The lack of common ground on these essential design issues initiated this study.

In spite of the fact that the quality of the care environment of persons with autism is extremely important, this special group is quite marginal in the whole spectrum of facilities for care and cure. I wanted this study to address and compare users' and stakeholders' experiences of the care environment more widely than has previously been done. The field of health and social care services is not only diverse, including a wide range of different types of care buildings, but the borderlines between the building types and the services produced also vary and are context-dependent. Hence the scope of the study was enlarged to include a range of care environments in different cultural contexts. The inclusion of different countries and an international angle allows for a comparison of viewpoints and design solutions that would not have emerged by looking at the context of only a single country. The underlying – and I realise to some extent overambitious – aim of the study was to, on both a theoretical and a practical level, increase our understanding of care environment aesthetics and architecture. The normative

idea is that a better understanding of how the environment is experienced and valued could increase the prospects of designing and building care buildings that better fulfil the expectations of the end-users. In other words, this study proceeds from the normative assumption that environments conducive to inducing wellbeing and happiness, support and facilitate the care and cure of patients and residents. With this assumption, we expect the design task of the architect to involve an empathic engagement in and understanding of the ways future users will experience the building that surrounds them.

From this point of departure, the study focuses on the aesthetic dimensions of the care environment, as viewed by the users and stakeholders of ten case study buildings in Japan and the European countries of Finland, Sweden, the UK, France and Austria. The concept of aesthetics is both multifaceted and ambiguous and hence the initial task, in order to better understand the experience of care environments, is to explore the various ways the aesthetic can be defined in the context of the care environment. The second research question addresses how the various users and stakeholders experience the aesthetic features of their care environment. Are there differences in aesthetic definitions and solutions between the different building types and do aesthetic definitions and solutions differ between the different cultural contexts of Japan and the European countries represented in the study? As a by-product deriving from the case study selection criteria, the users and stakeholders of the care environments also test the assessment of architecture. In other words, is the architecture that is deemed the best by experts and acknowledged by design awards, really experienced as such by the users?

Some of the notions and limitations of this study need to be addressed. Firstly, what the study does *not* attempt to do is to investigate the purely functional aspects of healthcare environments, although they most certainly influence our experiences of care environments and could even be considered a fundamental part of architecture, for example, the ergonomic dimensioning of toilet space, the design of operating theatres that fulfil state-of-the-art hygiene demands, the technical systems of hospitals or the cure processes and flow of patients and staff in specific care buildings. To investigate the aesthetics of care environments by comparing the functional performance of an operating theatre with the use of the living room in a group home would certainly result in nonsensical findings. There already exists an abundance of prior research, especially in the domain of evidence-based design, that focuses on these measurable and primarily non-aesthetic performances of healthcare buildings. This study, on the contrary, employs the concept of the aesthetic as a conceptual tool for investigating the experiences in domains other than these predominantly functional processes and uses of the care environment. Functional considerations will be studied only to the extent that they are translated into the building design and are thus experienced by users and stakeholders.

Secondly, when we look at prior research that addresses aesthetic features of the care environment, the aesthetic is commonly reduced to the appearance of things, as perceived by the sense of sight but detached from contextual, moral or social considerations. Users' perceptions of care buildings have often been assessed by random respondents reacting to photographs. This has its roots in the long history of aesthetics, which assigns primacy to the sense of sight. However, when inside a building, the experience of architecture is seldom two-dimensional, or purely visual, nor is it separated from the values and personal expectations of the perceiver. We hear, feel, see, touch and smell the buildings we occupy – whether we want to or not. The meanings we attach to our surroundings are complex and ambiguous. For this view on architecture I am indebted to Juhani Pallasmaa (2005), who writes about the multi-sensuous experience of the environment and who was my professor while I was a freshman at the Department of Architecture. In order to conceptualize this broad experiential approach and adapt it to an investigation of care environments, I turned to philosophical aesthetics and architectural theory. The domain of environmental aesthetics, especially in the writing of Yuriko Saito (2007) on everyday aesthetics, provided the rewarding frame of reference that has been applied to this study.

Thirdly, this study relies on the first-hand user/stakeholder experiences and perceptions of the case studies, including patients, residents and clients. Many prior studies leave out the perspective of the main users of care environments, that is, the patients, residents and clients, preferring to focus on care staff ratings, behaviour mapping or comparison of medical records. In fact, in many studies on aesthetics, respondents are chosen at random with no personal relation to the subject under inquiry. This study, on the other hand, allows a multitude of users and stakeholders, including patients, residents, clients, visiting family members, care staff, administrators and the architects of the buildings, to react to the environment in search of differences and nuances underlying the aesthetic dimensions. However, the study does *not* attempt to measure the 'healing' effects of architecture as is often done in the domain of evidence-based design. To do that would have required a different research design, with the focus on only a few stimulus items, fewer case studies and a multi-disciplinary research team with knowledge of clinical trials.

The evaluation of user experiences is challenging, because the surrounding built and natural environment influence us in a multitude of ways. Hence, a research methodology is called for that conveys the experience of care environments in a broad sense and takes into account different users and stakeholders. With this in mind, I have adapted Q methodology to the study of care environments. As a research method, Q methodology is far from new. It was introduced in the 1930s by the behavioural scientist, William Stephenson (1953). It has since been applied in numerous fields, such as the social sciences, politics, healthcare

and organisational research. However, its application in the field of aesthetics and architecture has been limited. As a consequence, there were few references and models to consult when constructing the research design, thereby making testing of the methodology a part of the study.

Q methodology combines qualitative and quantitative methods in examining and systematically analysing human subjectivity (McKeown & Thomas, 1988). In this context, subjectivity is defined as a person's communication of his/her point of view. The approach relies both on the premise that subjective points of view are communicable and that they are anchored in self-reference, which serves well the disposition of this study. The experience of architecture is also based on a person's internal frame of reference, but the communicability of this experience may be less self-evident to those who are not professional designers. In Q methodological experiments, participants react to a set of statements – in this case statements describing the aesthetics of the care environment – by ranking them on a scale of preference. This is then followed by an interview addressing the preferences made. The statements, as well as the process of rank-ordering, provide the users with a vocabulary with which they can express their views about the environment and trigger the discussion in the subsequent interviews. The results of the Q sorts are then analysable and comparable using statistical procedures.

In the 45 Q methodological interviews, the respondents of the ten case study buildings give their own account of the aesthetic experience of the care environment. The central methodological concept of *operant subjectivity* implies this very operationalization of the experience of care environments. It refers to the idea that interview respondents are not given readymade concepts, but rather themselves participate in the construction of these conceptions by arranging a set of statements that form a central part of Q methodological interviews. The point of departure is thus a 'stakeholder-driven' or 'user-driven' conception of aesthetics and the experience of care environments. In other words, the aim of this study is not to claim a definite stance in the philosophical and metaphysical debate on what is the true essence of the *aesthetic* that has preoccupied thinkers during the last millennia. Rather the term is used here as a framework, that is, a platform, allowing users and stakeholders to generate their own conceptions of the aesthetic environment in which they live and work. To give an idea of the general outline of this study, I will now summarise each chapter.

CHAPTER 1. THE CARE ENVIRONMENT: RESEARCH APPROACHES. This first chapter focuses on the care environment, how it is defined within the realm of this study, and how it has been approached in previous empirical research, with special emphasis on potential aesthetic dimensions and features. A crucial distinction is made that will guide the case study selection later, dividing the care environment, according to the degree of technical specialisation and standards of

hygiene, into two general categories: the *acute* high-tech hospital environment, with a high level of hygiene and technical medical equipment, and the *chronic* low-tech treatment and living environments of rehabilitation centres and care homes. Topical design and research trends are reviewed. The theme is approached from the domain of environmental psychology and empirical aesthetics that connect conceptions of wellbeing and quality of life to the aesthetic field. In general, wellbeing and quality of life are found to be subjective concepts that are affected by the physical environment. Previous research on preferences, the role of art, pictorial interventions, the senses, and nature in the care environment are all reviewed. The frame of reference is then broadened to include the social dimension, comprising prior studies and theories on social interaction and privacy in the care context.

The chapter concludes that although environmental psychologists have attempted to find law-abiding tendencies in human reactions vis-à-vis aesthetic features, studying preferences and measuring the physiological reactions occurring in the body while exposed to an environment, work still remains to be done before the connection between health outcomes and specific environmental features can be established. By narrowly measuring only one environmental feature, the effects of other features, which nonetheless might affect outcomes, risk being left out. In the evidence-based design tradition the opinions of the users and how they experience their environment remain to some extent unaccounted for and, when they are addressed, the results are conflicting. User preferences have often been measured by asking random respondents to react to visual images. Thus, there seems to exist a demand for further investigation of the aesthetics of the care environment from multiple perspectives, especially, and as perceived by the users and stakeholders of specific care environments.

CHAPTER 2. AESTHETICS AND ARCHITECTURE: BUILDING A THEORETICAL MODEL. The second chapter turns to philosophical aesthetics and architectural theory in search of a theoretical model and comprehensive framework for investigating users' and stakeholders' experiences of the aesthetics of care environments. Based on a literature review, the aesthetic is broadly defined as an all-inclusive platform based on which users and stakeholders are able to define their own conceptions, that is, as: *any reaction we form to the sensuous and/or the design qualities of the care environment*. This definition is borrowed from Yuriko Saito's (2007) definition of everyday aesthetics. Founded in this definition, a theoretical model is built by cross-tabulating the four ways by which the aesthetic experience can be sensed (*sensory qualities, contextual features, the social dimension and function*) with the architectural features of any built environment, that is, the design level (*stuff, surfaces, space and light and the surroundings*). This theoretical model of aesthetics and architecture forms a key component in my adaptation of Q methodology to the investigation of care environments. The

model will be used as a tool to map the universe of statements that describe the care environment which in turn the users and stakeholders will react upon in the Q experiments.

CHAPTER 3. INVESTIGATING THE CARE ENVIRONMENT. The third chapter elaborates on the research design, positioning the study within the domain of qualitative case study research. A multiple-case study design was chosen in order to contrast the different building types, the aesthetic and architectural solutions, and to compare the user experiences of these environments. The selection process of the case studies is here reviewed with regard to the selection criteria, the building types and the countries represented in the study. Q methodology is introduced on a general level and the key concept of subjectivity is discussed. Then, the methodological procedures related to Q are explained step-by-step including the modelling of the universe of statements, defining the Q sample, choice of respondents as well as the methods and various phases of analysing the results.

The main motivation for choosing this particular method for the investigation of care environments is that Q methodology facilitates the systematic analysis of subjective viewpoints. The experience of architecture is fundamentally subjective, yet the different layers of the environment are not necessarily easy to identify and analyse. The Q-sorting task gives users and stakeholders a vocabulary with which to react to the surrounding care environment. The Q statements initiate discussion and make the participants reflect on their environment in a systematic manner. Moreover, Q methodology, as a 'user/stakeholder driven' approach, is adept in an inquiry of abstract and ambiguous concepts. Aesthetics, founded over thousands of years of philosophy and a multitude of interpretations and conflicting definitions, definitely remains an ambiguous concept.

CHAPTER 4. THE CASE STUDY BUILDINGS. Chapter 4 focuses on the ten case study buildings. A general overview positions the case studies in relation to the general categories of *acute* and *chronic* care environments and the location of the buildings. The *acute* high-tech environments comprise four hospitals or specialized clinics; the *chronic* low-tech environments are represented by six quite different types of care buildings. Five of the case studies are Japanese: Katta Public General Hospital, Katsura Ladies Clinic, Senri Rehabilitation Hospital, Baum Haus Psychiatric Rehabilitation Centre and the Yuraku Nursing Home for the Elderly. The European case studies are located in five countries: Marne-la-Vallée Hospital Centre in France, Malmö Emergency and Infectious Diseases Unit in Sweden, Maggie's Glasgow in the UK, Käpylä Autism Centre in Finland, and Haus Steinfeld Senior Centre in Austria.

Each building is then presented individually and analysed, based on the architectural drawings, features observed on-site and information collected during

walk-throughs of the buildings. The aesthetic strategies and aims of the building designs are described, as defined by the architects during interviews or in literature and lectures. Sou Fujimoto presented the design concepts of Baum Haus at an architectural symposium in Hämeenlinna, Finland, in 2008, and Jérôme Brunet of Brunet Saunier Architecture lectured on the design principles of Marne-la-Vallée Hospital Centre at an academic seminar in Paris in 2013. In order to illustrate the environments that the respondents of the study are reacting to, a set of photographs and drawings highlight the architectural features and ambience of the buildings.

CHAPTER 5. THE RESULTS OF THE Q METHODOLOGICAL EXPERIMENTS. This chapter reports the very elementary results retrieved from the Q experiments. Two aspects are essential from the point of view of interpreting the results: firstly, how every respondent positions him/herself in the universe of opinions. When several respondents share viewpoints on the care environment, they form a factor in the statistical analysis. Secondly, by observing which statements describing the environment form each factor, the content of the shared viewpoints is revealed. The emerging factors represent clusters of opinions, here interpreted as overall aesthetic statements on the care environment. The following five aesthetic discourses emerged: the *'putting patients first'* (ADI); the *Nightingale discourse* (ADII); the *nature – wellbeing – personalisation* (ADIII); the *'my home is my castle'* (ADIV); and the *rational wayfinding system* (ADV).

When statistically analysing the similarities and dissimilarities between these discourses, the so-called consensus statements conveyed some common values for all discourses, which could be seen, in the context of this study, as universal aesthetic values that transcend the building types, the stakeholder's and user's statuses and the cultural contexts. The normative implication of these universal aesthetic values is that the dimensions and features of such aesthetics should be taken into consideration in the design of *any* care environment, if we want to design environments that respond to the basic elementary needs and expectations of the users and stakeholders.

CHAPTER 6. DISCUSSION. In this chapter, I return to the initial research questions and mirror them with the Q methodological findings. The results are contrasted with the different types of care environments represented in the study, the geographical and cultural contexts of the case buildings, and with the different user and stakeholder groups of the participants. The photos of the important features and places indicated on-site by the participants during the Q experiments are analysed and arranged according to user/stakeholder groups. The Q results are then compared with previous research and issues in the topical healthcare architectural debate discussed in the first chapters of the thesis.

The assessment of the case study buildings by the users and stakeholders shows to what extent the buildings can be considered future best-practises from a user perspective as well. In view of the case study selection criteria of selecting only awarded and celebrated buildings, the first-hand user and stakeholder reactions help to simultaneously reassess experts' evaluations of architecture. As a synthesis, a set of future best-practice features and concepts, exemplified by identified features of the case study buildings, is proposed as lessons – both positive and negative – to be learned from the case studies. In the final part of the chapter, the adaptability of Q methodology to the investigation of architecture is discussed.

CHAPTER 7. CONCLUSION: RECONCILIATION BETWEEN DISCOURSES.

The findings and some of the new advances of this study have been discussed on different levels in the preceding chapters, including, for example: building a theoretical model of aesthetics and architecture in Chapter 2; adapting Q methodology to the investigation of care environments in Chapter 3; presenting the 'raw' findings of the study as five aesthetic discourses and a set of universal consensus statements in Chapter 5; and discussing the implications of these findings in relation to the research questions and the user/stakeholder experiences in Chapter 6. Nevertheless, I felt that it all needs to be brought together in a final conclusion chapter. This, the last chapter begins by summarising the main results and conclusions of the preceding chapters.

Finally, I return to the normative aims underpinning this study, namely, to contribute to an increased understanding of care environment aesthetics and architecture on the part of the professional designers, the commissioning parties and the end-users. The emergence of future state-of-the-art care environments that respects *all* users' and stakeholders' expectations requires listening to their subjective voices. Indeed, a reconciliation between the currently disparate discourses is needed.

The idea behind the structure of the thesis is that the five main parts: the review of prior care environment literature and research; the philosophical framework of aesthetic and architectural theory; the adaptation of Q methodology to the investigation of care environments; the descriptions of the case study buildings; and the research outcomes and subsequent discussion, would form parts that stand on their own so that the reader could consult them independently of each other. Some readers may eventually elect to read only parts of the thesis: those who are interested in prior research related to the aesthetic dimensions of care environments through advances in environmental psychology and evidence-based design might read only Chapter 1; those whose main concern is philosophical, with an interest in how different concepts of the aesthetic could be combined to

develop a theoretical model relevant for the care environment can read Chapter 2; while a scholar interested in methodological issues and the results of the study might focus on Chapters 3 and 5. The architect, who might be more interested in specific building solutions and photographic illustrations of the case studies, might only browse through Chapter 4. And, of course, the reader in a hurry can choose to jump straight to the conclusions in Chapter 7. However, in the interest of systematic discussion and in order to fully utilize the vast amount of original research material and the documented first-hand user and stakeholder experiences, the thesis is inevitably a long read for those who set out to study the whole text.



THE CARE ENVIRONMENT: RESEARCH APPROACHES

This chapter focuses on the care environment and its users; how it is defined within the realm of this study and how it has been approached in previous empirical research, with special emphasis on potential aesthetic dimensions and features. Although some of the topical research and design trends do relate to and even investigate aesthetic dimensions of the care environment, *aesthetics* as a main focus has been, if not neglected, then at least approached in quite a narrow and sectorial manner in prior research. Consequently, discussion on the aesthetics of care environments is dispersed throughout the wide range of healthcare discourses and research traditions.

With this in mind, this chapter will first define the concept of the care environment in relation to its users as applied in this study (1.1.1) and provide a short summary of topical design and research trends in the broader field of healthcare architecture (1.1.2). Previous empirical research that refers to potential aesthetic dimensions will then be approached from different perspectives by first turning to environmental psychology, connecting conceptions of wellbeing and quality of life to the aesthetic field (1.2.1). Underlying theories linked to the care environment (1.2.2) and more specifically theories on art in care environments are discussed (1.2.3). Previous research on visual images and preferences in the domain of empirical aesthetics (1.2.4), as well as the role of art and pictorial intervention in care environments are addressed (1.2.5). Topical themes are reviewed, such as the effects of nature and visual stimuli on pain relief and stress (1.2.6) and on cognition, the senses and restoration (1.2.7).

Theories on the effects of the social dimension in the care context are further included in the review (1.3.1), in an effort to broaden what can be described as the narrow view of the aesthetic as the appearance of things, perceived by the sense of sight, detached from contextual or social considerations. Previous studies related to social interaction and privacy in the care environment context are discussed (1.3.2).

1.1 THE CARE ENVIRONMENT

1.1.1 DEFINING THE CARE ENVIRONMENT AND ITS USERS

The concept of the *care environment*, as applied in this study, is defined as the physical environment in which a person in need of care is living as a resident or receiving treatment as a patient or client. This general conception enables a variety of different care facilities to be included and contrasted in the study, such as hospitals, specialized clinics, physical and psychiatric rehabilitation centres, patient support centres and care facilities for the elderly and the disabled. Educational buildings, nurseries for children and home care settings are excluded.

This general conception reflects a diversification of the field of healthcare and social services, as well as the buildings these services occupy. Some care environments are defined by the fact that they target a limited user clientele: the elderly in nursing homes, the autistic person in a psychiatric rehabilitation centre or a mother giving birth in a delivery clinic. Other care buildings, such as hospitals and rehabilitation centres, are more general, serving diverse user groups with patients of all ages and with diverse needs. Common in almost all of these care environments is that there exists a multitude of different users and stakeholders. The patient, the resident or the client as the 'object' of care or cure procedures, can be considered the main user or the *raison d'être* of care environments. These main users have visitors and family members that may participate in the care process. Furthermore, the care environments are the workplaces of care staff, nurses and physicians, as well as maintenance staff, logistic personnel, technicians and the like. The use of the building is organized and supervised by the administration.

According to some, future trends indicate a division of the treatment and living facilities of today based on the degree of technical specialization and the level of hygienic standards adopted in these environments. On the one hand, there is the acute high-tech hospital environment, with a high level of hygiene and technical medical equipment, whereas, on the other hand, there is the low-tech treatment and living environment of rehabilitation centres and care homes (Nagasawa 2010, Nakayama 2008, Huttunen et al. 2011). One underlying incentive

for this division is economic, based on the idea that high-tech and highly specialized care environments are also more expensive to build and to maintain, and hence should be kept to a minimum. The time patients spend in these expensive environments should be minimized and, indeed, a common goal is to reduce the length of stay in acute hospitals¹. In general, patients in these environments are ephemeral passers-by who, as a rule remain unknown on a personal level to the staff caring for them as they do to other patients. On the contrary, in low-tech care environments, patients stay for longer periods of time, use services on a regular basis, or these environments might become the home of residents until the end of their lives. Therefore, the relationship between caregivers and patients, residents or clients is more profound and long-term in these ‘chronic’ environments. Furthermore, the effects of the physical environment and its quality on patients’, residents’ and clients’ wellbeing and potential healing processes are presumably, if not more important, then at least more long-lasting in these long-term care facilities. This general division into *acute* high-tech and *chronic* low-tech care environments is taken as a point of departure in setting the hypothesis and the selection of the case study buildings in this study, as described in Chapter 3.

1.1.2. TOPICAL TRENDS IN HEALTHCARE ARCHITECTURE

When approaching the care environment through healthcare-related architectural literature and previous research, several topical fields of inquiry affecting the design outcomes can be distinguished.

Sustainability as a mega trend has influenced the debate on healthcare architecture, touching aspects of location (city vs. suburban context), building scale (compact vs. spread out), the choice of materials (ecological, safe and healthy materials) and technical systems (energy consumption and life cycle costs). These choices directly affect sensuous qualities of the care environment through features such as indoor air quality and lighting, access to natural light, surfaces and the need for ventilation and cooling systems (Guenther & Vittori 2008). Building maintenance, durability and especially the transformability of healthcare buildings to meet future demands is a part of sustainable thinking. The short life cycle of many healthcare buildings² has affected design concepts of new hospitals in search of spatial solutions that are adaptable and flexible (Blin 2013). Building sustainability assessment tools and methods³ have been and are constantly being developed to guide the design process of various types of care environments in different regions (Castro et al. 2017).

Organisational models pertain to the organisation of care work and treatments inside a hospital compound and influence how these affect the building design, the division of hospital wards and the formation of building blocks. A

report by the Netherlands Board for Hospital Facilities identified three organisational models used in current hospital designs: 1) organisation according to target groups and clinical entities, for example oncology, acute care or heart and vascular diseases; 2) organisation based on patient flows, such as acute, urgent, elective or chronic care; and 3) organisation based on care processes, among others screening and diagnostic centres, consultation and appointment centres, nursing centres or logistic centres (Kjisik 2009, p.89). The **process-based design approach** concentrates on the phases patients go through during their hospitalization, including movement inside the building and waiting for treatment, with the aim of optimising care processes, functional connections and uses of individual spaces. Care processes have in turn been divided into standard, routine and non-standard processes (ibid., p. 171). Recently the modularization of service mechanisms has been introduced to increase efficiency in specialized hospital services (Silander et al. 2017).

On a societal level, the **system of organisation and financing** of healthcare and social services affect the building and design solutions of care environments. In Finland, where the publicly funded system relies on municipalities to provide health and social care services, one goal of the on-going system reforms has been the integration of health and social care services (Couffinhall et al. 2016). Consequently, in Helsinki, the current trend is to abandon small community health centres and build large Health and Wellbeing Centres with centralized services⁴. In Japan, the health system combines a universal public medical insurance system with the freedom of patients to choose healthcare facilities. There, contrary to the case of Finland, small health clinics⁵ play an important role in primary healthcare (Sakamoto et al. 2018) and the competition for patients between these mostly privately-run small medical facilities has resulted in competition based on architectural quality and positive patient experiences, especially in dental, paediatric and maternity clinics (Abe 2006).

A **patient-centred care** philosophy is founded on the experience and empowerment of patients more comprehensively than merely being based on organisational models and care processes. Patients are viewed as consumers of health care whose needs and wishes should be tended to on a physical, psychological and social level. Initiated by the Planetree movement in the US in the 1980s, a new model of care based on patient education, participation and family involvement emerged. Planetree health centres set out to provide the public with access to medical information and model hospital units aimed at changing the physical hospital environment into a more comforting and supportive place (Frampton, 2003). An international movement towards humanizing the care environment emerged as a countermeasure to the perceived high-tech, scientific and institutional medical practice. Humanistic design features emphasize non-institutional, small scale and homely environments, where the high-tech features of medicine



Figure 1. Patient room (Verderber 2010)

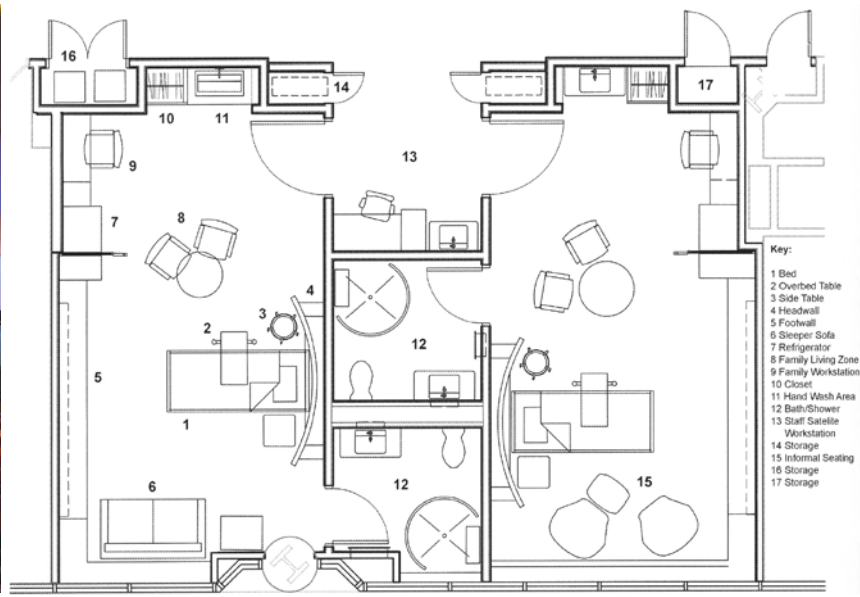


Figure 2. Adopt-a-Room prototype, floor plan (Verderber 2010)

are hidden and patients are cared for holistically by also using elements from nature and the arts (Bates 2018). Environments promoting the wellbeing of patients have positive acoustics and soundscapes, variation in lighting, scents, tactile surfaces, colours, internal/external views, optimal north-south orientation and are sensitively designed, similarly to hotels (Macnaughton et al. 2005). Advocates of Planetree identified environmental features such as legible and easy entrances, wayfinding by means of architectural elements, lighting, colour, artwork and furniture, and an ambience of lobbies and patient rooms that engage all five senses (Arneill & Frasca-Beaulieu 2003).

In an effort to translate these goals into patient room layouts, designers at Perkins+Will launched the *Adopt-a-Room* prototype, completed at the University of Minnesota Children's Hospital Fairview in 2006, see Fig. 1 and 2. Four aspects of the in-patient experience were targeted: sense of control of the physical environment, comfort, connectedness with the world outside and family involvement (Verderber 2010, p.72). Exceptional features were: a family zone located at the corridor side of the room, facilitating staff – parent communication and enabling parents to come and go without disturbing the child; an acoustic design that suppresses disturbing sounds from the corridor and toilet; a LED lighting system in the ceiling that makes it possible to alter the ambience, colour and lighting of the whole room; and access to large flat televisions screens, DVD and internet connections. Family participation is supported by an adjustable parent/visitor bed that can be set at the same height and placed parallel with the child's bed. In order for parents to be able to stay with the child, the required storage closets and work station are provided. A refrigerator, microwave and coffee machine

give a domestic feel to the room allowing for smells and sounds of cooking to fill the room.

Another line of research has addressed the functional or ergonomic dimensions of the care environment, amounting, at least in the Finnish context, to an abundance of policy papers, research reports and innovations focusing on purely functional aspects of the care environment. The usability of specific spaces or building parts has been seen as a larger concept in which functional performance is combined with surveying user needs and their implementation (Aalto 2019). This **function-focused** or **usability-focused tradition** has included studies investigating the refurbishment of existing long-term care hospital wards (Åkerblom et al. 2006); the convertibility and adaptability of individual spaces in new senior residences (Hynynen 2010); the dimensioning of spaces in the apartments of the elderly receiving home care (Sipiläinen 2011); and the accessibility of outdoor spaces and courtyards (Verma et al. 2012). Functionality, accessibility and principles of universal design have been connected to a multisensory experience of housing for the elderly (Verma 2019, Verma et al. 2013) and of environments for the visually impaired (Jokiniemi 2007). The usability of workspaces within different social and healthcare buildings has been especially evaluated from the point of view of an ageing workforce (Aalto 2019). Other studies have analyzed in-depth the ergonomic aspects of specific spaces, such as the optimal size and layout of the toilet (Sipiläinen 2011). In Finland, this function-focused or usability-focused research approach has entailed technical innovations including the development of safety solutions such as the interactive Elsi Safety Floor or the Beddit Sleep monitoring system,⁶ which can be used as subtle ways to monitor the safety of elderly residents.

On a global level, the development of **new health technologies** is slowly transforming the ways care procedures and maintenance work are executed. Many factors are involved in changing how care environments function: the proliferation of service robots delivering medications, specimens or meals; tele-operated devices assisting in surgical procedures; diagnostics or rehabilitation and care support robots performing part of the care work; and finally the improvement of existing electronic medical records and prescription systems (Mettler et al. 2017). While the incentive for this technology-based development might partly be to render the healthcare sector more cost-efficient by reducing the workload of healthcare professionals and alleviating the shortage of care workers, it also affects the usability of care environments. These changes will most certainly affect future spatial requirements and architectural solutions.

Touching on many of the above-mentioned approaches, the research discipline of **evidence-based design** (EBD) has, during the last forty years, attempted to empirically evaluate the effects of the physical environment on the various user groups of care environments. As a broader framework, the aim of EBD research

is “to apply scientific knowledge and methods to help guide healthcare facility design that reduces the stress of facility users, improves safety and productivity, reduces resource waste, and enhances sustainability” (Ulrich et al. 2010, p.95). Evidence-based design has been seen as the theoretical foundation of *healing* environments (Huisman et al. 2012). Healing powers have been attributed to single patient rooms, adequate lighting, acoustics, ventilation, ergonomic designs, spatial layout and work settings, by affecting sleep quality, feelings of stress, pain, and the use of drugs (Ulrich et al. 2004, 2008). Other research reviews have found positive effects for environmental features such as sunlight, windows, odour, and seating arrangements, but inconsistent results for the effects of sound, nature, spatial layout and television (Dijkstra et al. 2006). However, other studies have found little scientific proof linking daylight with health consequences (Aries et al. 2015). Affected by the outbreaks of epidemics such as SARS or nosocomial hospital infections, safety, as a feature of healing environments, encompasses not only architectural features such as the ergonomic and functional design of the care environment, but also notions of hygiene and indoor air quality (Wagenaar 2006). In the so-called “post-antibiotic era” the war against the spread of diseases has been defining the design of new hospitals and specialized clinics (Holmdahl & Lanbeck 2013).

However, although evidence-based notions already widely influence design solutions of new care environments, with models developed to integrate these in the design processes (Davidson 2017), considering both the layout of spaces, choice of architectural elements and design of outdoor spaces, it seems premature at present, on the basis of available research, to formulate evidence-based guidelines for designing healthcare environments (Dijkstra et al. 2006, van de Glind et al. 2007, Paraskevopoulou & Kamperi 2018, van Oel et al. 2019, Delcampo-Carda et al. 2019). The result is a diverse praxis and a wide range of different typologies of care environments. Both the debate and praxis of design are in a flux on issues such as single vs. multiple patient rooms, ‘nature vs. brick walls’ as well as the spreading out or centralization of staff work stations. A methodological challenge seems to be on the one hand to isolate and on the other to *prove* the effects of specific environmental stimuli on healthcare outcomes. This has resulted in an abundance of studies trying to approach the subject from different angles. The information explosion connected to evidence-based design has led some to develop computer-aided ‘knowledge modelling tools’ in a theoretical attempt to assess the cumulative effect of environmental aspects (Durmisevic & Ciftcioglu, 2010).

Another question under debate relates to the methodological choices/findings in these EBD studies. According to some, the number of pertinent empirical studies that indicate environment – outcome relationships exceeds 2000 articles (Ulrich et al. 2010, p.108); but others, adopting stricter inclusion criteria, found only 30 out of 500 (Dijkstra et al. 2006) or 28 out of 798 potential research articles

(Huisman et al. 2012) that reported measurable outcomes on the patient, family or staff end-users.

The **role of nature** and **the arts** are additional subjects that have received considerable attention in the healthcare architectural discourse. The restorative and potentially healing effects of nature have either been contributed to cognitive mechanisms (Kaplan 1995, Berman et al. 2012) or to the physical reactions of an evolutionary origin (Orians & Heerwagen 1992; Ulrich et al. 2003). Natural environments have been thought to affect users as a passive experience by being in or looking at nature, or more actively through rehabilitation and therapy, inducing wellbeing, providing relief and reducing stress (Bengtsson & Grahn 2014, Marcus & Sachs 2014). The debate on the role of art and especially art content divides the academic field. While some propose that the content of artwork in the care environment should be strictly regulated to particular art styles and content, namely representative art with views of nature and people with “positive facial expressions” (Ulrich & Gilpin 2003, p.137) and that abstract art can even be detrimental (Nanda et al. 2011), others argue that art on the contrary should be challenging and address the fundamental existential issues patients face (Jencks 2010, Perry 2007). These topical design issues and research findings will be addressed in more detail in the following subsections.

1.2 AESTHETICS AND WELLBEING: ADVANCES IN ENVIRONMENTAL PSYCHOLOGY

1.2.1 DEFINING HEALTH AND WELLBEING

The World Health Organisation has defined *health* as “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity” (WHO 1946). The notion of wellbeing has been associated with the concept of *quality of life*, defined as an “individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards (...) affected in a complex way by the person’s physical health, psychological state, level of independency, social relationships, personal beliefs and their relationships to salient features of their environment” (WHO 1998). According to this international consensus, wellbeing and quality of life is culturally bound, affected by the physical environment and a subjective state of mind.

In the discussion on quality of life, a distinction has been made between *objective* indicators of quality of life and *subjective* evaluations on how these material and non-material conditions impact on quality of life and wellbeing (Uzzell & Moser 2006). Objective quality measures include not only factors such



as financial resources, availability of amenities, safety, accessibility to social and health care but also dimensions of the physical environment such as the quality of the home environment, leisure opportunities, access to nature or measurable environmental qualities, such as noise, pollution and climate. Subjective quality of life measures on the other hand deal with an individual's life satisfaction, self-reported psychological health and wellbeing. The subjective experience of wellbeing is mediated by personal expectations, social comparisons and the way people interact with their environment (Moser 2009).

The idea that a high quality of life can be achieved through *person-environment congruity*, defined as a positive relationship between the objective qualities of the environment and subjective experience of satisfaction concerning this environment, originates in the ecological theories on human behaviour introduced in the 1970s (ibid.). Lawton (1975) launched the concepts of *competence*, referring to a "theoretical upper limit of capacity of the individual to function in the areas of biological health, sensation-perception, motoric behaviour, and cognition", and of *environmental press* connoting that the environment asserts demands on the individuals that are relative to their coping capabilities (Toyama 1988, p.18). Man-environment interactions are affected by dimensions such as needs, personality traits and environmental cognition. Lawton's thesis proposes that there are limits to human adaptive behaviour and competence in relation to environmental press; too low or too high press resulting in negative or maladaptive behaviour. Especially considering persons with dementia, Lawton and colleagues (Lawton 2001) developed a set of eleven universal human needs, with which the environmental context should be congruent in order to minimize unwanted behaviours and feelings and maximize the desired ones. These generic needs could be used as indicators of quality of life and are listed as follows: autonomy, individuality, dignity, privacy, enjoyment, meaningful activities, relationships (interactions), security/safety, comfort, spiritual wellbeing and functional competence (ibid., p. S59). Noteworthy is that although functional competence is only one of these eleven 'needs', much of architectural healthcare research has evolved around the functionality of spaces.

More recently, concepts such as *human-friendly environments* have been launched in an attempt to pinpoint the potential role of the environment in creating wellbeing, referring to "environments or settings that provide support to individuals and different groups so that they can implement their goals or projects, with a potential impact on the subjective well-being" (Horelli 2006, p.19). The individual level of person-environmental congruence is in this concept linked to a more collective environment fit, connecting feelings of wellbeing and life satisfaction to a sense of community and social capital.

In the following sub-sections, I will first discuss relevant theories on person-environment relationships and how aesthetic dimensions have been ad-

dressed in environmental psychology and prior empirical research especially in the care environment context. Then, implications of the care environment on interpersonal relationships and the social dimension are addressed.

1.2.2 ENVIRONMENTAL PSYCHOLOGY; THEORIES LINKED TO THE CARE ENVIRONMENT

The domain of environmental psychology studies how people interact with the physical environment – be it built or natural – through a multitude of research methods. Environmental psychologists are far from unified on the ways in which the environment affects us (Gifford 2016). In early writings, the importance of features such as sunlight, fresh air and greenery were intuitively assumed to be healthy. With Florence Nightingale's influential *Notes on Nursing* (1859) at the forefront, the **pythogenic theory** or the **theory of miasma**, ascribed the etiology of all diseases to bad air (Parsons 1991). The belief that access to fresh air could reduce morbidity rates influenced the location of hospitals and sanatoria in attractive natural settings with gardens and terraces for patients (Ottoson & Grahn 2005). The Paimio Sanatorium in Finland, designed by Alvar Aalto in 1933, is a prime example of the Modern Movement implementing these ideas (Ståhlberg-Aalto 2014). In the latter part of the 20th century, theoretical approaches on person-environment relationships affecting the debate on healthcare environments have expanded, including theories on environmental load, arousal, stress and adaptation, privacy regulation, behaviour settings and transactional approaches (Sundstrom et al. 1996).

The **environmental load theory** relies on the *overload hypothesis*, which assumes that human beings have limited capacity to process and cope with sensory stimuli and information overload. As a result, we are selective and ignore low-priority inputs. In the 1970s, psychologists such as Albert Mehrabian proposed that this screening ability is individual, differentiating between high-screeners, who have a high ability to reduce the effects of an overly complex environment, and low-screeners, who are more sensitive to environmental stimuli and unable to screen out information overload (Dijkstra et al. 2008). According to the **arousal theory**, environmental features, such as visual stimuli, noise and temperature, influence processes of psychophysiological arousal and thus our behaviour. The *arousal hypothesis* proposes that we could predict optimal performance and satisfaction under conditions of moderate arousal. **Theories on stress and adaptation** connect environmental features with physiological and psychological stress and with the adaptive behaviour that aim at reducing the impact of stress (Sundstrom et al. 1996, pp.489-91). **Behaviour setting theories**, such as the reasonable person model, anchors human behaviour in how our sensory system processes informa-

tion from the surrounding environment, building up cognitive maps of how to behave under similar patterns of information. The impact of the environment is stressed, in that “people are more likely to be reasonable in environments that support their informational needs”, that is, environments that are easy to understand and interpret (Kaplan & Kaplan 2009, p.330).

In particular, theories on arousal, stress and stress recovery have been influential in the discussion on *healing architecture* and the potential of the environmental features of healthcare settings to positively affect healthcare outcomes. In this line of reasoning, bad environments induce stress, which in turn has negative impact on healthcare outcomes in many ways. **Stress** can generally be defined as “a process of responding to situations that are demanding, overtaxing, or threatening to well-being” (Ulrich et al. 2003, p.39). Stress is thought to affect the individual both on a psychological level, manifested by cognitive impairment or emotions such as fear, anger or sadness, and on a physiological level through our bodily functions, such as blood pressure levels, stress hormones and immune functions (Ulrich et al. 1991). While mild forms of stress can be seen as positive for performance, high levels of stress or continuous lower levels of stress are deemed unhealthy. Especially in the healthcare context, where patients are vulnerable, stress is thought to imply negative or worsened medical outcomes.

By applying the **arousal theory** to healthcare settings, it has been proposed that environments with high levels of stimulation or arousal properties, such as complexity, intensity and movement,⁷ increase experiences of stress among healthcare users and hence should be avoided (Ulrich et al. 2003). At the same time, healthcare settings of today are considered to induce stress in many ways. On a psychological level this can occur through fear of impending surgery and painful medical procedures, lack of information and loss of control, reduced physical capabilities, disruption of social relations (Nanda et al. 2010, p.380), but also through the poor design of the physical environment (Ulrich et al. 2008). Hospitals have been described as “built catastrophes”, “unfit” or “evocative of quick, premature and painful death”. They have been viewed as institutional complexes that make users feel lost and forced into awkward social situations, such as sharing rooms with strangers (Wagenaar 2006, p.11). Low-stimulation environments, such as natural environments, on the other hand reduce stress. However, when going deeper into the underlying mechanisms of how **stress restoration** or restorative environments affect us, two dominant and competing theories, closely linked to and touching on issues at the core of aesthetics emerge: the attention restoration theory, introduced by the Kaplans and the psycho-evolutionary theory of Roger Ulrich and colleagues.

The **Attention Restoration Theory** focuses on the role of ‘directed attention’ as a cause of mental fatigue and the means of restorative environments, such as nature, to reduce this fatigue (Kaplan S. 1992, 1995, 2001, Berman et al. 2012). The

theory is based on a division of the attentional mechanisms into ‘voluntary attention’ and ‘involuntary attention’, introduced in late 19th century by the psychologist-philosopher William James. Voluntary or directed attention is viewed as a cognitive-control process central to problem-solving and planning that enable us to focus selectively on the environment, and to control distractions through the use of inhibition. These are features essential for human functioning in the world, which require mental effort. As directed attention requires effort, it is susceptible to fatigue and prolonged mental effort is considered to induce directed attentional fatigue (DAF). Consequences of DAF are difficulties in concentrating and making decisions, being easily distracted, impatient and irritated. Involuntary attention on the contrary, requires no effort and is captured by inherently fascinating stimuli. While in an involuntary mode, directed attention rests and we feel restored.

According to the Kaplans, a restorative environment is composed of four features: fascination, being away, extent and compatibility. ‘Fascination’ refers to the spontaneous and effortless process associated with involuntary attention, when our interest is captured by intriguing or fascinating features of the environment. ‘Being away’ implies escaping to another setting, even if only conceptually, where thoughts and focus can be freed from mental activities that cause fatigue and require directed attention. By ‘extent’ is meant that the environment should be rich, coherent and have enough scope to allow us to be immersed within it, and, ‘compatibility’ refers to environments which correspond to our purposes and inclinations (Kaplan, S. 1995). Now, although nature is not the only possible environment, the restorative effect of natural environments has been explained by the fact that they easily provide these features.

In line with the arousal hypothesis, the attention restoration theory argues that natural environments are more restorative than urban environments, because they evoke our attention *modestly* and in a bottom-up fashion through features of the environment itself, allowing directed attention to renew. Urban environments on the contrary, capture our attention *dramatically* and directed attention is not able to rest because it is needed to overcome the dramatic stimuli (Berman et al. 2012). Others have proposed that mixed built and natural environments are especially restorative, such as man-made healthcare gardens, stepping back from juxtapositions of urban vs. natural environments (Tenngart Ivarsson & Hagerhall 2008). Stretching the line further, nature’s restorative properties are not limited to being in nature *per se*, but can be present also through views out of windows, which provide so-called ‘micro-restorative experiences’ that beat the restorative benefits of views of urban settings (Kaplan, R. 2001). Windows and views from windows, especially views of nature, in turn are one of the central themes in the debate on healthcare environment design.

In the debate on the restorative benefits of natural vs. urban environments, another major approach has been one that focuses on stress recovery through a

psycho-evolutionary perspective. According to **the psycho-evolutionary theory** (Ulrich et al. 1991, 2003), and in opposition to the attention restoration theory, stress restoration is not due to cognitive processes, but rather initiated by immediate and unconsciously triggered emotional responses, which in turn effect physiological and psychological reactions. These affective responses are in turn of an adaptive evolutionary origin; the human being is thought to have a biological preparedness to respond positively towards certain types of unthreatening natural environments, for example, water or savannah-like areas, while threatening natural elements, such as snakes or spiders, automatically evoke negative reactions and stress. The *savannah hypothesis* is founded in these evolutionary stances (Orians & Heerwagen 1992) proposing that since human origins are in Africa and natural selection has favoured individuals who settled down in environments that provided resources for survival and reproduction, savannah-like open habitats are preferred over other types of landscapes. The savannah, with its low and grassy ground, sparse scattering of trees and distant views, is thought to have been easily accessible and rich in browsing animals and meat. While the Kaplans' evolutionary perspectives have stressed basic human needs in a cognitive assessment of environments, such as through the need to explore, acquire information and to understand the surroundings in order to cope in it, Ulrich's psycho-evolutionary model puts primacy on affective aesthetic responses as independent of and primary to cognition. In this line of thought, aesthetic responses are positive or negative, 'like-dislike' reactions affecting feelings of pleasure and physiological responses. They are genetic, innate and cross-cultural phenomena (Parsons 1991).

1.2.3 THEORIES ON ART IN CARE ENVIRONMENTS

One might think that the evolutionary scenarios discussed in the previous section are quite far from design issues in care environments in the 21st century. However, connecting the psycho-evolutionary theory with theories on emotional congruency has led to quite detailed recommendations on art selection for hospitals. The **emotion congruency theory** states that a person's emotional state is reflected in the way he or she perceives environmental stimuli and information. Projected to the care context, patients "tend to perceive, interpret, and have associations with art in ways that match their emotional states or feelings" (Ulrich & Gilpin 2003, p.123). The point of departure is that as patients might feel depressed or suffer from acute emotional distress, they might interpret or perceive works of art as threatening or stressful. This in turn has led Ulrich & Gilpin to ban certain art styles and subject matters, such as abstract or surreal art and art with ambiguous content, and correspondingly to promote representational art with positive and unambiguous content. Lists have been made of recommendable content; water-

scapes (calm non-turbulent water, no storms), landscapes (with visual depth and an open foreground, warm seasons and verdant vegetation, low hills, no high mountains and no bleakness), scenes with positive cultural artefacts (barns and older houses), flowers (healthy and fresh flowers, only well-known species, no novel or strange flowers and no decaying ones) or, figurative motifs of people with positive facial expressions, positive relationships between people, cultural and generational diversity and people in natural settings. Close-up animals staring directly at the viewer should be avoided because they could stir our genetic fight-or-flight instincts (ibid., p.134-136).

These art recommendations, although much cited, have brought about protests from the art world and among architectural critics and healthcare providers. The tranquillizing and calming function of hospital art as a way of reducing stress has been questioned by the British artist Grayson Perry, among others. Perry (2007) proposes that because hospitals are “places of extreme drama” where “death, injury, birth and the saving of life are hourly occurrences”, this should be reflected in the content of art-work as a response to the existential questions occupying patients. He calls for patients to be treated as adults and claims that “[p] art of healing might be facing up to the realities of being stuck in a fallible body” (ibid.). The idea, that as a contrast to “the usually bright, cheery and mercilessly inoffensive hospital art”, the care environment should in fact have works with “brooding, passionate” or even “religious intensity”, has also been advocated by architectural critics (Heathcote 2010, p.91).

In the Maggie’s Cancer Caring Centres in Great Britain, one of which is a case study in the current work, art is selected by contemporary artists and the Centres are designed by acknowledged architects in order to turn the whole building into a work of art. Founding partner Charles Jencks proposes that every Maggie’s Centre should have at least one challenging work of art that addresses the fundamental issues patients face (Jencks 2010, p.29). As the many case studies in this thesis will show, art and architecture can go beyond stereotypical savannah images and relate not only to the cultural identities of the users at hand – which here spans both Japan and various countries in Europe – but also actively involve the users in making art and occupying space in innovative ways.⁸

1.2.4 EMPIRICAL AESTHETICS, THE VISUAL AND ENVIRONMENTAL PREFERENCES

Empirical aesthetics, or psychological aesthetics, has attempted to prove theories on person-environment relationships and human preferences in empirical studies. There are two main categories by which the aesthetic has been tested: through self-reported and subjective reactions towards features of the environ-

ment, or by measuring physiological reactions within the body while exposed to an environment (Wohlwill 1976, p.74). In the former, there is a strong tradition of applying visual images or virtual reality, often to subjects with no relation to the environment they are reacting upon, and more recently by interventions manipulating the real environment. The measuring of bodily physiological reactions has been applied in the healthcare context within the evidence-based research tradition with the goal of finding ways of influencing health outcomes, healing and coping. Common to both these approaches has been that they tend to look at the aesthetic in a narrow way, that is, as visual perception.

A distinct sub-field in the assessment of architecture has aimed at demonstrating the connections between the physical characteristics of buildings, the emotional responses they evoke in observers and the meaning observers attribute to architecture. Different building types have been assessed by either rating or sorting colour photographs of their façades, such as residential buildings (Devlin & Nasar 1989, Purcell & Nasar 1992), office buildings (Gifford et al. 2000), court houses (Maass et al. 2000), or by comparing how architectural and interior design styles reflect preferences (Groat 1982, Lyon et al. 2012). Correspondingly, cognitively challenging concepts such as mystery and surprise (Nasar & Cubukcu 2011) or the effects of light and colour on perceived wayfinding (Hidayetoglu et al. 2012) have been studied by moving through virtual reality models. The leitmotif in this body of research is that responses to colour photographs or virtual reality correlate with real environments to the extent that there is no need to test real environments. A common theme has been the comparison of design professionals' and laymen's preferences, in order to find explanations for the gap between 'high' design and 'common' architectural styles and taste, finding differences in perception, meanings and values attributed to the built environment by the different user groups.⁹

These simulation studies have recently been expanded to the healthcare context. The current trend of viewing patients, residents or clients as 'consumers' of healthcare that need to be pleased has made user preferences of interest to healthcare providers. In research focusing on healthcare setting appearances, respondents have been asked to assess medical facilities' quality of care and expected comfort based on viewing photographs of medical building façades (Devlin 2008), waiting rooms (Arneill & Devlin 2002), hallways, lobbies, patient and treatment rooms (Blumberg & Devlin 2006, Ullán et al. 2012, van Oel et al. 2019). Blumberg & Devlin and Ullán et al. focus on adolescents, concluding that their preferences differ from those of younger children in that they are sensitive toward symbols in the environment connected to childhood and prefer adult atmospheres. Photographic manipulations of patient rooms have been tested, in an attempt to prove Mehrabian's theory on stimulus screening abilities and individual differences in reactions towards colours, by measuring respondents'

self-rated arousal, stress and cognitive appraisal (Dijkstra et al. 2008). Van Oel et al. (2019) compared patients' preferences of patient and treatment room layouts, placements and orientation of windows and doors, colours and lighting quality, with those of care staff by using computer-simulated illustrations. The results indicated that staff perceptions of what they thought patients would prefer differed from patients' actual preferences,¹⁰ implying that there is a gap between the user groups. Prior evidence-based design studies, using less visual material to contextualize the environments under investigation and to support findings, were claimed to portray biased staff viewpoints. In the elderly care context, a study focusing on female residents' perceptions of interior design elements in the living and dining-room areas of care homes assessed preferences by sorting photographs using Q methodology (Lyon 2010, Lyon et al. 2012).

The question arises whether the *experience* of healthcare environments – or any type of building – can be properly assessed in two-dimensional picture viewing sessions or by tours in virtual reality. Although the validity of these simulation studies can be ensured through principles of scientific control, spanning the location and angle of viewpoints, the camera lens, colour depth and lighting (Stamps 2016), the assessment remains limited to the visual. This is in contrast with the patient-centred care philosophy discussed previously and with concepts of aesthetic and architectural experience being multi-sensory and context-related that will be addressed in the next chapter. Although the simulation of a building's design by use of illustrations, photographic manipulations, 3D-modelling and animations is a tool used by the architectural profession to present visions and designs, these remain representations that do not substitute real-life and on-site experiences. If the goal is to investigate the quality of care and perceived comfort induced by the care environment, are we then missing the target if we set out to judge pictures of building façades, or to quote the title of one of these preference studies, “Judging a Book by its Cover”? Another relevant issue is how the content of the photographic illustrations and thus the research results are interpreted. In a study by Lyon (2010, Lyon et al. 2012) on elderly women's perceptions of care home interiors, quite far reaching interpretations concerning style, harmony and formal features such as line, rhythm and symmetry were drawn without properly defining the concepts or analysing how these features could be found in the assessed photos. The common saying ‘a picture is worth a thousand words’ might in this context refer to a situation in which research results and their implications are diffuse and difficult to interpret.

Another limitation is that the participants often have no relation to the environments or the situations they are asked to react upon. In a study by Dijkstra et al. (2008), college students were invited to *imagine* a situation where they are hospitalized with appendicitis, look at a photograph of a hospital room for 15 seconds and then complete a stress or an arousal self-report test. Can hospital

stress be imagined by a person who may have never been hospitalized, while sitting in front of a computer, let alone draw far-reaching conclusions on the differences between white- and yellow-coloured walls on stress levels? However, there are some studies that do involve the personal experiences of patients and photographs with a more in-depth approach. Radley & Taylor (2003) engaged nine patients in the act of photographing features they thought significant for their hospital stay, a technique the authors found prompted the respondents to reflect on the environment, evoked memories, necessitated visits to the places, confronting the objects they chose to photograph, and initiated discussion about these choices and the impact of the environment.

Virtual reality has been utilised as a tool for future users to interact in the design process of new hospitals. The HospiTool project (2004-2009) used Computer Aided Virtual Environment (CAVE), a small space where the virtual environment is projected on all surfaces and the images become three dimensional using special stereo-lenses, to assess user experiences of the future hospital in Seinäjoki, Finland (Nykänen et al. 2008). However, the hospital designs were so far advanced when the research project engaged the potential future users that only cosmetic changes could be made based on the user comments, for example, the exact placement of a bulletin board. Moreover, the virtual hospital spaces did not differ from a Finnish standard 2-person hospital room (placing one bed beside the window and the other bed beside the toilet door on the corridor side of the room), raising the question whether user experiences could have been collected in an existing hospital instead of using virtual reality. One challenge of this type of virtual reality experiments seems to be the pressed design and building processes to start with and the incorporation of the latest best-practise solutions.

1.2.5 ART AND PICTORIAL INTERVENTIONS IN CARE ENVIRONMENTS

Today, the role and content of the arts in care environments is being debated, regarding both its effects on the health and wellbeing of patients, residents and clients, on the working environment of healthcare professionals and also on patient/staff relationships (Wilson et al. 2016, Lankston et al. 2010). The Arts are part of many design briefs for new hospitals and other care environments as well as the day-to-day activities of these facilities, which has resulted in art commissions, visual art, sculptures, installations or landscape art, performances, dance, music, drama, poetry, art-cart programmes or art therapy.¹¹ The works are displayed either permanently or in touring exhibitions, free standing such as paintings or sculptures, or integrated in the building design itself as in wall murals or graphics (Rollins et al. 2009, Bishop 2012).

The physiological, psychological and behavioural effects of art as well as the preferences of patients, their relatives and staff vis-à-vis visual art and pictorial interventions have been approached empirically. Only a few of these studies are published in peer-reviewed journals, measure patient/resident outcomes and actually show the images used for the assessment (Daykin et al. 2008, Nanda et al. 2008, Lankston et al. 2010). In a systematic literature review Daykin et al. found 600 papers published between 1985 and 2005 relating to art in healthcare, of which only 19 met the selection criteria of reporting original research findings on art initiatives and interventions in care environments, excluding art therapy.

In an attempt to test the current recommendations for art selection discussed in the previous section as well as evolutionary theories on human preferences for representational art and nature scenes, Nanda et al. (2008) conducted an art survey in the US. Hospital patients, female students of interior design and male building science or architecture students rated a set of 17 images containing best-selling art and so-called 'recommendable' art for hospitals. The study did not juxtapose nature vs. urban images, rather it mixed different natural scenes, human figures and animals depicted either in an abstract, stylized or realistic manner, and asked respondents to rate how the images made them feel and whether they would put it on the wall in their room. The overall conclusions drawn by the authors were that patients preferred nature images with a realistic content, while the students with an art education background related more positively to stylized and abstract images. However, the image that topped the statistics both for emotional and selection ratings was one that deviated from Ulrich & Giplin's 'evidence-based' guidelines; a realistic close-up photograph depicting a rocky waterfall surrounded by trees in autumn colours. Contrary to EBD recommendations it showed running water, no visual depth or openness and 'decaying' autumn leaves, which were praised for conveying a sense of the passing of time and a sense of life. Noteworthy is that patients and design students estimated nearly all the images, regardless of content and style, to make them feel 'better' to 'much better', making the differences in outcome small. Furthermore, classical European pieces by van Gogh, Gustav Klimt and Marc Chagall that received ambivalent or negative ratings were not recognized by the respondents, which could indicate cultural bias or at least a lack of art knowledge among the North American participants.

The effects of different art styles on health outcomes has been approached in an intervention study measuring the use of anxiety and agitation reducing medicine in the multi-purpose lounge of an acute care psychiatric unit (Nanda et al. 2011). The lounge was used by seven female patients at a time during their evaluation stays of 3-4 days. For periods of 16-19 days, three 90x120 cm posters of works of art representing abstract (Jackson Pollock), abstract-representational (Van Gogh) and realistic nature photograph were each successively suspended on the wall. The

amount of acute medication prescribed to the patients while the art posters were displayed was compared with a control period with no poster on the wall. The results show a reduction of medication to 40% during exposure to the realistic nature poster, and correspondingly 84% for Van Gogh and 91% for Jackson Pollock. On the basis of these findings, the authors estimated the costs a care facility and the society at large could save annually by the use of visual art in the care environment. Considering the poor environmental quality of the lounge (no windows or natural light, fluorescent ceiling lights, no colours or distractions), the lack of data on the number of participants, the length of time they spent in the lounge and the amount of medication prescribed, as well as the ambivalent responses by the patients to the art posters (some were intrigued by Jackson Pollock, others wanted to turn it around), it seems premature to draw far-reaching conclusions on the impact of art styles on health outcomes. However, the nurses interviewed were unanimous on the fact that the posters received much attention and initiated discussion in the otherwise deprived environment, making a case for art work in general in care environments, if not as art experience, then at least as a distraction.

Supporting this general notion, a quantitative pre- and post-evaluation study of a paediatric hospital unit in Italy found that parents' appraisal of the care environment improved considerably after a pictorial intervention (Monti et al. 2012). Endeavouring to humanize the old hospital spaces, the previously white walls adorned with small individual paintings hung side-by-side, were substituted with colourful whole wall murals depicting cartoons and fairy tales. The results of the study, based on parents' self-reported feelings, indicated that they felt more excited and less sleepy in the new milieu; a result perhaps unsurprising, considering the worn-out state of the spaces before the intervention and the overwhelming amount of visual stimuli in the new murals.

A qualitative study investigating hospitalized children's perceptions of artwork in an Australian hospital rich in both professional art and pictures made by the children went more deeply into the experience of the environment (Bishop 2012). The interviewed children found three key elements that influenced the appropriateness of the hospital environment: the aesthetic, age-appropriate activities and the welcoming attitude of staff. Functions attributed to art by the children were the provision of aesthetic variation, entertainment, distraction, engagement and identity to places. The artwork not only helped the children orientate inside the building, but more importantly it entertained them by making the environment more varied and interesting. Being bored was in fact feared by the children because it was associated with 'feeling down' about their situation and the hospitalization, making time go slower. The fact that art deinstitutionalized the hospital and made it look less hospital-like was appreciated as well as unlikely features such as a Chinese garden, which brought impressions from a foreign culture. Furthermore, pictures made by children induced feelings of support in

the knowledge that other children had been in the same situation, as well as the feeling that the hospital valued the perspectives and work of the children.

These findings suggest a broader and more multifaceted aesthetic function for artwork than evolutionary theories on preferences and stress recovery can provide, including variation, entertainment, distraction, engagement, deinstitutionalization, social support, wayfinding and identity. Hathorn & Nanda (2008) expand the list with results from a post-occupancy study on adult perceptions on hospital art, including notions of branding, proposing indicating that art improves the perception of care at the hospital; healing, in that art makes patients and staff feel better; and de-stressing, with art being soothing, relaxing and comforting. Furthermore, recent research in the UK envisages a larger cultural role for art in hospitals in that they could then function as a cultural and social resource for the whole community. The hospital could become art gallery, concert hall AND hospital (MacNaughton 2007).

1.2.6 THE EFFECTS OF NATURE AND VISUAL STIMULI ON PAIN RELIEF AND STRESS

The physiological effects of visual images and virtual reality other than art work have been tested empirically outside the care environment context. On a student population, Ulrich et al. (1991) simulated stress recovery resulting from watching video tapes. Heart rates, pulse transit time, skin conductance and muscle tension, as well as self-reported affective states, were measured before and after 120 students viewed two 10-minute videotapes. All participants watched a tape acting as stressor, depicting blood and mutilation scenes resulting from work accidents. They were then divided into groups, which watched six different tapes displaying everyday outdoor environments. The results indicated that recovery from stress was faster and more complete when subjects were exposed to natural scenes vs. urban environments. Inspired by Wohlwill's theory (1976) that people genuinely prefer to look at landscapes of mountains and lakes, Tse et. al (2002) tested the effects of looking at videotapes of nature scenes on pain threshold and tolerance. In a randomized controlled study, 46 Chinese students were induced with pain stimulus using a tourniquet pain technique, while watching either a soundless nature video or a blank screen. The test was repeated the following day so that all participants endured both video conditions. The results indicated that the use of visual stimuli considerably increased both pain thresholds and pain tolerance, suggesting that visual distraction alter pain perception and could be used as a non-pharmacological intervention in addition to conventional pain relief.

Visual stimulus and virtual reality studies have been expanded to real care environments with somewhat controversial results. A benchmark study on the



effects of nature views on health outcomes was a retrospective study comparing medical records and recovery rates of 23 pairs of post-surgery patients assigned either to a room facing a green courtyard or a room facing a brick wall (Ulrich 1984). The results showed that patients with windows onto the nature scene had shorter post-operative hospital stays, took fewer strong analgesics and received less negative evaluation comments in nurses' notes. However, critics have claimed that while lacking direct experimental evidence, the restorative properties of nature might be over-interpreted, ignoring differences in complexity between the monotone brick wall and the more varied greenery, as well as associations evoked by the content of the views (Parsons 1991).

In a later study, Ulrich et al. (2003) approached more implicitly stress and the effects of television by measuring 872 participants' blood pressure and pulse rate before and after blood donation. Four different videotapes of nature, urban, regular daytime television and a blank monitor were displayed on small television screens in a corner of the waiting room and facing the blood donor in the treatment room. The findings were reported to provide evidence that "environmental conditions had significantly different effects on donor stress" in favour of natural vs. urban tapes and no television vs. television (*ibid.*, p.38). However, the differences of blood pressure and pulse rate, although they might be statistically significant, were minuscule, falling well into an individual's normal range of blood pressure variations.

The relation between physical pain and visual stimuli has been approached by Hoffman et al. (2000) in a study comparing the use of virtual reality and videogames to distract adolescents undergoing painful burn wound care procedures. On separate occasions, two patients were either immersed in a 3D, interactive, computer-simulated environment by wearing a head mounted visual display, or played a Nintendo videogame of their choice using a joystick. Self-rated perceptions of pain intensity, unpleasantness, anxiety and time spent thinking about pain during procedures decreased dramatically in the virtual reality condition. These findings were tentatively explained by the pervasive and interacting nature of the virtual reality experience drawing upon multiple senses at the same time (e.g., sight, sound, and touch), making it hard for the brain to ignore the stimuli and thus affecting pain perception. Along these lines, in a randomized study on adult patients by Diette et al. (2003), nature scene murals placed at the bedside accompanied by nature sounds were found to significantly reduce self-reported feelings of pain during flexible bronchoscopy procedures, when compared to a control group without distraction therapy. However, the intervention did not affect perceived anxiety measured by a Spielberger State-Trait Anxiety Inventory test.

Schneider et al. (2003, 2004) compared the reactions of 20 women with breast cancer aged 18-55 years and 16 women aged 50 and older undergoing chemotherapy in two different oncology clinics. On two separate treatment occasions the

women were either assigned to a virtual reality distraction intervention, where they could choose between three different scenarios, or to a control group with no distraction. Patients self-reported symptom distress, fatigue and anxiety before, directly after and two days after the procedures. The results were controversial in that the younger women rated symptom of distress and perceived fatigue significantly lower directly after virtual reality distraction, but there were no effects on anxiety levels, a result consistent with Diette et al. (2003). The older women, on the contrary, found positive effects only on their anxiety level, not on symptoms of distress or fatigue. However, in both studies the virtual reality intervention altered the participants' perception of time as they rated the time elapsed during treatment as much shorter than it actually was. This is an important finding considering the long and tedious hours spent in cancer treatments.

1.2.7 THE RESTORATIVE BENEFITS OF BEING IN NATURE, HEALING GARDENS

The perceived restorative and healing properties of nature have resulted in studies trying to measure the effects of nature experiences on health outcomes and the establishment of gardens in connection to healthcare facilities. A distinction has been made between gardens that provide passive experiences of nature and gardens that actively engage users in rehabilitation, therapies or cultivating (Bengtsson & Grahn 2014). The former provides restoration by simply *being in* the garden; “to sit, walk, look, listen, talk, meditate, take a nap, explore”. In the latter, therapeutic benefits stem from hands-on activities, happenings or exercises led by professionals (Marcus & Sachs 2014, p.3).

The potential therapeutic usefulness of the attention restoration theory and cognitive benefits of nature vs. urban experiences have been addressed in cancer patients. In a much-cited study by Cimprich (1993), thirty-two women recovering from breast cancer surgery were assigned either to experimental intervention or control groups. The intervention group engaged in restorative nature-based activities, such as walks in nature or gardening, 20-30 minutes three times a week over 3 months. The results indicated that although all patients showed severe attentional deficits immediately after surgery, the intervention group performed better after and during the test period. The improved performance not only manifested itself in the cognitive tests, but more importantly in the quality of lives of the participants. It was more likely that they would go back to full-time work, start new projects and self-rate a higher quality of life than the control group. Cimprich & Ronis (2003) extended the study ten years later on 157 breast cancer patients, starting the study after cancer diagnosis but before surgery, and continuing it three weeks after surgery. An intervention group, informed of the potential benefits of

nature experiences, agreed to exposure to natural environments for 120 minutes per week, while a control group recorded time spent in relaxation and any kind of free-time activity. The results were in line with previous findings, the nature intervention group scoring statistically significantly higher on cognitive tests. However, the results of both groups improved considerably during the test period – much more than the differences between the study groups – suggesting that cognitive capacities in general improve after cancer surgery regardless of restoration modes. Further limitations were differences between the groups both considering age and cognitive scores at the beginning of the experiment, questioning the comparability of the results. As the authors argue, the mere fact of participating in the study might have induced a sense of engagement and participation in self-care, which in turn could have affected the results. In short, to be active and do things might be the source of benevolence, not the nature experience itself.

Berman et al. (2012) tested the effects of nature vs. urban walks in a study on twenty individuals diagnosed with MDD (major depressive disorder), a disorder characterized by cognitive and affective impairment. Participants were assigned to make a 50-minute walk in either an urban downtown setting or a large park area and instructed to think about unresolved autobiographical experiences before setting out. Cognitive and mood related tests were conducted before and after the walks. The same procedures were repeated a week later, so that all participants did both walks. Analysis showed that participants' memory capacity increased after the nature walk and decreased after the urban. Positive feelings increased for both walks, although slightly more after the nature walk, while negative affect decreased equally after both. The mood assessment was not correlated with the memory scores, which was interpreted to indicate that interacting with nature affects cognitive capacities and mood states through separate mechanisms. To avoid thinking about negative memories while being in nature could not have explained the differences, since the participants reported having thought about negative memories to an equal extent during both walks.

Ottoson & Grahm (2005) measured the concentration capacities and stress levels of 15 elderly residents living in a Swedish nursing home. The participants conducted a set of cognitive tests both before and after spending time indoors or outdoors on two separate occasions. Stress levels were assessed by measuring blood pressure and heart rates, and outdoor preferences by questionnaires. The results were in favour of the attention restoration theory, concluding that a one-hour stay outdoors increased participants' powers of concentration. This was supported by the results of the questionnaires ranking highest feelings of "being in a better frame of mind after being outside" and feeling "happier and more alert" (ibid., p.48). The reasons for wanting to be outside were fresh air, moving about/ exercising, seeing trees, flowers and shrubs, detecting animals, hearing the wind and sounds of nature, and smelling the scent of flowers. Worth mentioning is

that although all participants held their environment in very high esteem, they felt that they did not have the opportunity to go outside as often as they wished. However, the result did not support Ulrich's theories on stress recovery. On the contrary, changes in heart rates and blood pressure were not significant, levels being lower indoors than outdoors.

Goto et al. (2018) addressed more explicitly the effects of contemplating Japanese gardens on persons with dementia in an intervention study comparing the situation before and after building the gardens in two different environments, a hospital and a nursing home. The theme of Japanese gardens was selected as these are designed to be viewed from specific spots, without the need to move around. The results reported that viewing the Japanese gardens had positive effects on heart rates and evoked positive memories and discussion. Jonveaux et al. (2013) tackled the case of Alzheimer disease patients in a French pilot garden project involving development of the garden concept *Art, Memory and Life* in interdisciplinary work groups as well as assessment of pre- and post-occupancy experiences by patients, visitors and caregivers. Positive responses were found on all parameters. The garden incorporates touchable works of art, sensory elements such as scents, colours and textures, arranged along the four themes of earth, fire, water and wind. Activities, workshops and happenings have probed the users to spend time in the garden on their own, with friends and relatives or in groups.

The effects of actively doing gardening on stress levels and moods have equally been tested in field experiments (Van den Berg & Custers 2011). Thirty gardeners in a Dutch allotment area were randomly assigned to either 30 minutes of outdoor gardening on their own allotment plot or to indoor reading after performing a stressful task. Cortisol levels and self-reported moods were measured before, during and after the tests. Results showed that gardening promoted stronger recovery from stress and an increase in positive mood than indoor reading, making a case for garden therapies in care environments.

However, a challenge remains in empirically assessing the quality of outdoor spaces, proving the healing and restoration processes more comprehensively regarding the various user groups in hospital and nursing home settings (Paraskevopoulou & Kamperi 2018, Senes et al. 2016). Different sets of design guidelines have been proposed for the gardens of paediatric hospitals, cancer patients, the frail elderly, elderly with dementia and Alzheimer's, mental healthcare settings and different forms of rehabilitation (Marcus & Sachs 2014). Bengtsson & Grahn (2014) propose 19 environmental qualities to consider in the design of outdoor environments, including physical features such as proximity, easy access, safety, orientation, wayfinding, enclosed or open spaces, the articulation of entrances and the amount and variety of species and animals. More ambient and contextual features are listed, such as the sensual pleasures of nature, that is, to see, feel, hear, smell and taste the different natural elements of sun, sky,

wind and water, to provide protection for different weather conditions or feel the seasonal changes in nature. Possibilities to connect with the surrounding community, the cultural, historical and symbolical meanings attached to the outdoor environment as well as the social opportunities and activities represent further contextual and situational dimensions. Many of these features and ways of experiencing nature and outdoor spaces emerged as well in the interviews of the pilot study conducted for this research on Japanese care environments (Ståhlberg-Aalto 2013).

1.3 THE ROLE OF THE SOCIAL DIMENSION IN CARE ENVIRONMENTS

1.3.1 THE SOCIAL DIMENSION, HEALTH AND WELLBEING

In the social scientific study of wellbeing, one line of research concerns the theoretical concept of *social capital*, introduced by thinkers such as Pierre Bourdieu (1986), James Coleman (1988) and Robert Putnam (2000). Social capital can broadly be defined as “resources emerging from networks of trust”, which includes features of trust and reciprocity, voluntarism, social networks, participation, support and love (Nieminen et al. 2010). On a demographic level, the connection between social capital and health outcomes and wellbeing has been approached on the one hand by trying to identify what features of social capital influences us and how, and on the other hand by investigating the effects of a lack of social capital.

A cross-sectional data analysis of the Finnish adult population concluded that trust, reciprocity, social participation and networks were features of social capital that contribute to a good self-rated health and psychological wellbeing, even when socioeconomic and demographic factors as well as illness and limited functional capacities are discarded (Nieminen et al. 2010). Social support on its own, that is, the belief that emotional support and practical help would be provided when needed, on the contrary did not influence health outcomes. Along these lines, a Canadian national health survey identified the subjective perception of ‘being loved by someone’ as the key dimension of social capital affecting changes in the health status of persons aged over 64 (Nakhaie & Arnold 2010). Going into underlying mechanisms, studies have shown that there is a link between love and affection in childhood and early adulthood, and a long successful life. The Grant Study, a longitudinal study following the lives of Harvard students over 70 years, concluded that a loving childhood and warm human relationships during the first half of life predict not only income level, professional appreciation and quality of human relations later on in life, but also the somatic health condition in old age (Vaillant 2010).

Chronic loneliness, as opposed to love, has been found to have a negative health impact, causing changes in the cardiovascular, immune and nervous systems. It is not the actual number of social contacts a person has that is the determinant, but rather the subjective experience of loneliness that is harmful (Miller 2011). Loneliness has been described as a negative, involuntary, subjective, relational and sociocultural experience (Rönkä 2017). An article that reviewed 148 studies on the association between social relationships and mortality concluded that social isolation increases the risk of death as much as well-established risk factors such as smoking, blood pressure, physical inactivity and obesity (Holt-Lunstad et al. 2010).

Many people are today lonely and anxious. In a global survey by the United Nations Population Fund (UNFPA), 16% of people aged over sixty reported feeling always or very often lonely (2012). In particular, older people with poor self-rated health and living alone are more likely to suffer from loneliness (Eloranta et al. 2015), and loneliness is also prevalent among elderly caregivers (Verma 2019). In the Finnish elderly care context, national goals aim to increase the share of the elderly 75+ living independently at home with home care support when needed, and to limit sheltered housing with assistance around the clock to 7%, and institutional care to 2% (Noro 2016). Today, these goals have nearly been attained in that 91% live at home, of whom, in the Helsinki region, half live alone. Among the elderly one-person-households receiving home care, one third felt lonely and a quarter spent their days alone (Finne-Soveri 2012). Paradoxically, among the elderly living in nursing homes and assisted living facilities, 9% feel lonely often or always and 26% sometimes (Jansson et al. 2017). This prompts the question as to whether current care environments adequately consider the social dimension and psychological phenomena influencing the wellbeing and happiness of elderly persons.

The global trend of *ageing in place* has narrowly been interpreted as the possibility to continue living in one's own home or neighbourhood, in a familiar milieu, for as long as possible (Kondo 2015). Thus, efforts to prolong the possibilities of living at home have focused mainly on making the residences of the elderly barrier-free, in combination with the use of new technical solutions and home care services. In the Finnish context, this has amounted in policy papers, research reports and innovations focusing on how the homes can be adapted so that the elderly are physically capable of living at home (YMI 2012, Sipiläinen 2011, Verma et al. 2012, Hynynen 2010, Pesola 2003). However, the concept of *ageing in place* can more broadly refer to the empowerment of the individual to make choices on where and how to live, and the right to receive the required support to do so. It is debated whether the elderly truly desire to stay at home for as long as possible and whether they are reluctant to move to new areas (Kondo 2015). In this broader view, the elderly are not objects of care, but active subjects

in the care environment. This encompasses more than the remodelling of homes and includes dimensions akin to social capital, such as enabling social contacts, supporting participation, creativity and learning as well as possibilities to work (Finne-Soveri 2012, Välikangas 2009).

In the domain of environmental psychology, the relationship between social interactions and the physical environment has been elaborated in theoretical advances on privacy regulation, behaviour settings and transactional approaches. **Privacy regulation theory** is based on the idea that there exists a human tendency to attain an optimal level of social interaction, with this tendency influencing the use of spaces. The level of optimal social contact is subjective and situational. A failure to achieve this level causes stress and affects the use of the physical environment (Altman 1993). The classical **behaviour setting theory** of Roger Barker suggests that people and objects form small scale social systems that are configured to carry out predefined patterns of activities specific to time and place boundaries. The so-called ‘sense-making’ model takes this notion further in focusing on the understanding of the context by users (Wicker 1992). **Transactional approaches** dwell further on the privacy regulation theory by treating “the physical environment as a potential context for social interaction that can support, constrain, symbolize, and confer meaning upon various aspects of social relationships.” In short, the relationship between social interaction and the physical environment is viewed as dialectic (Sundstrom et al. 1996, p.491).

1.3.2 THE SOCIAL DIMENSION IN EMPIRICAL STUDIES OF CARE ENVIRONMENTS

In the design of hospitals, the debate on the social dimension has culminated in the question of single patient rooms vs. multi-occupancy rooms, although limited empirical research has been conducted comparing the two. Existing studies seldom include visual material of the physical environment under investigation that would permit the reader to evaluate aesthetic features. Opinion-based reviews have concluded the obvious: that single rooms increase patients’ privacy and sense of dignity (Devlin et al. 2016, van de Glind et al. 2007, Chaudhury et al. 2005, Ulrich et.al. 2004). According to these studies, the single room provides better control over social situations, such as the accommodation of family members or the involuntary assignment of roommates. Single rooms have been seen to reduce stress, affect sleeping patterns and improve control over ambient environmental features such as lighting, heating, air conditioning and ventilation, smells and sound, provided that the building design itself permits these individual adjustments. The empowerment of the patient to control these social and ambient features of the care environment is a cornerstone in patient-centred

care. However, the results of studies on patients' room preferences are mixed and, interestingly, family participation and accommodation of others in the hospital room have not been highly ranked (Devlin et al. 2016).

In several studies, the majority of patients prefer single rooms. The room type has been found to be related to overall satisfaction with the hospital stay. A Canadian survey compared over 500 mothers' perception of care in a new single-room maternity care unit, where the mother and her family stayed in the same patient room throughout labour, delivery and postpartum stay, to experiences of a traditional ward, where labour took place in separate delivery suites and the postpartum stay occurred either in multi-occupancy or single rooms (Janssen et al. 2000). Patient satisfaction was higher in the comprehensive single-room setting, involving aspects of the physical environment such as room spaciousness and comfort of support persons. The single-person rooms enabled a family-centered care not possible in the traditional ward, which affected perceived respect for privacy, time spent with baby and family, availability of nursing care and assistance and the amount and quality of breastfeeding.

In a survey on the preferences of 24 patients in two UK hospices, 21 preferred single rooms if they had distressing symptoms such as nausea, vomiting or diarrhoea and half of the respondents if another patient was dying in the same room (Kirk 2002). The main reasons for preferring a single room were, in order of importance, privacy, quietness, not upsetting others with one's symptoms or feeling embarrassed, to improve sleep and to accommodate family members. The room type preference was found to be related to how ill the patients felt; the less ill the more likely they would want to share a room; and to previous hospital experiences in that patients who had previously stayed in single rooms also wanted one later. Only five participants favoured a shared room and motivated their preference with wanting company and to share their experiences with others. Kirk suggests that the needs of patients who require company could be met in common spaces such as lounges instead of in the patient room.

On the other hand, a similar survey by Pease and Finlay (2002) resulted in the opposite findings; among 50 terminally ill patients in an UK oncology ward, only 20% preferred single rooms and 68% an open bay area. The survey questionnaire was additionally addressed to 38 next of kin, resulting in a slightly higher preference for single rooms (28%). The main reasons indicated for wanting to stay in the four-bed bay were to avoid isolation, to have someone to talk to and the feeling that time passes more quickly in company. The single rooms were associated by many respondents with being more ill or with dying; the praxis of moving dying patients to single rooms was confirmed by staff. One might speculate whether the results would have been the same if the majority of rooms would have been single and patients would be moved to multi-occupancy rooms to die. In only half of the cases did patients' and their relatives' preferences concur, although it

is often the next of kin who make decisions on patient transfers. In older studies, the preferences for shared rooms have been related to providing a sense of security and a feeling that in case of emergency the roommate could call for help (Chaudhury et al. 2005).

Kulik et al. (1993) looked into the ways patients in shared rooms interact with each other and how this interaction affects perceived stress levels and they concluded that pre-surgical patients who were placed in the same room as post-surgical or nonsurgical patients were less anxious than those with a roommate who was also pre-surgical. In other words, two patients waiting for surgery might increase their feelings of fear and distress over surgery by interacting with each other. The idea that two patients would support each other by sharing their experiences was further undermined by the results that although patients might have had similar diagnoses, they seldom rated their roommates' health problems as similar to their own. The effects of open bay areas on interaction have equally been addressed in a patient survey comparing three types of room layouts in the same emergency unit (Barlas et al. 2001). Patients (n=108) perceived less auditory, visual and overall privacy in treatment areas with curtains compared to rooms with solid walls and a door. The lack of privacy was seen to affect physician-patient confidentiality in that some patients withheld parts of their medical history and refused part of their examination out of fear of being overheard or seen by others. This in turn could have affected the care given as well as patient safety. The authors argue that the amount of privacy needed is context-related and, in the case of emergency departments, patient privacy might be in conflict with the need for direct patient observation by staff and efficient movement of medical equipment and people, compared with other medical departments.

The idea that privacy is less important in emergency department settings is contested by a study comparing open-bay and single-family rooms in the neonatal intensive care units of two hospitals, with the focus on caregivers' experiences (McCuskey Shepley et al. 2008). Although private rooms have previously been associated with longer walking distances and poorer staff supervision, which could be negative features from a staff point of view, the study concluded that staff felt less stressed and more satisfied in the all single-room hospital and in the single-room part of the combined hospital, compared with open-bay areas. Aspects underlying the ratings were partly connected to the social dimension and the interaction between staff and patients; the impact of child patients dying could be better addressed in single-family rooms, which enabled staff to choose between staying with and supporting the family or withdrawing from the room allowing for privacy. Dimensions such as personal relationships and conflicts with superiors, physicians and peers were also perceived as less stressful in single room layouts. A limitation of the study was that the quality of the physical environment in the two hospitals was quite different; the all single-room building received

high ratings on architectural features such as décor, natural light, window views and overall quality, while the open-bay areas and single-room areas of the second building scored low on these dimensions, which could have affected overall perception of the environment. To isolate and compare the effects of only one aspect of the care environment, such as the social dimension, is challenging considering the comprehensive and multisensory ways in which our surroundings affect us.

Especially in the design of care environments for the elderly, the possibility to choose between different social contexts and privacy has been found to be important. The social dimension has been reflected in architectural features through the gradation of spaces on a public-private axis. While the common day-rooms of care facilities may offer an excess of overwhelming social stimulation, places where the elderly can sit and observe the activities of others without being in the middle of it could be beneficial (Lawton 2001). Lawton proposes that care homes should provide semi-public 'front porches' from which the residents could spontaneously converse with passers-by, as well as semi-private smaller spaces with clusters of chairs, and configurations of rooms serving as 'neighbourhoods'.

In line with these ideas, the Japanese care environments investigated in the preliminary study of this thesis applied *unit care* principles to the building design by dividing residents into small scale homelike living units of 9 to 10 persons sharing kitchen, living and dining rooms. Expert interviews revealed that the unit care approach was seen to fill a social need. Especially in the case of Japan, the societal and demographic changes, that is, the movement from traditional extended families towards nuclear families, had led to the elderly placed in care homes feeling lost and abandoned. In the unit care model, the home unit itself provides family cohesion and togetherness (Ståhlberg-Aalto 2013). In the Japanese case studies, the spaces were divided into a clear hierarchy of *private*, *semi-private*, *semi-public* and *public* spaces, placing special attention on the transition between these spaces. The entrances to the residents' private rooms were in many cases separated from the semi-public spaces of the home unit by a niche or an ante-room, in order to give the elderly users time to adjust to the new social situation when exiting the private realm.

A study by Barnes and colleagues (2006) linked spatial gradation of the care environment with quality of life measures and observations of wellbeing. The gradation of the physical environment into private, semi-private and public spaces was surveyed in 38 British care homes for the elderly by observing over 450 residents, twelve residents per facility. The results indicated that in care homes with high spatial gradation, in other words with a large variety of different spaces where the elderly could spend time, ranging from quiet and private spaces to spaces where small groups could get-together and more noisy public lounges, residents had higher observed wellbeing, more environmental control and higher activity levels compared to the care homes with little gradation of space.

Residents with a high level of dependency on the other hand spent more time in the public lounges, where they were easier to supervise by staff.

The behavioural effects of private rooms vs. multi-occupancy rooms on residents with Alzheimer's disease and other dementias have been compared by Morgan & Stewart (1998) in a study following the relocation of 46 residents from a denser care unit with multi-person rooms to a new facility with single private rooms only. The change in bedroom typology was found to result in a major reduction in conflicts between residents; in the previous four-bed wards it had been difficult for residents to avoid getting in each other's way and difficult for staff to find compatible inhabitants. In the former public spaces, the high density had also resulted in overstimulation, agitation and conflicts. The new calmer environment that offered residents more privacy and personification of spaces to meet individual needs brought about positive outcomes such as improved sleep and decreased agitation and conflict, reflected in a reduction of medication and night time interventions.

The importance of single-person rooms has been supported by the opportunities to individualize and personalize the private room. In addition to improving the living environment by making it more homelike and humane through the use of personal furniture and belongings, these objects have been seen to support and activate the elderly. To study the effects of personal objects on quality of life and the activities of daily life (ADL), Koga et al. (2002) classified the possessions of 46 residents living in a Japanese nursing home for the elderly into, on the one hand, 'action-objects', referring to objects that involve physical handling, interaction or movement, and on the other hand, 'contemplation-objects' that are mostly seen or contemplated upon. The number of action-objects was found to be correlated with residents' ADL levels so that persons with small number of possessions had low activity levels, which might seem logical in that inactive persons have no need for action-objects. The authors offered an alternative interpretation in that a small number of action-objects limited a person's possibilities to develop activities and obtain a higher quality of life and wellbeing. In short, action-objects might prompt activities. Familiar contemplation-objects on the other hand were seen to be related to past memories and personal values, thus carrying meaning and subjective value that cannot be measured by counting the number of possessions. These objects are considered especially important when relocating to new environments because they give a sense of personal history and continuity.

A recent study using Q methodology to investigate the concept of *homeliness* and *homelike* care environments among care staff, relatives and residents of six Scottish care home settings supported the findings mentioned above (Fleming & Kydd 2018, Fleming et al. 2017). Homeliness, as a multifaceted and subjective feature, was found to be linked to the personalization, safety, privacy, sense of community and comfort of the care environment. Social relationships between

staff and residents were seen to play a part in creating a homelike ambience. The Q interviews revealed slight differences between the user/stakeholder groups with care staff and relatives prioritizing features in line with national care standards, such as a clean environment, being able to predict events and having good food, while the 'feeling of belonging' was found to be more important to the residents.

In summary, the social dimensions of the care environment imply rooms and spaces where residents, patients, clients or care staff can be secluded, spend time with people of their choice, or, alternatively, spaces that allow them to mingle, socialize and make new acquaintances. People may move to spaces to observe others or to be observed by others (de Swaan 2006). Diverse architectural solutions provide opportunities to differentiate spatial qualities: spaces can be open or closed; walls can be transparent, semi-transparent or opaque. Future hospitals have even been envisaged by some to be 'wall-less' hospitals, where patient rooms have glass walls towards the corridors to facilitate social interaction and feelings of being connected to the outside (Kjssik 2009). The social dimension further affects the care environment through possibilities for family members and friends to keep patients or residents company at all hours or to participate in the care work. The gradation of spaces on a private-public axis as well as homelike attributes facilitates social interaction. The social dimension of the care environment is thus less a question of dimensioning of spaces and more about design choices that respect the integrity, privacy and need for community of users, thereby touching on the ethics of the care environment.

1.4 SUMMARY: THE NEGLECT OF THE AESTHETIC

In Chapter 1, the care environment has been approached through previous empirical research, especially from the point of view of aesthetics and wellbeing. In general, wellbeing and quality of life were found to be subjective concepts that are affected by the physical environment. High person-environment congruity could be viewed as a positive relationship between objective environmental qualities and the subjective experience of satisfaction concerning these objective qualities.

Environmental psychologists have attempted to find law-abiding tendencies in human reactions and preferences vis-à-vis aesthetic features. Studies have covered user preferences of features such as building façades, gardens, lobbies and patient rooms. Attempts have been made to prove the effects of specific visual or environmental stimuli by measuring the physiological reactions occurring in the body while exposed to an environment. However, common to many of these studies has been the reduction of the concept of the aesthetic to the appearance of things, often assessed by random respondents with no relation to the care context

at stake. At the same time, studies that narrowly focus on the effects of very specific environmental features might neglect the effect of other potential features that surround us while moving through and being immersed in an environment.

The domain of evidence-based design has addressed central design themes, such as the role of nature vs. urban environments, sunlight, windows, art selection, colours, materials and room configurations. Theories and conclusions have been drawn on arousal, stress restoration and social interaction. However, this line of research continues to have a long way to go to firmly connect health outcomes with environmental features through measurable physiological data. Considerable room prevails for contestation both theoretically and empirically. The discussion on art content and the role of nature are examples of the broad array of theories and interpretations that are not free from controversy.

Furthermore, and more importantly for the purposes of this study, as the evidence-based design tradition has focused on the measurable physiological impact of environmental features, comparing medical reports or analysing survey questionnaires, rather than on the opinions of the users or on how they experience their environment, these issues remain in need of further attention. In the studies addressing preferences on issues such as privacy and integrity, the various user groups related differently to their environment depending on the care context. Thus, there exists a need to further investigate the aesthetics of the care environment in both a heuristic manner and as perceived by the users and stakeholders of specific care environments. These are issues that will be addressed in this thesis. The next chapter will turn to philosophical aesthetics in search of a theoretical model that could provide a comprehensive and broader framework for investigating the experience of the care environment.



AESTHETICS AND ARCHITECTURE: BUILDING A THEORETICAL MODEL

In Chapter 1, the care environment was approached through architectural literature and previous research in the domains of evidence-based design, environmental psychology and empirical aesthetics. The concepts of wellbeing and quality of life were found to be subjective and connected to the physical environment. Theories on arousal and stress restoration were reflected in the debate on design principles and recommendations for care environments. The evidence-based design tradition has focused on measurable physiological reactions taking place in the body when exposed to specific environmental stimuli, endeavouring to link them to health outcomes. Less attention has been paid to the opinions and experiences of the users; user preferences are often measured by asking random respondents to react to visual images. In this body of research, aesthetics has commonly been reduced to the appearance of things, perceived by the sense of sight and detached from contextual, moral or social considerations.

However, this narrow view of the *aesthetic* is contradictory with the fundamentally three-dimensional and interactive nature of architecture. When inside a building, the experience is seldom based only on the sense of sight, nor is it

separated from the values and personal expectations of the perceiver. We experience buildings with all our senses and attach meanings to our surroundings that might be multi-faceted and ambiguous. Hence, as this study aims at investigating the user's responses to the care environment in its full complexity, a theoretical model of aesthetics that conveys the experience of architecture in a broader sense is called for and will be addressed in this chapter.

Generally, research on aesthetics has been divided into two major approaches: the philosophical and the empirical. Empirical aesthetics, addressed in the previous chapter, is akin to the behavioural sciences and environmental psychology in attempting to measure how aesthetic features affect us or how they are experienced. Philosophical aesthetics, on the other hand, falls into the domain of philosophy, defining diverse modes, concepts and theories of the aesthetic. These two research traditions seldom meet, leaving, if not a gap, then at least a silence between philosophical debate and applied research. In an attempt to challenge this dichotomy, this thesis positions itself between these two disciplines as it, on the one hand, turns to aesthetic theory for an aesthetic framework adaptable to the care environment, but, on the other, puts this framework into practice in the empirical study of ten case buildings and the experiences of the users and stakeholders of these buildings.

The aim of this chapter is not to claim a definite stance in the philosophical and metaphysical debate on what the true essence of the *aesthetic* or of *beauty* is that has preoccupied thinkers throughout the last millennia. Nor is the purpose to provide a historical overview of aesthetic and architectural theory. The ambiguity of the concept of the *aesthetic* and the multifaceted ways in which our environment affects us is here acknowledged as a point of departure. Instead, the aim of this chapter is, by means of a literature review, to identify dimensions of the aesthetic and architecture that should be addressed in order to provide a comprehensive and heuristic investigation of users' and stakeholders' perceptions of their care environment. These dimensions will form the main components in a theoretical model that is subsequently applied to the empirical investigation of the case studies at hand. Theory and previous research are thus adopted as tools in identifying the potential ways in which aesthetic dimensions are experienced and valued by the users, the question which lies at the very core of this study.

The theoretical model of aesthetics and architecture is a key component for the application of Q methodology in this study, providing a systematic framework that can help us to comprehend how users and stakeholders define their own conception of the aesthetic environment they inhabit. In the Q methodological interviews conducted for this research, the respondents react to the environment by arranging, on a scale of preference, a set of statements printed on cards, which describe features of the environment. The statements have been collected, based on a theoretical model, to ensure a spectrum of possible viewpoints that is

as comprehensive as possible. Hence, a theoretical model that allows for a broad definition of the aesthetic is needed in order for each respondent to be able to operationalise his or her personal point of view. Here we encounter the methodological principle of *operant subjectivity* that is fundamental to this aims of this study. This principle refers to the very idea that interview respondents are not given readymade concepts, but instead themselves participate in the construction of these conceptions by the operation of arranging the statements according to their own subjective point of view. The point of departure is thus a ‘stakeholder-driven’ or ‘user-driven’ conception of aesthetics and the experience of architecture.

Thus, this chapter will first look at the etymological origins of aesthetics (2.1.1) and how the concept has been expanded in contemporary aesthetic theory to open up a broad view on the subject matter (2.1.2). Different conceptions of the aesthetic experience are reviewed as a fundamental modus of how we react to the surrounding environment (2.1.3). Four dimensions by which the aesthetic experience can be sensed are identified, including *sensory qualities* (2.1.4), *contextual features* (2.1.5), the *social dimension* (2.1.6) and *function* (2.1.7). Considering the temporality and size of architectural elements, four levels of architectural effects are identified: *stuff*, *surfaces*, *space and light* and the *surroundings*. Aesthetics is then approached from the point of view of architectural theory, contrasting the European and Japanese traditions of thought on universalism and architectural systems of proportion (2.1.8). As a synthesis, the definition of aesthetics applied in this thesis is presented in the second section (2.2), on the basis of which the theoretical model of aesthetics to be adapted in the empirical study of the case study buildings is built up.

2.1 THE EXPANSION OF THE CONCEPTS OF AESTHETICS

2.1.1 THE ETYMOLOGICAL ORIGINS OF AESTHETICS

The seemingly simple meaning of the word *aesthetic* in common usage¹², as a synonym for beautiful, pleasing in appearance or artistic, is in contrast with the ambiguous and complex nature of the discipline of philosophical *aesthetics* and its polysemic use of the word¹³. In general, philosophical aesthetics has been defined as “a branch of philosophy dealing with the nature of beauty, art, and taste, and with the creation and appreciation of beauty”¹⁴. A distinction can be made between the terms *aesthetics* in the sense of the philosophical study of aesthetic phenomena or the philosophy of art, and the *aesthetic*, which in turn refers to either the phenomena under consideration, i.e., the “what”, or to the manner by which a phenomenon is approached or characterised, i.e., the “how” (Åhlberg

2014, p.56). The concept of *beauty*, in turn, has ranged in European thought from broad conceptions, including moral and ethical dimensions, to narrow forms of the visually pleasing beauty; from beauty of the world in general to beauty of art; from beauty understood through reason to beauty understood by instinct; or, from an objective manner of apprehending beauty to a subjective (Tatarkiewicz 1980).¹⁵ However, the *aesthetic* has recently come to encompass not only pleasant but also unpleasant or even indifferent reactions towards elements of our surrounding environment.

Indeed, the etymological origin of the term the *aesthetic* was not related to beauty, but derived from the Greek word *aisthetikos*, meaning sensitive or sentient, which in turn was derived from *aisthanesthai*, meaning to perceive, feel or sense. The term *aesthetics* was first introduced to the philosophical context by Alexander Gottlieb Baumgarten (1735) in his Master's thesis, *Meditationes philosophicae de nonnullis ad poema pertinentibus*, in the form *epistêmê aisthetikê*, designating knowledge based on sense perception (Costelloe 2013, pp.1-2). In his foundational treatise *Aesthetica*, Baumgarten (1750/1758) envisaged that "Aesthetics (as the theory of the liberal arts, science of lower cognition, the art of beautiful thinking, and art of analogical thought) is *the science of sensory cognition*" and that alongside logic it would constitute a comprehensive theory of knowledge that he termed gnoseology.¹⁶ However, at the time this conception of aesthetics as sensual perception gave way to the critique of taste, judgements on beauty and the arts.

2.1.1.2 THE AESTHETIC FIELD

The use of the concept of the aesthetic in the study of care environments is rendered challenging by the vast scope of the discipline in its contemporary form, which includes the subject matter of aesthetic interest, the size of the objects and phenomena under scrutiny and the level of abstraction of the quest. The **subject matter** of aesthetics has expanded from the narrow focus on conventional forms of Western arts to incorporating a wide range of human activities, objects, environments and cultures. New art forms, such as performance, landscape art, installations and interactive art have challenged the more classical art forms of painting, sculpture, music, dance, theatre and poetry. The social media, television and the computer game industry have taken the aesthetic scene far away from the art galleries into the virtual world accessible to all at any time.¹⁷ The emergence of environmental aesthetics, now an established sub-discipline of aesthetics, in the 1970s and 1980s, widened the scope of aesthetics to comprehend the experience of the surroundings outside the art world. Allen Carlson has likened the subject matter of *environmental aesthetics* to a continuum of things ranging from the pristine nature of wilderness areas, through rural landscapes and man-made



nature, cityscapes and the built environment to the very limits of traditional art forms (Carlson 2000, p.xx). The new domain of *everyday aesthetics* has further enlarged the scope to include everyday objects, phenomena and activities (Saito 2007, Light & Smith 2005). Recent studies have engaged in mundane aesthetic concerns such as the packaging of artefacts (Oka 2008), food (Ekuan 2000) and sports (Welsch 2005), features that flourished already centuries ago in cultures such as the Japanese.¹⁸ The body at the centre of the aesthetic experience has indulged researchers to propose new sub-disciplines of aesthetics, such as *somaesthetics*¹⁹ or *neuroaesthetics*.²⁰ The aesthetics of architecture can be seen as a part of this environmental aesthetic continuum in a very tangible way as it not only creates a physical cadre for diverse forms of art and our everyday life, but also relates to the surrounding nature and to the body as we move through and interact with buildings and spaces.

Consequently the **size** of the objects and environments of our aesthetic appreciation varies from immense natural landscapes and city centres to materials used in the interior design of a room and the minuscule detailing of building parts and artefacts. This continuum from the large to the small is equally present simultaneously; a window might frame a scenic view of nature or cityscape making the view part of the intimate interior space and ambience of the room. In Japanese landscape design this intentional capturing of a scenic view is called *shakkei*, or borrowed scenery technique (Saito 2014). Furthermore, the size of buildings and spaces varies greatly; a large hospital compound may span over one hundred thousand square metres and accommodate thousands of patients, or a care facility can be the home to a handful of elderly residents.

The **level of abstraction** of aesthetic inquiry has ranged from the metaphysical and the divine to the semantics of individual words and the aesthetic qualities they refer to. On a metaphysical level, aesthetics has encompassed debates ranging from the ultimate essence of beauty to man's very existence in the universe. Plato greatly influenced western thought by making a distinction between "the beauty of things and properties as they occur in the sensible world", as such changing and relative to time and subject, and, "The Beautiful itself", an eternal and unchanging divine "Form of Beauty" only accessible to the intellect (Janaway 2005, p.9). Plato further attacked the arts as mere imitations or *mimesis* of reality that divert us from the rational and good in life (ibid. p.5). In more recent post-modern thought, the appreciation of art and the beautiful has been seen as relative to historically derived values and a socially constructed reality. Heidegger saw in art a practice that revealed the truth about human life, a "setting-into-work of truth" (Wartenberg 2005, p.148). Phenomenological thought, on the other hand, places the body at the centre of the experiential world, an idea that Michel Foucault took to an extreme with an "aesthetics of existence" attained by shaping one's body in artistic self-formation (Wicks 2005, p.209). In contrast to

these epistemological positions, the very concrete and touchable surfaces of our everyday surroundings has been debated, raising questions such as whether the cleaning of one's room is an aesthetic experience, and whether adjectives such as neat and messy can be considered aesthetic qualities at all. Thomas Leddy claims that these everyday aesthetic qualities have been neglected in the prevalent art-centred aesthetic discussion (Leddy 1995).

Furthermore, the question of what is and what is not included in the realm of the aesthetic has been and continues to be debated. Is it a special kind of experience or an attitude on our part that renders something aesthetic? Are there distinct properties of an object that define the aesthetic, and to what extent do the context and the cognitive participate, form and influence the aesthetic experience? It is disputed whether or not to include the social and moral implications of aesthetic choices as well as aspects related to function. In order to grasp the full extent of contemporary aesthetic discourse and its potential implications for the study of care environments, these topical themes will be addressed in the following sub-sections.

2.1.3 AESTHETIC ATTITUDE AND AESTHETIC EXPERIENCE

The manner by which we experience objects and environments has been regarded as pivotal by many philosophers in defining the *aesthetic* realm. Common to the so-called *aesthetic attitude* and the *aesthetic experience* approaches is that they both distinguish an aesthetic experience from a non-aesthetic experience by the nature of the experience itself rather than by the properties of the object or by the environment that is being experienced (Saito 2007, p. 44). However these two lines of reasoning are quite opposed to each other.

According to the aesthetic attitude theory an experience requires an attitude of disinterestedness or distancing on our part in order to become a proper aesthetic experience. The notion of disinterestedness, first developed by the 18th century British school and later by Kant, denotes the appreciation of an object *for its own sake*. According to Immanuel Kant, "...the taste for the beautiful is a disinterested and free satisfaction; for no interest, neither that of the senses nor that of reason, extorts approval" (Kant 2000, sect.5, p.95).²¹ Kant argued that to appreciate an object for its "free beauty" is more "pure" than to appreciate it for its "dependent beauty", because the former is not regulated by a definite "purpose" for which the object was created and used, but for its "purposiveness" allowing for a free play of the imagination (Saito 2007, p. 26). This line of argument has been influential in later aesthetic thought, such as in the writings of Edward Bullough, Ronald Hepburn and Arto Haapala on the notion of distancing. Distancing

oneself from the object of appreciation implies that the aesthetic experience is set apart from other experiences and feelings such as those evoked by the function of an object or by personal events and dramas. Hepburn illustrates distancing with an example from nature: “we suspend our utility-dealings with nature, suspend equally our pleasure-seeking recreational encounter with it, and disinterestedly appreciate nature’s own qualities” (Berleant & Hepburn 2003, p.5). By attributing a different connotation to distancing, Haapala suggests, in connection to our everyday surroundings, that objects have different modes, the strange and the familiar, and that in order to have an aesthetic experience of everyday objects we have to distance ourselves from them and examine them anew (Haapala 2005, p.50). This has been questioned for implying a paradox in that the distanced aesthetic attitude makes the familiar strange and the ordinary extraordinary, thus “compromising the very everydayness of the everyday” (Saito 2007, p. 50).

Nevertheless, experience has also been seen as the modus of the aesthetic without a distinct attitude of disinterestedness or distancing. Pragmatist theory grounded aesthetics in natural human needs and the interactions of the perceivers with their environment, engaging all senses and feelings (Shusterman, 2005). In his seminal work, *Art as Experience*, John Dewey (1934) defined the aesthetic experience as a model of *an experience*, intense and active, as opposed to distant and contemplative, “demarcated in the general stream of experience from other experiences” with a “unity... constituted by a single *quality* that pervades the entire experience in spite of the variations of its constituent parts” (ibid. pp. 37-38).²² The Deweyan approach shifted the focus from the attitude of the subject having the aesthetic experience and from the object of appreciation and its properties, towards the quality of the experience itself as perceived by a subject when engaging with the object. Advocates of this line of thought have described the aesthetic experience as “sensuous, immediate, unique, non-cognitive, intrinsic, and situational” (Berleant 2000, p.92). Furthermore, these experiential qualities are not limited to perceptions by the ‘higher’ senses of sight and hearing, but also include the proximal senses of touch, smell and taste as well as kinaesthetic perception. The aesthetic experience involves a “general bodily sensing” including functions such as “respiration, heartbeat, skin state, muscular flexing and rhythmical movement” (ibid. p. 72).

When relating to the surrounding environment more widely, the aesthetic experience has been described as “intimate, total, and engulfing”, referring not only to these sensory dimensions, but also to the idea of us as appreciators being within the object of our appreciation and thus influencing the perceived object by our presence (Carlson 2000, p.xvii). Bordering on metaphysics, the *engagement model* goes further, proposing that the borders between subject and object, the perceiver and the environment perceived, are erased. In the engagement model, as opposed to a disinterested attitude, the perceiver engages and participates in

the surrounding environment with all his/her senses and in turn the environment is constantly shaped and modified as a response to the practical, cultural and historical interests of the perceiver. This model is based on the “reciprocity of person and place, of human action and response with environmental features and qualities” (Berleant 1992, p.154). The experience of architecture could be seen as a paradigm of an aesthetic experience (ibid. p.148).

Within the aims of this study to provide a broad aesthetic framework that will allow the users and stakeholders of the case studies at hand to form their proper conception of the aesthetic, these two broad approaches discussed are included. The aesthetic experience can be regarded as a fundamental modus of reacting on the physical environment. This reaction may be one of disinterestedness or of interest; one of distancing or of engagement; it may be an automatic sensuous response induced by the environment or a result of a special attention directed towards particular features of the environment.

2.1.4 AESTHETIC QUALITIES AND THE SENSORY EXPERIENCE OF ARCHITECTURE

The characteristics and qualities of an object of appreciation, as well as the ambience these qualities create, have equally been in the focus of much aesthetic theory. Aesthetic qualities have been classified by some into either **sensory qualities** or **formal design qualities** (Carlson 2000, p. 28). The former include the properties of textures, colours, light and lines, while the latter designates the shapes, patterns and designs of objects and the combination of objects. These dimensions are interrelated in that the textures, colours, light and lines create the shapes, pattern and designs that constitute the perceived form of an object. Göran Hermerén (1988) on the other hand distinguishes five kinds of aesthetic qualities according to their **nature**: emotion qualities (e.g. sombre, gay); behaviour qualities (bold, nervous); gestalt qualities (unified, coherent, balanced, harmonious, chaotic); taste qualities (elegant, delightful) and affective qualities (funny, glaring). The gestalt qualities are by nature more complex on a perceptual level in that they are structural, i.e., referring to the interrelation of more than one dimension, as for example in the harmonious composition of a façade.²³

In an article on everyday surface qualities, Thomas Leddy (1995) proposes a differentiation of aesthetic qualities according to their environmental context. In addition to the classically acknowledged qualities associated with the arts, such as “beautiful”, “sublime”, “elegant”, “balanced” or “harmonious”, a whole group of aesthetic qualities exists, connected to our everyday environment. These everyday aesthetic qualities are non-complex properties, such as “neat”, “messy”, “clean/unclean”, “dirty”, “sloppy”, “filthy” or “ordered/disordered”. These in turn

can be divided into positive aesthetic qualities, designating qualities that please us and negative aesthetic qualities that do the opposite. In this line of thought, the commonplace conception of aesthetic quality as a synonym of beautiful is no longer valid.

Apart from semantic definitions and classifications, the way in which sensory qualities are perceived has been addressed. Sensory aesthetic qualities are not isolated and experienced one at a time, but rather present simultaneously and multi-sensorily, thus creating a quality of ambience or other atmosphere. These qualities may be directed towards the different senses such as touch, smell, taste, sound or visual impressions, or they may be perceived by multiple senses at the same time. Biological factors influence how aesthetic qualities are perceived, setting physical limits to our abilities. For example, auditory perception ranges between 20 and 20 000 vibrations per second (Berleant 2000, p.72), while light and shadow affect how we discern details, colours and contrasts. According to Harald Arnkil (2012, p.38), the human visual sensory apparatus is “photopic”, which makes it easier for us to operate in daytime, while we have difficulties discerning things at night. Furthermore, after looking at bright daylight, the eye needs time to adapt to seeing in darker spaces. This has, for example, prompted Finnish design recommendations for the design of care environments for the elderly to ban windows placed at the end of corridors as the light might blind the users, and instead recommends the placement of windows on the sides of the corridors (RT 93-III34).

Regarding care environments, the patient, resident or client users are vulnerable and their sensory capabilities may be reduced due to medical procedures, medication or old age. Alternatively, a deviant sensory perception might be an inherent part of a person’s diagnosis. A relevant doctoral study, for example, investigated the way in which multiple senses affect spatial experience from the point of view of the visually impaired (Jokiniemi 2007). Autistic users, for whom sensory perception can range from the total over-sensibility to sensory stimuli to the lack of feelings of pain, are another special user group (Ståhlberg 2001). This type of sensibility influenced the design of one of the current case studies, the Käpylä Autism Centre, which is discussed in detail in Section 4.2.9.

An overemphasis on the visual, prevalent in architectural theory, is claimed to originate from an ocularcentric Western tradition that favours the sense of sight over other senses. According to this tradition, knowledge has been connected to vision, emphasising its primacy (Pallasmaa 2005, p.15). However, buildings are hard to grasp and experience solely visually: “we always experience them from a particular point of view, from in front or from behind, from inside or from outside; thus we never see more than a partial appearance of an absent whole” (Harries 1997, p.18). When inside a building, it surrounds and affects us from all directions in a very tangible and physical manner. Notions of disinterestedness

and distancing are far from these pragmatic ways of experiencing architecture.

The experience of architecture has consequently been interpreted as a multisensory experience of the man-made environment; we see, hear, feel, smell and even taste the buildings we occupy. This general bodily sensing stems from phenomenological thought that places the body at the centre of the architectural experience. In his writings on architecture and the senses, Juhani Pallasmaa proposes that “qualities of space, matter and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle” (ibid. p.41). Pallasmaa draws our attention to the complexity of sensing the environment through spatial conceptions such as “spaces of scent”, “the shapes of touch”, “the taste of stone” and “images of muscles and bones”, when several senses are evoked simultaneously. Indeed, all senses can be regarded as the extension of the sense of touch; a specialisation of the skin that act as an intermediate “between the opaque interiority of the body and the exteriority of the world” (ibid. p.42).

Along these lines, Japanese aesthetic sensibility has been characterised by the very perception of architectural space and the surroundings through all senses. This physicality has been illustrated by the scent and feeling of tatami mats under your feet; the scent of flower blossoms, the sound of water drops; or the roughness of green tea (Edagawa 2009, p.19). In traditional Japanese architecture, the close connection to nature and the sensory sensing that this has enabled was made possible by the wooden post-and-beam structures, which allowed a free opening of the façades towards the surroundings. The borders between inside space and the outdoors are diffused, reflecting the ways in which space is perceived. The dual spatial concept of *engawa*, the terraced space under the eaves of the roof, illustrates this connection. From the inside, the *engawa* is seen as an extension of interior space, but seen from the outside it becomes part of the surroundings and the outdoor spaces (Chang 1984, p.61).

To summarise this subsection, for the purpose of this study sensory aesthetic qualities emerge from the object or the environment of appreciation and affect all our senses in a subjective manner that is relative to our capacities. These sensory and formal qualities may be commonplace or extraordinary, positive or negative, or they may relate to the ways we react upon the qualities.

2.1.5 CONTEXTUAL AND COGNITIVE AESTHETIC QUALITIES

Aesthetic qualities have been seen as contextual on a meta-level, distinguishing psychological, historical, cultural and social factors that influence how aesthetic qualities are perceived (Berleant 2000, pp.71-82). These contextual factors together form what Arnold Berleant names the “aesthetic field”. The psychological fac-



tors have been thought to affect areas of perception, appreciation and creativity. Historical, cultural and social factors imply that the aesthetic experience does not occur in isolation from the surrounding society. Berleant claims that there is no such thing as pure perception: “Things are perceived by people whose experience has conditioned them to adopt certain attitudes, to have particular expectations, and to be ready to respond in some way or the other” (ibid. p.80).²⁴ Thus knowledge of social traditions, ideological influences, religious beliefs and moral values influence our understanding of the aesthetic and our environment at large.

Along the same lines, the notion of taste has been defined as a person’s ability to notice or discern the aesthetic qualities in things. Frank Sibley (1959, p.423) referred to taste perceptiveness or “sensitivity”. Taste is subjective in that we react differently to the perceptual qualities of our environment. However, this relativism need not be total. Thomas Leddy (1995, p.263) proposes that we make a distinction between a mere personal preference (to like a certain colour) and a matter of fact (the fact that a surface is a certain colour). In this line of reasoning, personal preferences are context-dependent and culturally constructed, existing in a specific societal context.

The extent to which cognition affects our judgement is much disputed. Some theorists maintain that intellectual reflection on the perceived quality is indispensable to aesthetic appreciation (Carlson 2000, p.194, Scruton 1979, p.35). Aesthetic features have been attributed with quite far reaching moral implications. In writings on the ethic dimensions of architecture, Nigel Taylor (2000, p.202) asserts that:

“[A]ny lack of care given to the design of a building is also, in effect, a lack of care shown to the public who have to live with it... our aesthetic criticism is not solely aesthetic, but also, at the same time, moral. It is an ethical criticism of the aesthetic content of the building”.²⁵

Yet others claim that cognition is fundamentally non-aesthetic (Berleant 2000, 91-92). Falling between these two poles is the view that the cognitive might affect some of our preferences, but is not necessarily part of all aesthetic appreciation. Aesthetic appreciation can also be based on a purely sensory non-reflective experience. Yuriko Saito (2007, p.182) proposes that an aesthetic association of ideas can be distinguished from a purely cognitive association in that the former is triggered by the sensuous appearance of the object. For example, the effects of weather on the façade of a building, the smoothness of a worn wooden surface, or the memory evoked by a personal object.

Furthermore, aesthetic qualities and the ambience these create have been found to be contextual through associations evoked by the environment and in relation to situational and temporal dimensions, such as the time of day and the season. According to *associationist* aesthetic theory, the same aesthetic qual-

ities are perceived differently in different contexts. The happy noise of children playing might be supportive and entertaining when animating the day in a nursing home for the elderly – a feature applied in Japan in ‘Toyama-style’ care facilities – but might equally be found distracting for someone in a different life situation.²⁶ Yuriko Saito (2007) gives an example of how the smell of roasted food is appropriate at a dinner party, but less appreciated in a hospital operating theatre. A familiar neighbourhood can be appreciated for “the way it expresses or articulates its distinguishing characteristics” and thus fulfils our expectations of how it ought to look, sound and smell. Alternatively, particular buildings might actually “deviate from their norm” and thereby attract our attention (ibid. pp.104, 109). This dimension of aesthetic quality has been interpreted as a “contextual appropriateness / inappropriateness” (ibid. p. 122). In the care context, a facility for the elderly could be appreciated for its homelike atmosphere, resembling the former homes of the residents. Homelike characteristics in a hospital could on the other hand be appreciated for the way it does *not* express a typical hospital-like character (this would presuppose that there exist distinct characteristics for care homes vs. hospitals). A topical design question could ask, for example, to what extent homelike or hotel-like attributes should be adopted in hospital environments in order to create a supportive environment evoking positive associations.

A distinct feature of Japanese aesthetics is the respect for and appreciation of the ultimate character of objects and materials. In the traditional Japanese garden, the rocks had to be arranged with respect to their individual *moods* and characteristics so that the features of one rock influenced the placement of other rocks in the same garden. The design principle of “truth to materials”, trying to bring to the fore the distinct qualities of a specific material in an object or structure, has been a guiding principle more widely in architecture, vernacular traditions and the arts and crafts movements (Saito 2007, p. 112, 117–18). These efforts to bring about values and content going beyond a pure sensuous perception of objects or environments call for cognitive reflection and contextual awareness.

Notions of **time and transience** have been connected to the association of ideas influenced by the cultural context. In the Japanese aesthetic tradition, the concepts of *wabi* and *sabi* connote incompleteness and impermanence manifested by the process of ageing (Chang, 1984). A crack in a pot used in a tea ceremony is not seen as a flaw; on the contrary it is celebrated as a sign of time passing. The contrast between present condition and earlier condition and the associations these evoke is triggered by the object’s aesthetic features (Saito 2007, p. 182). Aged objects in our surrounding environment might evoke thoughts and images of the object’s origin, its historical development, its longevity, events and activities that have influenced it, as well as its personal significance to us. The Japanese spatial concept of *ma* is further a culturally bound conception with a temporal dimen-

sion. *Ma* implies simultaneously both *time* and *space*, originally referring to “the space in between things that exist next to each other” or a “pause in phenomena occurring one after another” (Isozaki 2006, pp. 94–95).

Within the architectural debate in general, it has been claimed that buildings cannot be perceived of in a disinterested way without a context. A building is always contextual. It carries a meaning related to its function; it is not a solitary object of appreciation isolated from the surrounding city structure or nature; and it is regulated by building codes, labour skills and techniques (Harries 1997, p.24). Others argue that buildings not only constitute important features of a larger environment, but they are affected by changes in their surroundings. The appreciation of architectural works includes the appreciation of “the relationship of the structure to its site as part of the total experience” (Carlson 2000, p.203).

The relation between the central architectural concepts of *space* and *place* further illustrate the contextual nature of architecture. Inspired by Heidegger’s existential thought, Arto Haapala distinguishes between different contextual connotations of the concept of place. Firstly, a *place* can be viewed as a physical location or a geographical setting, i.e., to be somewhere. “To have a place is to fill physical space,” Haapala suggests (2005, p.41). Secondly, there is a meaning of the term place related to the expression *sense of place*, with emphasis on the *senser*. In order to have a sense of place, we need someone sensing the place, i.e., a person perceiving and understanding it. The notion of *sense of place* has a second meaning as defined by Norberg-Schultz and often referred to as the “genius loci” or the “spirit of place”. According to this conception, places have a distinct “environmental character” or “atmosphere” lending them an essence that goes beyond the individual properties of which they are constituted (Norberg-Schultz 1980, pp. 5–8). In this definition, “[a] place is a space which has a distinct character” while the normative “task of the architect is to create meaningful places, whereby he helps man to dwell” (ibid. p.5). In the genius loci, originating from the Roman concept of guardian spirit that all places supposedly possess, emphasis is put on the environment and its characteristics, not on the person perceiving the environment (Haapala 2005, p.42).

In addition to these two meanings attributed to the *sense of place*, Haapala envisages a third meaning attached to the personal history and existence of the perceiver. This view emphasises the “existential quality of the relation of a place to a person”, referring to the personal significances, interpretations and bonds a person makes with the surrounding environment, hence giving it a personal identity (Haapala 2005, p.47). Along these lines, the *home* has been seen as the ultimate place for the familiar, while we might apply a different set of expectations and attention to unfamiliar environments. Through the personification of spaces we can add personal preferences, meaning and attachment, influenced by our personal history, experiences and memories. This contextual dimension has been taken into account in many care environments, especially when furnishing

the private spaces of persons with dementia. The elderly are encouraged to furnish their rooms with familiar personal items and furniture in order to add this bond and associational quality to the environment. The personification of space has been found to support their coping with everyday life issues (Koga et. al 2002, Fleming et al. 2017).

With an eye on the aim of this chapter to provide a wide range of potential aesthetic dimensions from among which the users and stakeholders of the case study buildings may form their own conception of the aesthetic, contextual features may include notions of cultural and historical traditions, a person's personal history and experiences, the association of ideas and meanings attributed to aesthetic features, as well as temporal, seasonal and situational aspects. Nevertheless, the aesthetic experience may as well be a non-reflective and purely sensory experience of the surrounding environment.

2.1.6 SOCIAL AESTHETIC DIMENSIONS

The concept of *social aesthetics* has been coined in an attempt to pinpoint the situational character of aesthetic experiences and the similarity between social and aesthetic situations (Berleant 2005). The social situation itself may become aesthetic when it focuses on the perceptual features of the situation and embodies human relationships. This broad existential definition takes further the ideas presented in the *engagement model* discussed previously, by including the social interaction of people as part of the aesthetic engagement. Arnold Berleant lists social dimensions that could be considered part of the aesthetic experience, such as acceptance of others, excitement of discovery, the uniqueness of situation and person, mutual responsiveness and full personal involvement. Love is given as an example of an ultimate social aesthetic involvement (ibid. p. 31).

In Japan, the aesthetic has traditionally been closely linked to moral values and social conventions. In the Bushido, the book on samurai ethics, virtues such as righteousness, candour, politeness and respect were defined as normative ways of how to behave. These normative guidelines were translated into social codes and rituals that in turn had specific aesthetic forms (Nitobe 1905). Aesthetics could indeed be considered *a way of life* embedded in social conventions and translated into the design of objects and environments. The effort and meticulousness that is put into wrapping a gift plays, still today, an important role in conveying love and consideration to the person receiving the gift (Oka 2008). In the same sense, the way in which food is arranged in a Japanese lunchbox can be interpreted as the chef's way of conveying delight and consideration to the consumer (Ekuan 2000). The aesthetic features of the packaging or the lunchbox are thus intended to convey a social meaning.



The social dimension is especially relevant in architecture because buildings and the interior and exterior spaces created are designed to be occupied by people. Since built environments are culturally constructed, human participants are needed to supply meanings and interpretations of features in the surrounding environment, hence “aesthetic perception carries social significance” (Berleant 2005, p.30). The built environment influences human behaviour in that it determines the patterns of movement towards, inside and through buildings and neighbourhoods. Buildings provide interactive places for human activities; occasions for engagement, participation and social interaction. Berleant also maintains that “architecture is an art of complex social and environmental organisation” (ibid.). In other words, architecture provides sequences of social aesthetic situations.

Moral values such as respect and consideration are especially relevant in the design of artefacts and environments aimed at the needs of special users such as patients, the disabled or the elderly. The needs of these special users influence not only the size, shape, texture, colour, and safety issues of objects and spaces, but also behavioural and experiential aspects such as comfort and well-being, potentials for discrimination, marginalisation, cultural displacement and social stigma (Saito 2007, p.219). Even today, the respect for the elderly in Japanese society as well as the importance attached to family and the privacy of the home influence the design of care facilities for the elderly in Japan (Ståhlberg-Aalto 2013). In the *unit care* model applied in some Japanese care homes for the elderly or in the European counterpart of the *group home*, special attention is put on creating small scale care units, where the home fulfils the needs for family cohesion, sense of community and caring. This was the point of departure for design solutions in two of the case studies of this thesis, Yuraku Nursing Home for the Elderly and Käpylä Autism Centre, which will be discussed in more detail in following chapters.

In the care environment context, as discussed in Chapter 1, the social dimension has been considered to imply rooms and spaces where residents, patients, clients, visitors or care staff can, on the one hand, be alone or spend time privately with people of their choice. The participation of relatives and friends in the care processes is facilitated by the private and personalised spaces of residents and patients. On the other hand, the social dimension implies spaces where people are able to mingle, socialise and make new acquaintances. People go to some spaces to observe others or to be observed by others (de Swaan 2006, p.94). The gradation of spaces on a private-public axis that is applied in some care homes for the elderly aims at a spatial hierarchy that takes into consideration these different types of social situations (Barnes et al. 2006, Ståhlberg-Aalto 2013, p.100). Architecture provides elements that can support the social differentiation of spaces: spaces can be open or closed; walls can be transparent, semi-transparent

or opaque. The social dimension of the care environment is thus more than the dimensioning of individual spaces to suit various social interactions, but also about design choices on the arrangement of spaces with respect to one another and how these spaces are articulated.

In the pilot study on Japanese care homes conducted in preparation for the current research, the building designs were found to convey social and moral-aesthetic qualities enabling social contacts and care praxis respecting the integrity and privacy of the elderly. In some care homes, an opening equipped with rice-paper sliding panels connected the private space of the resident to the adjacent semi-private corridor. These panels permitted the staff, instead of bursting straight in to the resident's room through the main door, which might put them off balance, to kneel on the floor beside the rice-paper panels and gently call the inhabitant's name before proceeding to open the panel cautiously. The demented resident was thus given the time to adjust to the new situation and was approached on his or her own terms (Ståhlberg-Aalto 2013, p.97).

For the purpose of this study, social aesthetic dimensions are considered to denote the situational and occasional character of the physical environment. Social and moral-aesthetic judgements are included when these stem from the sensuous or design features of an object, the built or natural environment. The social interactions made possible by and within the care environment form a distinct part of the aesthetic experience.

2.1.7 FUNCTIONAL AESTHETICS AND THE NOTION OF FUNCTION IN ARCHITECTURE

A recent work involving functional aesthetics, or as the authors controversially named it *functional beauty*, distinguishes between the ways in which function can be perceived of aesthetically. The relation between form and function is depicted as “a thing's function being integral to its aesthetic qualities, or a thing's aesthetic quality emerging from its function... such as its purpose, use, or end” (Parsons & Carlson 2008, p. 31). The quality of “looking fit” is given as an example of features of the object derived directly from its function. A castle can look impregnable or a hospital may look apt for curing people. Features such as “simplicity, gracefulness, or elegance” stem instead from the functional category of an object that has only the very essential, standard features needed for a function (ibid. pp. 158-59). Contemporary minimalistic architecture provides examples of buildings that contain only the minimum needed to fulfil their functional purpose. A third category is when a thing appears to be performing its function but lacks some standard feature integral to that function, for example when the use of a contemporary building is revealed only at the point of entering the building.



The aesthetic has been considered by some to be a feature opposed to function, an idea which has its roots in the Modernist Movement. Louis Sullivan's famous paradigm *form follows function* prompted generations of architects to put primacy on function. However, in aesthetic theory, architecture has been distinguished from other art forms by the very idea that the utility of a building "defines the architect's endeavour" (Scruton 1979, p.6). In other words, the use of a building is incorporated in the very essence of architecture. The fact that a building is to be used shapes the building and shapes our aesthetic interest in the building; we understand them as functional objects. Winters made a distinction between "aesthetic functionalism" and "austere functionalism" (2005, pp.661-662). According to the former, the beauty of a building is to be measured in terms of its form in relation to its function, while in austere functionalism the concept of function is derived from structural rationalism and the notion of the aesthetic is of secondary importance. Austere modernist theoreticians went as far as to declare war on aesthetics.

Recent architectural theory has dissolved the concept of a building into layers according to the time when they are renewed. In other words, neither the form nor the function of a building is permanent but rather part of a constant process of change. Stewart Brand (1994, pp.12-23) differentiates six layers of change, popularly named the "six S's": site, structure, skin, services, space plan and stuff. The *site*, viewed as the geographical setting, the urban location and a legally defined lot, is esteemed to be eternal. The site cannot be moved to another location. The *structure* of the building, comprising the foundation and load-bearing elements, are expensive to change and are therefore the most long-lasting part of the building itself, with an expected lifespan of more than 30 years. The *skin* refers to the exterior surfaces of the building, which are more prone to changes in fashion and technological advances, hence renewed every 20 years. The *services*, designating technical wiring, plumbing, HVAC systems and elevators, are outdated in 7 to 15 years, while the *space* plan, featuring the interior layout of spaces, change even more quickly depending on the use of the building. *Stuff* is the most mobile and changeable of the six layers as it designates things that are moved around on a daily or monthly basis, such as furniture, appliances, pictures and lamps (ibid. pp.12-13).

Although this model of *layers of change* originates from a commercial real estate context and is put forward from a utilitarian perspective, leaving out components related to the ambient and spatial experiences of architecture, it demonstrates the temporal and ephemeral dimension of contemporary society/architecture. That buildings are part of a constant process of change is topical, especially in the healthcare design discourse. Hospital technology and care praxis are deemed to change so rapidly that hospital buildings are considered obsolete before they are even completed. This has inspired architects, such as Brunet Saunier, to develop new hospital concepts based on generic, completely flexible

and adaptable spaces, the *monospace*, which has been applied to one of the case studies of this thesis, Marne-la-Vallée Hospital Centre, which is presented in detail in Section 4.2.6 (Blin 2013).

The purpose of this study is not, however, to evaluate the functional performance of healthcare buildings or specific spaces *per se*. As reviewed in Chapter 1, the functional dimension of the care environment has been the focus of much prior research spanning the ergonomic dimensioning of specific spaces, functional programming of building projects, the optimising of care processes, technical and ecological functioning of buildings, to mention a few. This study considers function only to the extent it is conveyed in the building design and as such is perceivable by the users. As an example, we can take one of the most studied spaces of care environments: the toilet. A recent doctoral thesis (Sipiläinen 2011) went thoroughly into the question of how to dimension the toilet space so that the majority of elderly users in the healthcare setting are capable of using it successfully. The empirical work included a study with a 1:1 scale plywood model, in which, instead of using real materials and lighting, the wall and floor tiles were simulated by drawing a grid on the plywood board with a black marker pen. The model toilet was then tested by different user groups: elderly assisted by staff; elderly without staff and so forth and eventually the exact position of the toilet in relation to other furniture and the walls was adjusted. This could be regarded as a purely functional, ergonomic study, ignoring aesthetic dimensions. On the other hand, an aesthetic experience of a visit to the toilet has been described by the Japanese poet Jun'ichirō Tanizaki as follows:

[the] toilet truly is a place of spiritual repose. It always stands apart from the main building, at the end of a corridor, in a grove fragrant with leaves and moss. No words can describe that sensation as one sits in the dim light, basking in the faint glow reflected from the shoji, lost in meditation or gazing out at the garden... surrounded by tranquil walls and finely grained wood... one can listen with such a sense of intimacy to the raindrops falling from the eaves and the trees, seeping into the earth as they wash over the base of a stone lantern and freshen the moss about the stepping stones. (Tanizaki 1977, p.3-4)

This description of the toilet captures in a way the potential of architecture, which, even when stemming from the functional use of a toilet, endorses the aesthetic dimensions of location, surfaces, materials, light and space and the ambience these create. Within the scope of this study, function will be considered to the extent it is conveyed in these experiential sensuous or design features.

2.1.8 EUROPEAN VS. JAPANESE CONCEPTIONS OF AESTHETICS AND PROPORTION

When it comes to the aesthetics of architecture, the concept has divided the architectural profession. The *aesthetic* has been associated with the appearance of a building, its ornamentation and details, or with the rules and paradigms emerging from architectural styles. Strict aesthetic rules might limit architectural creativity or convey meanings and attention not fitting to the times or the cultural contexts. Along these lines, the 7th International Architecture Exhibition at the Biennale in Venice 2000 was named “Less Aesthetics, More Ethics”. The preoccupation with the superfluous appearances of the built environment was viewed to stand in the way of more important ethical concerns, such as ecological, societal or technological development (Fuksas 2001). From a political viewpoint, the Modern Movement attacked aesthetics in the 1920s and 30s in a Marxist spirit, claiming it to represent a *false consciousness*. According to an “austere functionalist” view, architecture was part of an industrialised production process that should be concerned with the economic, political and social context of buildings, not with ornamentation or classical rules of architecture (Winters 2005, p. 662).

Many early European writings on architecture did indeed evolve around the rules and proportions of classical architecture.²⁷ In one of the few surviving treatises on architecture dating from the classical era, Vitruvius (1960) divides the aims of architecture into the much cited three attributes of *utilitas*, *firmitas* and *venustas* (utility/commodity, firmness/solidity and delight/beauty). Furthermore, *venustas* or beauty can be attained through the six sub-categories of *ordinatio*, *dispositio*, *eurythmia*, *symmetria*, *decor* and *distributio*. These distinctions influenced later theories on the classical orders, especially in Renaissance writings such as Alberti’s (1988) *De re aedificatoria*. The classical rules of proportion, defined in these works, were based on the idea that visual harmony or architectural beauty can be attained by combining different building parts according to specific rules and principles of proportion. These universal rules were founded in geometrical and mathematical relationships, such as the Golden Section or the Fibonacci Sequence (Scruton 1979, p.58-61).

In this mathematical aesthetic tradition, the parts and the whole exist in relation to each other according to a certain proportion. The ratio, in Greek *logos*, is the principle that unites the parts, while the *proportion* refers to the similarity between two ratios, for example, $a:b=c:d$. Mathematical proportions have been divided into arithmetic, geometric and harmonic proportions. What distinguishes a geometric proportion is that the relationship between successive numbers is constant, such as 1:2 or 1:3. The Golden Section is a particular geometrical proportion, in which the third member of the proportion is derived from the sum of the two first members²⁸, resulting in the number $F=1,618034$ (phi). The

Fibonacci Sequence, on the other hand, is a special additive series, where two consecutive numbers form, when added, the next number of the series (1 1 2 3 5 8 13...). A feature of the Fibonacci Sequence is that, when advancing further into the series, the ratio of two successive numbers converges towards the Golden Section. Subsequently, the impractical and irrational Golden Section has frequently been replaced by the rational Fibonacci Sequence (Sarjakoski 2003, pp.226-227).

Later architectural movements have not remained oblivious to this line of mathematical universalism. The Modulor system, developed and launched by the French architect Le Corbusier in 1948 as a 'new classical order' of proportion, was based on a combination of the Golden Section, the Fibonacci Series and human measurements. At the base of this anthropometric scale was the height of a man with his hand raised, measuring 2.26m and creating a square (see Fig. 3). Within this square, a smaller square was derived from the height of the man of 1.83m. The nave, or the 'solar plexus' according to Le Corbusier, was located at mid-height, at 1.13m. Combining these measurements, two interlocked proportions of 183:113 and 226:140 were created and these in turn were applied to retrieve the scale of the optimal human ergonomic measurements 27, 43, 70, 86, 113, 140, 183 and 226 cm (Sarjakoski 2003, p.125). In the Finnish context, the Modernist architect Aulis Blomstedt attempted, in a similar manner, to develop rules of proportion in a system he named the Canon 60.

In early Japanese architecture, the dimensioning of spaces and structures to achieve an overall harmony in the building was guided by a modular system of proportion named the *kiwari* technique. The system defined the relationship between dimensions of the wooden posts and beams and the formation of details of the *shoin* style, a style adopted by the upper classes²⁹. The distance between two posts was repeated in the positioning of beams, the proportions of lintels and rafters and so forth, although the distance itself was not fixed (Nishi & Hozumi 1983, p.74-77). This system of proportion was not founded in structural considerations but was foremost dictated by aesthetic preferences and aims to create a spatial order, a "formal balance" through geometrical post-and-beam patterns and the spatial sequences these created (Tange 2005, p.379). Parallel to the *kiwari* method, a different system of standardised measurements for wooden post-and-beams, for the tatami mat, woodwork and fixtures developed among the common people, which together with the commercialisation of building materials promoted early standardisation of residential houses (ibid.). The proportion 1:2 of the tatami mat was regularised, although the size varied in different parts of the country.³⁰ The room size can still today be expressed based on the number of mats it contains. A standard traditional room size can, for example, consist of 4 ½, 6 or 8 tatami,³¹ and the floor area is commonly measured by the *tsubo* unit, corresponding to the square created by two tatami mats.

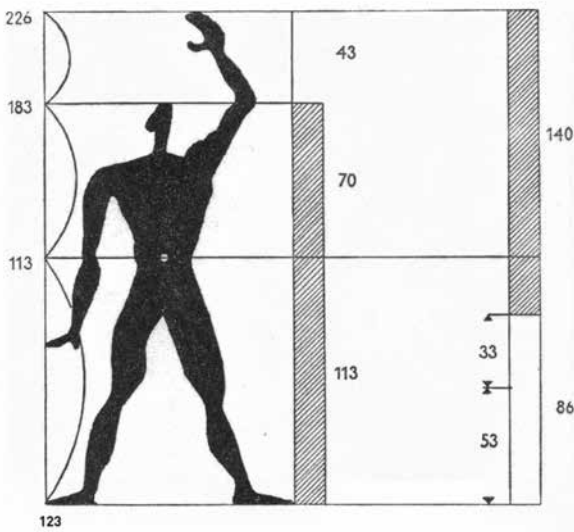


Figure 3. The Modulor by Le Corbusier (Sarjakoski 2003)



Figure 4. Lady playing traditional instrument, Ritsurin-Koen

Japanese architecture has been characterised by the “continuous spatial flow from point to point” and an openness between the interior and exterior of the building created by the above-mentioned post-and-beam structures. There is no fixed point; the spatial experience is continuously changing while moving through space in time (ibid. p.376). Furthermore, the Japanese creative process is based on a development from parts towards a whole, without a predefined all-embracing structure, which leads to a certain fragmentation of the overall building structure. This informal and organic approach towards architecture is reflected in the asymmetrical layout of building parts that can be contrasted with the symmetrical compositions of classical Western architecture (Edagawa 2009, p.16). In the Japanese aesthetic conception, emphasis is on details and a harmonious combination of the various details, in which excessive repetition and abiding to rules is perceived of as disturbing (Broner-Bauer 2006, p.204).

The concept of “Japan-ness” in Japanese architecture and aesthetics has in itself been the focus of much debate. The architect and theorist Arata Isozaki (2006) proposes that Western and especially Modernist thinking has influenced the conception of “Japan-ness” both in the West and in Japan. Western interpretations of traditional Japanese architecture led to a biased *japonisme* that affected how the Japanese interpreted their own architectural history. Imperial buildings such as the Katsura Imperial Villa and the Ise Shrine came to be viewed as examples of authentic or *honmono* Japanese tradition, while the more decorative buildings of the Tokugawa shogunate, such as the Nikko temples, were viewed as kitsch, or *ikamono*. This juxtaposition, initiated by the writings of Bruno Taut in the 1930s, was influenced by the ideals of the Modern Movement (ibid. p. 13). At

the same time, Japanese art and design exerted a huge influence on the European art and culture scene, to the point of naming the phenomenon “Japanomania” (Weisberg et al. 2016).

This thesis will not go deeply into the definition and analysis of what is the true essence of Japanese or Western architectural expression. The case study buildings themselves will stand as examples of contemporary care environment architecture in both cultural categories. Nor is my aim to take a stance in the debate on the universality of the rules of proportion or the definition of architectural beauty. However, it is worth noting the cultural differences between Europe and Japan concerning dimensions such as proportion, layout of spaces and symmetry.

2.2 A THEORETICAL MODEL OF AESTHETICS IN CARE ENVIRONMENTS

The aim of this theoretical review is to identify the dimensions of aesthetics and architecture to be applied in the empirical investigation of the ten case study buildings at hand. These dimensions form a theoretical model that is an essential part of Q methodological procedures in that users and stakeholders are asked to react to a set of statements concerning the environment that have been compiled on the basis of the model. Hence, a theoretical model of aesthetics that allows for a broad definition of the aesthetic is needed for all respondents to be able to operationalise their subjective, personal points of view.

Accordingly, the aesthetic will here be viewed as *any reaction we form to the sensuous and/or the design qualities of the care environment*. This broad sense of the term adapts the concept of *everyday aesthetics* as defined in contemporary philosophy into the field of architecture, by narrowing the focus to concern the care environment. In the realm of *everyday aesthetics*, the aesthetic has been defined as “any reaction we form towards the sensuous and/or design qualities of any object, phenomenon or activity” (Saito, 2007, p.9). Contextual and social considerations as well as reactions connected to the experience of function are included when these relate to sensuous and/or design qualities of the environment. The care environment refers not only to the surfaces and spaces created by the building itself, but also to the nature and surrounding cityscape incorporated into the environment through gardens, courtyards or views framed by windows. Furniture and items of the interior design are seen as indistinguishable from the architectural experience as a whole.

Building on this broad conception of the aesthetic, on the one hand being anchored in the experience of the environment and on the other hand being constituted by the physical features of a particular environment, the aesthetics

of the care environment will be operationalised in the form of a cross-tabulation along two main axes. The first axis comprises the *sensuous level*, consisting of different ways in which the care environment can be experienced aesthetically. These dimensions are retrieved from aesthetic theory and the architectural discourse related to well-being and the care environment, distinguishing the four main categories discussed in the previous sections: *sensory qualities*, *contextual qualities*, the *social dimension* and *function*. The second axis addresses the *design level*, denoting the architectural effects of the care environment, in other words an ontological level of aesthetics where we look at the articulation of the case study buildings. On the design level, we will examine the case studies through the following building layers: *stuff*, *surfaces*, *space and light*, and the relationship to the *surroundings*.³² These layers are representative of different size and lifespan in the continuum of design elements, ranging from the easily replaceable personal objects to the more stable exterior surroundings.

In an everyday familiar experience of architecture, the sensuous and the design level intertwine and interfere, forming a continuous and at times even automatic response to the surrounding environment. The aim is not to oppose these dimensions to each other. Instead, the purpose of this matrix of aesthetic dimensions is operational, that is, helping us to develop a model of *concourse* or the volume of debate on the issues at hand, in order to grasp, in a systematic and comprehensive manner, the different nuances and potential implications of aesthetic solutions as evident in the subjective view of the stakeholders and users. This theoretical model, presented in Table 1, functions as a tool for comprehending the volume of debate, covering an as comprehensive as possible universe of statements concerning the care environment. As such, theoretical modelling forms a key component of Q methodological enquiry, which will be addressed in-depth in the following chapter. In an effort to summarise the discussion of the previous two chapters, these dimensions will briefly be defined as follows:

Table 1. Theoretical model: The concourse of aesthetic and architectural dimensions

DESIGN LEVEL / SENSUOUS LEVEL	a. STUFF	b. SURFACES	c. SPACE & LIGHT	d. SURROUNDINGS
A. SENSORY QUALITIES				
B. CONTEXTUAL FEATURES				
C. SOCIAL DIMENSIONS				
D. FUNCTION				

A. SENSORY QUALITIES The sensory qualities include dimensions of our environment that we perceive with all our senses. These senses are not limited to sight or hearing, but also comprise our proximal tactile, olfactory, gustatory and kinaesthetic senses. In the multisensory experience of architecture, we see, hear, touch, smell and taste the buildings we move in and occupy. These sensory qualities are not isolated from each other, in fact more often they fuse and are present simultaneously, creating a quality of ambience or an atmosphere. Our biological and physiological senses are subjective and set limits to our ability to perceive, feel and move in the environment.

B. CONTEXTUAL FEATURES The aesthetic experience of architecture is contextual in the way we attach personal meaning and significance to places. The home is the ultimate place for the familiar, while we apply a different set of expectations and attention to unfamiliar environments. Through the personification of spaces we add personal preferences, meaning and attachment to them; a *sense of place* influenced by our personal history, experiences and memories. The *sense of place* might also denote environmental character, grounded in the historical and cultural features and traditions of the place itself. The aesthetic experience is, furthermore, contextual in regard to time and occasion; the quality of ambience is relative to the passing of hours, time of day and season.

C. SOCIAL DIMENSION The social dimension is contextual in a different way in that it denotes the social character of a place. The respect for the integrity of the users is translated into architectural features, including notions of privacy, the way in which the private and the public are combined and graded. A sense of control of one's personal life implies control not only of the number and the nature of social interactions, privacy and use of time, but also control over the physical environment. The right to choose the amount of exposure to feelings of sickness, death and shame of others are extreme forms of the social dimension, while rituals of daily life are more neutral. The fact of being supervised by staff, to be long term or ambulatory, to be known or unknown, further characterizes the social dimension.

D. FUNCTION Function is considered to the extent it is conveyed in the sensuous or design character of the building. A thing's function may emerge from its aesthetic quality, such as the purpose or the use of an object or a space. The quality of *looking fit* for its purpose is a feature of an object or an environment derived directly from its function. The notion of healing is one of the prime functions of care environments that influences the layout of spaces, views from windows, amount of natural light and even the mass and configuration of building volumes. Aspects related to safety, hygiene doctrines, maintenance and the presence of medical equipment might directly affect design outcomes. Wayfinding and the

ability to orientate oneself inside the building are further functional aesthetic features distinct to the care environment.

a. STUFF Stuff refers to the movables of the environment: personal items, furniture, technical equipment or devices and lamps. Works of art such as paintings and sculptures are included because these are replaceable and renewable, as well as greenery, flowers and plants used in the interior decor. The nature of these objects can be either *action-objects*, referring to objects that involve physical handling, interaction or movement, or *contemplation-objects* that are mostly seen or contemplated upon. On a timeline, stuff is the most short-lived and may move around on a daily or monthly basis.

b. SURFACES The surfaces denote the interior or exterior surfaces of the building. These are composed of a specific material and have a distinct colour or a texture. The surfaces may be shiny or matt, smooth or rough, and the structure may be transparent, semi-transparent or opaque. The way the surface is articulated might create a composition with a rhythm and with distinct proportions. How surfaces are connected to each other and the attention put to details affect the overall quality of finishing. While the surfaces of a building might be more long-lived than the movable stuff, they are regularly renewed or changed due to issues of maintenance or taste.

c. SPACE & LIGHT Spaces are defined by their enclosing surfaces. Spaces can be open or closed, narrow or wide, small or large. They can have a special shape that defines the ways they are furnished or used. Windows and openings mark the extent and quality to which exterior or interior views are incorporated into the space. Spaces relate to each other, creating spatial sequences. Spaces can be simply aligned in a straight line, or the layout can be a complex network of spaces scattered systematically or freely over a larger area. Light, as a basic architectural component, affects how spaces are perceived. Light can be natural or artificial, glaring or soft, straight or indirect. The orientation of spaces inside the building influences the amount and intensity of natural light entering the building as well as the amount of shadow.

d. SURROUNDINGS The surroundings refer here both to the site, denoting the lot where the building is located, and, more broadly, to the geographical and urban setting that contribute to the experience of the care environment. On the site, the experience of the surroundings is defined through the size and articulation of the building volumes and the outdoor spaces, patios, balconies, terraces and alcoves these create. The orientation of the building on the site affects how natural light, heat, air and sounds attain the exterior and interior spaces. Nature may

be incorporated into interior courtyards, gardens or connected to surrounding parks or natural landscapes. In an urban setting, the care environment is part of the larger urban tissue, affected by the presence and changes in the surrounding buildings, squares and streets.

Many non-aesthetic factors influence our experience of the care environment, including care processes, staff attitudes, logistics, how long we have to wait for treatment or move between the activities in different parts of the building, as well as technological, structural and ecological solutions and building costs. In the contemporary field of architecture, many of the dimensions that go beyond even the broadest definition of the aesthetic must be taken into consideration and mastered during the design process of a building. However, this study excludes many of the above-mentioned dimensions that would fall into the realm of demands for the architect. The study situates the aesthetic factors of the care environment within the broader realm of architecture, that is, referring to the design and/or sensuous features that are perceivable by the users. This distinction by no means opposes the aesthetic to architecture, but, on the contrary, they are seen as intrinsic and intertwined concepts. This is illustrated in Fig. 5.

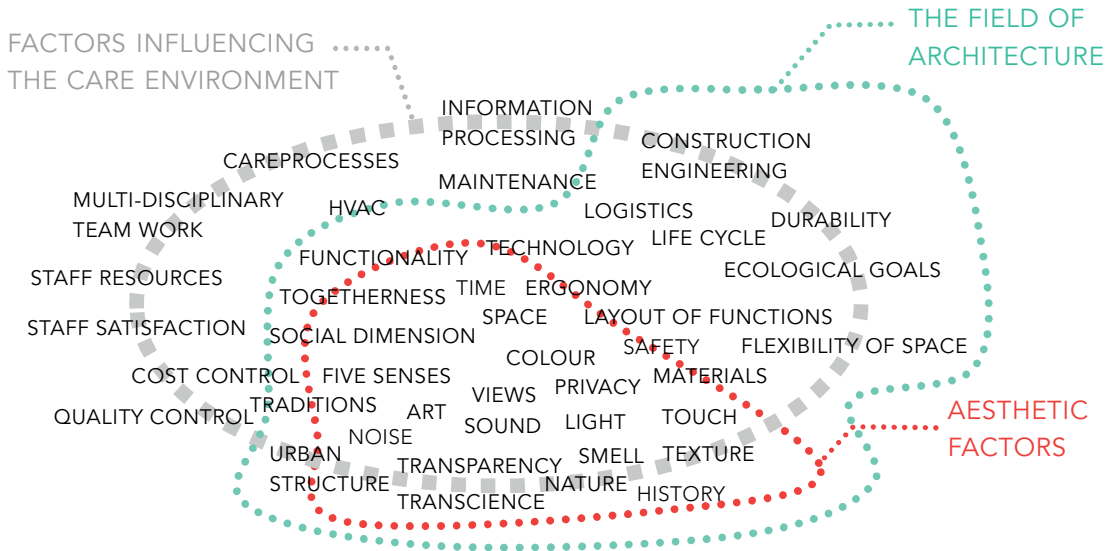


Figure 5. The relationship between non-aesthetic, aesthetic and architectural factors influencing the care environment

2.3 SUMMARY: THE NEED FOR USER EXPERIENCES ON THE AESTHETIC

In this chapter, I have approached different perspectives of the *aesthetic* through the domain of philosophy and architectural theory. The current aesthetic field has been expanded with regard to subject matter, size and epistemology, including a broad range of environmental factors and ways of experiencing these factors. The aesthetic encompasses not only the pleasant but also the unpleasant qualities of the surrounding everyday environment. Contextual features might affect our aesthetic interest or the aesthetic experience might be non-reflective and sensory. Social aesthetic considerations have been seen as denoting the situational and socio-structural character of the physical environment. The aesthetic experience in itself has been viewed as a fundamental modus of how we react to the surrounding environment. The experience of architecture has particularly been characterised as multisensory and contextual, and affected by social and functional dimensions.

For the purpose of this study, the aesthetic is defined as *any reaction we form to the sensuous and/or the design qualities of the care environment*. Founded in this definition, a theoretical model has been built up by cross-tabulating four ways by which the aesthetic experience can be sensed: *sensory qualities*, *contextual features*, the *social dimension* and *function*; with the architectural features of any built environment, that is, the design level, including the layers of *stuff*, *surfaces*, *space and light* and the *surroundings*.

Within this broad perspective, this study addresses the need to investigate user experiences of the care environment, a subject that has so far received too little attention in prior empirical research. The theoretical model serves as a framework for operationalisation, in that it enables the application of Q methodological experiments to the investigation of the case study buildings. In Q methodology, a set of statements describing the care environment are collected based on this model and during the interviews the respondents react to the environment by arranging the statements printed on cards on a scale of preference. In other words, the participants form their own conception of the *aesthetic* by arranging the statements, thus contributing to a 'stakeholder-driven' or 'user-driven' conception of aesthetics and the experience of architecture. The next chapter will go further into these methodological procedures.



INVESTIGATING THE CARE ENVIRONMENT

In the first chapter, the care environment was defined as applied in this study and the topical discourses on healthcare architecture and research reviewed, especially focusing on potential aesthetic dimensions of the care environment. The theoretical background included a survey of prior research in the fields of evidence-based design, environmental psychology and empirical aesthetics. In the second chapter, philosophical aesthetics and architectural theory were approached in search of a broad theoretical model that could then be operationalized in order to examine the user/stakeholder experiences of care environments. The experience of the aesthetic and architecture was found to be multisensory and contextual, affected by social and functional dimensions of the environment.

In this chapter, I will discuss the research design of this study and the methodological choices applied in the empirical investigation of ten care environments. First, the overall research design will be discussed in light of the initial research questions (3.1). The case study design is positioned within the domain of qualitative case study research. The pilot study, conducted on Japanese care environments and published in a separate research report, is briefly summarized and its impact on the development of the main study assessed (3.2). The selection of case study buildings is reviewed regarding the number of case studies (3.3.1), the selection criteria (3.3.2) and the selection process (3.3.3). The selected care environments and the different countries these represent are briefly summarized (3.3.4). The material collected and methods of documenting and analysing the case buildings are introduced (3.3.5).

Then, the main research method applied in the case studies, Q methodology, is introduced on a general level, arguing why this approach is meaningful vis-à-vis the investigation on the aesthetics of care environments (3.4). Methodological procedures related to Q methodology are elaborated step-by-step including the

modelling of the universe of statements (3.5.1), defining the Q sample (3.5.2) and choosing the participants (3.5.3). The interview principles of the Q experiments are discussed (3.5.4) and the methods and different phases for analysing the results described (3.5.5). The last part of the chapter reflects on the validity and generalisability of the research outcomes in view of the research design and its methods (3.5.6), as well as on the advantages and key methodological concepts of Q(3.6).

3.1 ABDUCTIVE RESEARCH DESIGN

Research designs have generally been defined as the “logical sequence that connects the empirical data to a study’s initial research questions and, ultimately, to its conclusions” (Yin 2009, p. 26). Accordingly, the research design and the methodological inclination of this study were developed in response to the themes emerging from the following initial research questions:

- In what different ways can the *aesthetic* be defined in the context of the care environment?
- How do the different users and stakeholders experience the aesthetic features of their care environment?
- Are there differences in aesthetic definitions and solutions between different types of care environments and what implications could these differences have on future developments in the field?
- Do aesthetic definitions and solutions differ between the various cultural contexts of the Japanese and European case study environments represented in the study? If they do, why and what could be learned from these differences?
- As a by-product and deduced from the case study selection criteria, the assessment of architecture is tested; is the architecture that has been deemed the best by experts and acknowledged by design awards experienced as such by the users and stakeholders of these buildings?

This line of questioning, focusing on the *how*, the underlying reasons *why*, and on the first-hand experiences of users and stakeholders, positions the study within the realm of qualitative research. The focus of inquiry is not on *how many* people like their care environment, but rather on *in what different ways* they experience their environment. The epistemological basis of qualitative research in general has been one that stresses the analytical value of a subjective reality, endorses multiple critical factors affecting a phenomenon and relies on the interaction between the researcher and the subject of inquiry (Groat & Wang 2002, p.26). Qualitative research studies things in their natural settings, attempts to interpret phenomena

in the terms of the meaning people attach to them and allows stakeholders to speak for themselves (ibid. pp.176–177). These are all themes that fit the research questions of this study.

A second research principle deriving from the initial research questions is the need for a multiple case study design, which would take into consideration both different environments as well as different user groups. The underlying hypothesis is that, while it is evident that our environment influences us, the experiences of aesthetic features and architecture are not necessarily generic, but could equally be care environment specific and subjective. The study thus sets out to investigate and compare the actual experiences of five different user and stakeholder groups in ten different care buildings. These ten case studies are located in Japan and the European countries of Finland, Sweden, the UK, France and Austria. The effects of the environment on feelings of wellbeing, quality of life and thus potentially on healing processes, are viewed through the lens of the subjective reactions of the participants of the study.

In search of a comprehensive and heuristic approach, the research design was founded on a combined strategy composed of three levels of inquiry: the theoretical, the methodological and the experimental, see Fig. 6. On the theoretical level, the care environment is approached through a systematic review of prior healthcare architectural literature and research in the fields of evidence-based design, environmental psychology and empirical aesthetics. In the review, I concluded that although many prior studies included aesthetic features and theories, they did not provide a model for the investigation of aesthetics and architecture of care environments in the comprehensive manner envisaged by my research questions. In prior studies, the aesthetic was narrowly likened to the appearance of things, perceived by the sense of sight. Hence, the theoretical level was broadened by means of a review of aesthetic and architectural theory in order to define a framework more suitable for the purposes of the study. The aesthetic as a broad concept was found to be closely linked to the multifaceted and personal experience of architecture, including a wide array of different senses as well as different ways of experiencing the environment. These literature reviews were used, not as an end in themselves, but as a means of rendering the research inquiry more insightful and to develop the arguments of the methodological and experimental phases of the study.

Moving on to the methodological level, the work consisted firstly of selecting the ten case study buildings for the study. The selection process itself was made part of the methodological procedure by interviewing experts on healthcare architecture and by surveying existing care environments in Japan and Europe. The case studies were selected from contemporary care environments so that they represent *high* aesthetic quality. The underlying idea was that, from the point of view of this study, there would be no point in investigating poor environments,

since that would tell us what poor environments are composed of but not necessarily how aesthetically highly valued environments should be designed. A methodological issue was therefore to define what was meant by *high aesthetic quality* within the realm of the study. The case study buildings and their surroundings were then analysed through documentation by collecting a similar set of material such as architectural drawings, photographs, and through observation and interviews. This forms the empirical baseline of the study.

On the other hand, the challenge was to find a research methodology suitable for the study of the aesthetic in the broad and complex sense identified on the theoretical level, and which at the same time respects the subjective experiences of the users and stakeholders of the specific case study buildings. Hence my gaze turned towards Q methodology, a methodology that has been applied for the comparison and analysis of opinions, views and other subjective phenomena in numerous fields including politics (Brown 1980, Aalto 2001), sociology (Kitzinger 1987) and public administration (Pitkänen 2017). In the healthcare context, Q methodology has been applied to policy studies (van Exel et al. 2015), organisational research within hospital environments (Popovich & Popovich 2000) and social and healthcare services (Kuorilehto 2014), in studies assessing care treatment programmes (Butler-Coyne et al. 2017, Forrest 2015), new hospital technologies (Mettler et al. 2017) and attitudes among care staff (Stone et al. 2016).

As a research method, Q methodology is far from new. It was introduced in the 1930s by the behavioural scientist William Stephenson (1953) and has since been presented in thousands of scientific publications (Brown 2016). Q methodology has been employed to examine patients' and family members' perception of care treatments, care management and information sharing (Stevens 2011,³³ Kim et al. 2018, Cramm et al. 2015, Kendall 2017). A recent study aimed at comparing the care priorities of different user and stakeholder groups in residential care facilities for the elderly (Ludlow 2019). However, the application of Q methodology in the field of aesthetics and architecture has been limited (Stephenson 2004, Siler 2009), with only a few studies investigating the physical attributes of the care environment, and when doing so, in the somewhat narrow perspective of care homes (Lyon 2010, Lyon et al. 2012, Fleming & Kydd 2018). In other words, as there were few prior studies to rely on, the second phase of the methodological work consisted of applying Q methodology to the investigation of the aesthetics and architecture of care environments.

In order to better understand the experience of the aesthetic and architecture, on the experimental³⁴ level of the study users and stakeholders of the selected case studies were asked to assess this experience. Q methodological interviews were conducted with a total of 45 participants associated in various capacities with the ten case study buildings. In the Q sorting experiments, the users and stakeholders were asked to react and comment upon a set of written statements regarding

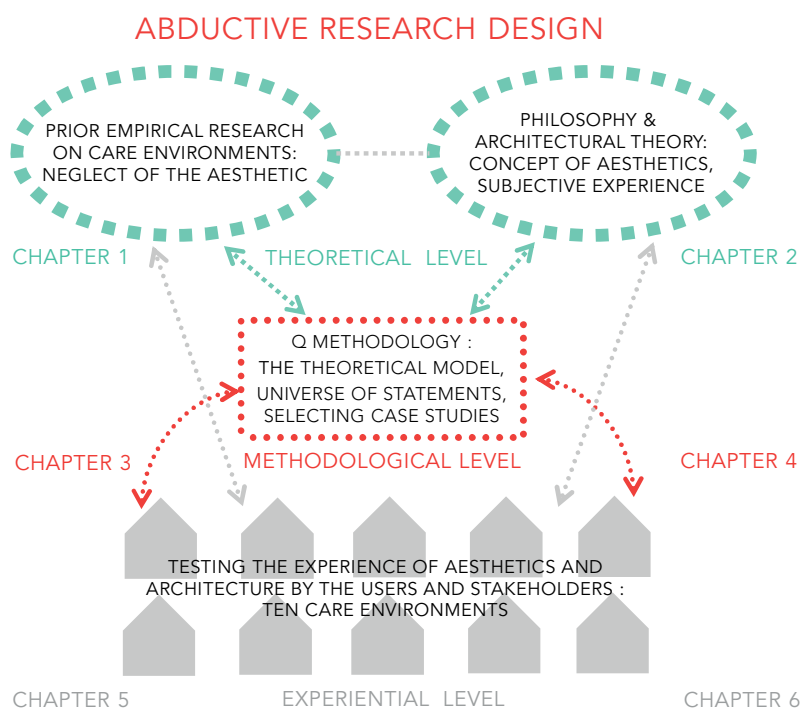


Figure. 6 Abductive research design: three levels of research

the aesthetic dimensions of the care environment. The sorting task was followed by an open-ended interview. The objectives of the experiments were to retrieve statistically analysable responses to the Q sorting tasks and in that way provide a means to *measure* the subjective experience of the aesthetic. The Q sorts were aimed at triggering the conversation in the subsequent interviews by providing the participants a vocabulary with which to express their experiences. The participants were additionally asked to, on site, indicate features and spaces that they find especially supportive or valuable, and these were then documented by photography. The results of the Q sorts were analysed and interpreted by means of quantitative and qualitative techniques, including factor analysis and hermeneutic methods.

These three levels form an abductive research design in the sense that there is a dialogue between theory and empirical evidence. Philosophical aesthetics and architectural theory define on a theoretical level the various ways in which we as humans react and relate to the environment surrounding us. On the other hand, much previous healthcare related research departs from empirical considerations, testing and measuring the effects of the care environment on health outcomes. This body of debate then again forms the content of the Q statements that the participants of this study react to in the Q experiments, the results of which in the best case might influence the formation of new theory. An abductive approach is in this way built into Q methodology and the research design of this study.

3.2 THE PILOT STUDY – THE CASE OF JAPAN

The outline of the research design was preceded by a pilot study on the aesthetics of Japanese care environments that was conducted in 2010 and published as a separate research report (Ståhlberg-Aalto 2013). This preliminary study assessed the state of Japanese healthcare architecture, the current debates on Japanese healthcare policies and the topical design trends influencing the design of care environments. The theme was approached through the study of eleven Japanese care facilities (see Fig. 7), and by conducting semi-structured interviews with 23 experts, including academic researchers, architects, public authorities, and the administration and staff of care environments. The buildings visited were selected from high-quality care facilities, built in the year 2000 or thereafter, that had received international or national design awards, or on the basis of recommendations made by the Japanese experts.

The objective of the pilot study was to get first-hand experience of different kinds of care environments and to retrieve valuable background information and insights from the designers, stakeholders and staff users of these buildings. The need for information in English about the Japanese healthcare context became evident in view of the small number of existing publications in English. Interview tactics were tested as well as ways to document and analyse the abstract concept of the aesthetic. On the other hand, the goal was to build up a network of contacts for the main field work of the thesis and to assess potential case study buildings that could be part of the main study.

During the pilot study, the care facilities were visited and documented by photographing and by collecting architectural drawings. The buildings were analysed on the basis on two axes: the architectural solutions and the underlying aesthetic strategies influencing these solutions. The architectural solutions included features such as *light, space, surfaces, materials and details*, and the relationship of the building to the *surrounding* environmental context (ibid. pp.100–111). The aesthetic strategies distinctive to care environments were tentatively interpreted as *home and family, integrity and personification, sense perception and ambience, and context and (Japanese) tradition* (ibid. pp.95–100). These dimensions were later developed further in the theoretical model of the main study, presented in Chapter 2.

The pilot study concluded that the aesthetics and architecture of the care environments visited was held in high esteem among the stakeholders and staff users. A general conception was that the environment influenced the wellbeing of patients and residents, with an emphasis put on a socio-cultural awareness (ibid. pp.112–115). In the care facilities for elderly, the use of traditional architectural elements and materials that the users were familiar with was found to be important, as well as a spatial layout of small scale and homelike care units, supporting a sense of family cohesion and social connectedness, which is traditionally part



Figure 7. The eleven Japanese care environments of the pilot study (Ståhlberg-Aalto 2013)

of the family-centred Japanese society. Abstract dimensions such as home and family and respect for the integrity and privacy of the users were found to be meaningful and at the very core of aesthetic sensibility. Additionally, a certain quality awareness that related to materials, with primacy on natural materials such as wood and the traditional tatami mat, overrode more pragmatic views on maintenance and staff dimensioning. An environment experienced by the five senses and the role of nature in the care environment was stressed.

The research experiences of the pilot study revealed the challenges related to getting visiting permission to healthcare facilities and the right to interview patient or resident users. Patient and resident interviews would have required more time and organization than had been reserved for the pilot project. A further impact of the pilot study was the revelation of the difficulty in getting respondents to talk about the building and the environment surrounding them, despite the fact that the semi-structured interviews included a quite excessive battery of open-ended questions. This initiated the search for an interview method that would trigger discussion and thus supported the use of Q methodology in the interviews of the main study.

3.3 SELECTING AND DOCUMENTING THE CASE STUDIES

3.3.1 DETERMINING THE NUMBER OF CASE STUDIES

At the outset of the study, there was little previous research adapting Q methodology to architectural research and hence no prior studies to rely on in determining the number of case studies. Therefore, I consulted general case study research principles for multiple-case designs. Ten case studies can be considered within the range of an adequate number of cases, when these are divided into theoretical and literal replications (Yin 2009, p.54). In general, qualitative studies that go thoroughly into the subject of interest, in this case by visiting, documenting and conducting Q methodological interviews at the care environments, tend to limit the number of cases in order to keep the collected data manageable.

A literal replication predicts similar results emerging from a similar context while a theoretical replication refers to cases that predict contrasting results with anticipatable reasons. According to Yin, a theoretical replication is founded on “the prior hypothesising of different types of conditions and the desire to have sub-groups of cases covering each type” (ibid. p.59). Applied to this study, theoretical replication was established by selecting cases representing the two general categories envisaged in visions of future healthcare environments discussed in Chapter 1, namely *acute* and *chronic* care environments. It was hypothesised that different aesthetic dimensions would emerge from the two care contexts. In other words, the users and stakeholders would value and appreciate different aspects of the environment in *acute* high-tech hospital environments as compared with *chronic* low-tech living and rehab settings. Within this theoretical division, literal replication was established by selecting four case studies belonging to the category of *acute* environments, including general hospitals and specialized clinics, and six case studies adhering to the *chronic* care environments, covering physical and psychiatric rehabilitation centres, nursing homes for the elderly and patient support centres (see Table 2).

In addition, a theoretical replication could be hypothetically proposed between the geographically remote locations and culturally different contexts of Japan and the set of European care environments represented in the study. There were no *a priori* reasons to assume that the Japanese and European participants would react to their environments in a similar manner. Within this theoretical division, literal replication is achieved through the selection of five Japanese and five European care environments.

3.3.2 DEFINING THE SELECTION CRITERIA OF THE CASE STUDIES

The case study selection criteria is qualitative and based on a judgmental and informed selection of case study buildings as opposed to being based on a randomized sampling logic as is common within quantitative research. The multiple-case study design was chosen in order to contrast different types of care environments and to be able to compare the user experiences of the different socio-cultural settings. The broad concept of *care environment* applied in this study, defined as *the physical environment in which a person in need of care is living as a resident or receiving treatment as a patient or client*, allows for this comparison. This definition may include a variety of different care facilities, such as hospitals, specialized clinics, physical and psychiatric rehabilitation centres, patient support centres and care facilities for the elderly and the disabled. Home care settings, blended care models, educational buildings and nurseries for children are excluded in order to limit the vast field of possible case studies.

The normative aims of introducing state-of-the-art care environments that could act as models for and influence the design of future healthcare environments called for a qualitative component to be included in the selection criteria. In search of these future models, as mentioned, I believed it would be more meaningful to investigate and analyse the user experiences of high quality environments rather than focus on buildings of poor quality (of which there is certainly an abundance out there). Poor environments would not form models for future design, nor would the users' and stakeholders' first-hand experiences of these environments give us insights into the nature of such models. To pose the question of how a poor-quality environment could be ameliorated would again call for imaginative powers of the respondents and not be based on the actual reactions to the environment under study. In view of these aims, the following four selection criteria were defined:

- Aesthetic dimensions play a central role in the design process of the building. This criterion was included to ensure that the aesthetic solutions were a result of conscious decisions to this effect. The requirement was assessed by the author by means of articles and publications in which the designers of the case study buildings described their design aims and aesthetic strategies (see references), or based on expert recommendations when literature was lacking.
- The building represents high aesthetic quality. The requirement was considered fulfilled if the building had been acknowledged in some way, for example, had been published in an architectural journal, received a prize or was the result of an architectural competition. In architectural competitions, the winning design is chosen from submitted proposals

assessed by a jury composed of experts using a priori defined selection criteria. Similarly, when giving design awards, a jury selects the winner from entries of already completed buildings. International design awards may be of a popular nature, such as the Architectural Record, the Wallpaper Design and the World Architecture News awards, which have special categories for healthcare architecture, or the awards may be of a more prestigious nature such as the European Mies van der Rohe Award. Some design awards are granted by national institutions such as the JIHA Healthcare Architecture Award in Japan that annually promotes four or five Japanese healthcare buildings, the RIBA Stirling Prize and the BBH Build Better Healthcare awards in the UK, the Dutch Hedy d'Ancona Prijs and the French Prix de l'Équerre d'argent. In Finland, there exists no special healthcare-related architectural prize. The publication of a building in architectural journals undergoes an assessment and selection process by the journal, even including on-site evaluation. Common to these three ways of acknowledging buildings is that they include peer review and thus represent best-practices from the point of view of the architectural profession. However, they rarely include the assessment of a building from the user point of view, nor are research methods applied in a rigorous manner during the selection processes.

- The building has been completed in the year 2000 or later. This criterion was included to ensure that the case study is part of the ongoing care environment debate and also to limit the number of potential case studies to contemporary buildings.
- The selected buildings represent a balanced sample of both *acute* and *chronic* care environments in Japan and in the European countries represented, according to the theoretical case study principles stipulated in the previous section. Here a distinction needs to be made; the study does not attempt to compare the two larger global regions of Japan vs. Europe in general, but it foremost compares the user/stakeholder experiences of the selected care environments and to some extent the environments as such. Furthermore, the buildings are not *typical* representatives of the selected building types, that is, the Japanese and Austrian nursing homes for the elderly are not representative of average nursing homes in these two respective countries, nor is the Marne-La-Vallée Hospital Centre a typical French hospital or the Malmö Infectious Diseases Unit a standard Swedish care unit for the cure of infectious diseases. Instead, and as defined by the selection criteria, they are awarded and acknowledged 'state-of-the-art' care facilities.

3.3.3 THE CASE STUDY SELECTION PROCESS

When selecting countries, Japan was considered a point of reference due to its long history of aesthetic thinking and its position at the vanguard of contemporary architecture (Saito 2007, 2014, Isozaki 2006, Buck 2000, Bognar 2008, Ståhlberg-Aalto 2013). The cultural or societal features of the individual European countries were not included in the selection criteria. Neither the social or health-care systems nor the architectural characteristics of the countries are here at stake *per se*. On the contrary, a wide range of European countries were included in the list of potential case study buildings. The selected countries were subordinate to the criteria concerning aesthetic quality defined in Section 3.3.2. Finland was an exception. It was included with the intention of anchoring the relevance of the study in the Finnish healthcare context.

In the selection process, I consulted experts on healthcare architecture in different European countries concerning the European buildings as well as in Japan regarding the Japanese.³⁵ The final case studies were selected from over 120 potential buildings that fulfilled the selection criteria (see abbreviated list in Appendix IV). The facilities were approached either through the architect who had designed the building or by contacting the administration directly, with the help of the academic and professional community. A general information sheet, describing the research project and the interview methods was translated into the languages concerned and sent to the facilities. In Japan, in particular, the manner the facilities were contacted was found to be important and additional recommendations by the host university in Tokyo, Kogakuin University, were needed.

During the selection process, the operators of some of the contacted buildings declined the offer to participate in the study. The main reasons for declining were the fact that the buildings were famous and received an overload of visiting requests, or, especially in case of the private care facilities, there were concerns about disturbing the clients, that is, the paying patients and residents. Among the European buildings, in particular, the nursing home for the elderly and the physical rehabilitation centre took multiple efforts to find a facility that was willing to cooperate. Subsequently, the patient support centre (Maggie's Glasgow, case 4.2.8) was added to the *chronic* care environments on the European side after several rehabilitation centres that offered physical rehabilitation in its more traditional sense had declined to participate. This turned out to be an asset for the study, as this type of informational support centre might very well represent the best-practises of the future. In Japan, the specialized clinic was the most challenging of the building types to find, as most of the small clinics are privately run, have a shortage of care staff and hold business concepts that stress patient experiences and wellbeing, hence are unwilling to participate in experimental interviews with the aim of analysing these experiences.

3.3.4 THE SELECTED CASE STUDIES AND THE COUNTRIES

As a result of the selection process, the *acute* care environments are represented by four buildings: Katta Public General Hospital and Katsura Ladies Clinic in Japan as well as Marne-la-Vallée Hospital Centre and the Emergency and Infectious Diseases Unit at Malmö University Hospital in Europe. The *chronic* care environments include six buildings: Senri Rehabilitation Hospital, Baum Haus Psychiatric Rehabilitation Centre and Yuraku Nursing Home for the Elderly in Japan, and, Maggie's Glasgow, Käpylä Autism Centre and the Haus Steinfeld Senior Centre in Europe (see Table 2 below, Figs. 11 and 12 in Chapter 4). The case studies will be analysed and introduced individually in Chapter 4.

A feature uniting Japan and the participant European countries is the ageing society. All the countries are topping statistics for longevity and life expectancy at birth, while birthrates are declining. The health expenditure as a percentage of GDP ranges from 9.4 in Finland to 11.1 in France. The expenditures are expected to continue growing in the future (OECD 2017, Sakamoto et al. 2018). These societal changes challenge the financing and organising of welfare services. The selected case studies are all located in societies where the level of healthcare and welfare services has traditionally been publicly regulated and has universal coverage, if not necessarily publicly run.

In Finland, the publicly funded mixed system relies on the municipalities to provide health and social care services, which then are delivered by the municipalities, joint municipal authorities or by the private sector. The system is predominantly funded by state and local taxes. However, out-of-pocket expenditure is relatively high compared to other European countries (Couffinhal et al. 2016). In Sweden, the county councils/regions and municipalities are responsible for both providing and financing healthcare services. Care is delivered by public or private healthcare facilities, although the system is publicly funded through regional and local taxes. Patients are free to choose between private or public providers of care at different levels (Anell et al. 2012). In the United Kingdom as well, the healthcare system is funded mainly through general taxation, with the UK allocating funds within England and to the devolved administrations of Scotland, Wales and Northern Ireland. The National Health Services (NHS) of the constituent countries oversee care and service delivery within their jurisdiction. Primary care is delivered by GP surgeries, which function as gateways to more specialized care (Cylus et al. 2015).

In Austria, the complex health system divides responsibilities between the federal government and the nine states (Länder), which in turn have delegated many of these to self-governing bodies, for example, social insurance and professional health service providers. The majority of primary health and special-



ized ambulatory care is provided by the private sector through independently practising physicians, while hospital inpatient care is publicly organized, albeit largely relying on private non-profit institutions. The system is financed by a mix of general tax revenues and compulsory social health insurance contributions (Bachner et al. 2018).

The French healthcare system is based on a state-controlled public social health insurance system, in which regional health agencies (ARS) are responsible for coordinating care provision. Care delivery is mixed, including public hospitals, private non-profit hospitals and private for-profit hospitals and private, fee-for-service physicians (Chevreul et al. 2015).

In line with the French, the Japanese healthcare system is strictly government-regulated and funded by the public medical insurance system, mainly through three categories: employment-based Health Insurance, region-based National Health Insurance, and Health Insurance for the Elderly aged over 75. The freedom of patients to choose a healthcare facility regardless of insurance type is combined with a care delivery predominantly run by the private sector (Sakamoto et al. 2018, Fukawa 2017, Shinjo & Aramaki 2012).

The societies of the selected case studies differ, for example, from the US or China, where healthcare and welfare services, although they might be extremely costly, cannot be guaranteed for all or are based on voluntary contributions. Similarly, in the case of developing countries, the services might be considerably more limited. Therefore, any conclusions that go beyond healthcare contexts of this study may only be made very tentatively and as recommendations to be examined in future research.

3.3.5 DOCUMENTING AND ANALYSING THE CASE STUDY BUILDINGS

The case study buildings were documented by collecting comparative material along several dimensions. General background data was collected by asking the facility representatives to complete a general information sheet, comprising information on the owners and service producers, the design teams and building briefs, including the number of beds and treatment facilities and the types of services available (see Appendix V). Site and floor areas as well as the architectural drawings of the buildings were systematically collected, including the site plan, typical floor plans, sections and façade drawings. The building materials and techniques as well as the construction costs when available, were surveyed. I systematically photographed the buildings and, when needed, obtained photos from fellow researchers and the architects who had designed the buildings. As part of the interview methods, I took photographs of places

in the building indicated by the interviewees to be important to them (see Sections 3.5.4 and 6.3).

The visits to the case study buildings took place in Japan for the pilot study in June 2010 and for the main study between May and July 2013. The European case studies were visited between September 2013 and February 2014. During the visits, the buildings were walked-through and commented upon by stakeholders, including persons from the administration, the care staff, the architects or academic researchers, depending on the situation. Special attention was paid to discussing the main aesthetic strategies applied in the building designs, such as the location of the building with respect to the surrounding community and the natural landscape, the principles of spatial layout, the use of natural and artificial light, the ideas behind the selection of building materials and textures and the design of details. The praxis of furnishing the spaces as well as users' possibilities to bringing personal belongings to the care environment were discussed, along with questions bridging aspects of privacy of residents, patients, clients and care staff. These themes were also incorporated into the fit for purpose open-ended questions of the Q interviews, see Appendix IX.

The material collected during the case study visits is presented in Chapter 4. The analysis of the individual buildings is structured in line with the following parameters: the background and relevance of the case building to the study; the aesthetic and architectural strategies of the building design; the relation of the building to its surroundings; the principles of layout out of spaces and use of light and shadow; the surfaces and materials used, and the movable stuff and objects of the interior. Furthermore, topical issues that emerged during the walk-throughs are discussed. The buildings are visualized through a set of photographs and drawings.

3.4 Q METHODOLOGY: A QUEST FOR SUBJECTIVITY

To enquire into the user/stakeholder experiences of the case study buildings, I applied Q methodology, which combines qualitative and quantitative methods for examining and systematically analysing human subjectivity. Subjectivity is here defined as *an individual's personal point of view*. It relies on the twofold premise that subjective points of view are communicable and that they are anchored in self-reference (McKeown & Thomas 1988, p.12). In this case, this refers to the fact that there exist care environments with certain properties and people are able to react to these properties and express their opinions about the environment. Q methodology thus lies within the larger framework of positivistic epistemology. The idea that scientific knowledge can be retrieved from subjective experience is endorsed.



Table 2. Building data according to the multiple-case study design

literal replication / theoretical replication	JAPAN	EUROPE
'acute' environments	4.2.1 Katta Public General Hospital	4.2.6 Marne-la-Vallée Hospital Centre
architect:	Taro Ashihara Architects	Brunet Saunier Architecture
building type:	General hospital	General hospital
location:	Shiroishi, Miyagi Prefecture, Japan	Jossigny, France
number of beds/clients:	308 beds	460 + 125
total floor area:	25 862 m ²	72 000 m ²
date of completion:	2002	2012
acknowledgements:	JIHA Healthcare Architecture Award 2003 Tohoku District Architectural Award 2004	1st prize architectural competition, nominated for Prix de l'Équerre d'argent
	4.2.2 Katsura Ladies Clinic	4.2.7 Malmö Emergency and Infectious Diseases Unit
architect:	NORM null OFFICE	C. F. Möller Architects
building type:	Maternity Clinic	Emergency and Infectious Diseases Unit
location:	Sendai, Miyagi Prefecture, Japan	Malmö, Sweden
number of beds/clients:	19 beds	51 beds
total floor area:	930 m ²	24 000 m ²
date of completion:	2011	2011
acknowledgements:	recommended by experts	1st prize architectural competition, nominated Kasper Salin Prize 2010, BBH Best award 2012
'chronic' environments	4.2.3 Senri Rehabilitation Hospital	4.2.8 Maggie's Glasgow
architect:	Kyodo Architects & Associates	OMA, Rem Koolhaas & Ellen van Loon
building type:	Physical rehabilitation centre	Cancer caring centre
location:	Minoh, Osaka Prefecture, Japan	Glasgow, Scotland
number of beds/clients:	120 beds (172 beds allowed)	no in-patient rooms
total floor area:	7 254 m ²	534 m ²
date of completion:	2007	2011
acknowledgements:	JIHA Healthcare Architecture Award 2009	2012 Andrew Doolan Prize, nominated the 2012 Stirling Prize
	4.2.4 Baum Haus Rehabilitation Centre	4.2.9 Käpylä Autism Centre
architect:	Sou Fujimoto Architects	Freja Ståhlberg-Aalto / Tuomo Siitonen Architects
building type:	Children's psychiatric rehabilitation	Group home & day care centre
location:	Date, Hokkaido, Japan	Helsinki, Finland
number of beds/clients:	50 + 20 beds	12 residents + 36 day care clients
total floor area:	2 536 m ² + 567 m ² + 102 m ²	1790 m ²
date of completion:	2003/2006	2003
acknowledgements:	JIA Grand Prize 2008, AR Awards 2006 Grand prize, AR Awards 2006 Highly Commended	The Rose for Building 2004 / Helsinki City Prize Published in the Finnish Architectural Review
	4.2.5 Yuraku Nursing Home for the Elderly	4.2.10 Haus Steinfeld Senior Centre
architect:	Nagano Architects & Associates	Dietger Wissounig Architects
building type:	Nursing home for the elderly, day care	Nursing home for the elderly
location:	Saihoku, Tottori Prefecture, Japan	Steinfeld im Drautal, Austria
number of beds/clients:	100, day care centre 20	50 residents: 42 single rooms, 8 double rooms
total floor area:	6 558 m ²	3 658 m ²
date of completion:	2003	2005
acknowledgements:	JIHA Healthcare Architecture Award 2005	1st prize architectural competition, 2005 State Architecture Award of Carinthia, 2005 Timber Construction Award, 2006 New Alpine Arch. Award

The experience of architecture shares the premise of being based on a person's internal frame of reference, but the communicability of this experience may not be so self-evident. Hence, the methodological aims of the study were to use Q methodology as a tool for expressing and understanding the experience of the care environment, giving the actors a vocabulary with which to relate to the surrounding environment. Furthermore, the idea was that the Q-sorting task would trigger reflections on and initiate discussion about the care environment during the subsequent open-ended interviews. This discussion is documented and reported, thus testing the relevance of the current theoretical discourse on the actual users and stakeholders of care environments.

In Q methodology, subjectivity is operationalised in Q-sorting experiments in which the participants are asked to react to a carefully selected sample of statements or visual material drawn from a domain of interest, in this case written statements describing features of the care environment. The statements are compiled based on a theoretical model, which aims at covering the totality of possible opinions concerning the domain of interest. In this study, the theoretical model, drawn from philosophical aesthetics and architectural theory and compiled in Chapter 2, consists of a matrix where the *design level* and the *sensuous level* of the aesthetic are contrasted to each other (see Section 2.2). Based on the model of concourse, 48 statements highlighting different dimensions of the care environment were compiled.

In the Q-sorting experiments the participants are then asked to react and comment upon these statements by arranging the statements printed on cards on a scale ranging from -5 (most unlike my view) to +5 (most like my view). The results of the experiments are analysed and interpreted by means of quantitative and qualitative techniques, including factor analysis and hermeneutic methods. Throughout the analysis, the results of the individual Q sort, made by a specific participant concerning the experiences of a specific case study building, can be traced back and identified, preserving the link between subjective opinions and particular architectural and aesthetic solutions. This enables a comparison of both the different case study buildings and the opinions within the different user groups. The fundamental methodological principle of *operant subjectivity* implies that the participants are not given ready-made concepts, but rather themselves participate in the construction of these conceptions by arranging the statement cards. Here the concept of the *aesthetic* and the experience of the care environment are defined by the users and stakeholders through the subjective reactions expressed in the Q-sorts.

3.5 OPERATIONALIZATION OF THE THEORETICAL MODEL

3.5.1 MODELLING THE CONCOURSE OF STATEMENTS

The modelling of the concourse of statements forms the first steps of Q methodological procedures. The “concourse” refers to the “volume of discussion” about a given topic, which includes an indefinite number of statements (Aalto 2001, p.89). Here, the concourse would include opinions, ideas and positions on different aspects related to the care environment and its architecture. Instead of choosing the statements at random, which would not guarantee that the relevant statements are included, a *theoretical model*, on the basis of which the statements are selected, is constructed. The purpose of this model is to facilitate statement selection and ensure that the final Q sample comprises an adequate and informed selection of statements (ibid. p.91). This methodological principle has also been named *structured sampling*, as it is opposed to an unstructured sampling, and systematically aims at covering all possible sub-issues of a theme of interest. Furthermore, *deductive design* principles predominate in this phase of the study, referring to the fact that the model is largely built up on a priori theoretical considerations. An inductive design, on the contrary, would depart from the patterns observed in the collected statements, which is not the case here (McKeown & Thomas 1988, p. 28).

The theoretical model is constructed by cross-tabulating the two main components of the aesthetic that has been retrieved from philosophy and architectural theory. In Chapter 2, the aesthetic was defined in view of the aims of this study as *any reaction we form to the sensuous and/or the design qualities of the care environment* (see Section 2.2). In other words, the aesthetic comprises, on the one hand, the *experience* of the environment and, on the other hand, the *physical features* of a particular environment. Translated into a matrix, the first axis comprises the *sensuous level* consisting of different ways by which the care environment can be experienced aesthetically. Here four main categories are distinguished: A. *sensory qualities*, B. *contextual qualities*, C. the *social dimension* and D. *function*. The second axis addresses the *design level*, here denoting the architectural effects of the care environment. The *design level* includes the following building layers: a. *stuff*, b. *surfaces*, c. *space and light*, and d. the *surroundings*. These layers are representative of different size and lifespan in the continuum of design elements, ranging from the easily replaceable personal objects to the more stable exterior surroundings. These dimensions have been defined and discussed more in Chapter 2.

Table 3. Theoretical model of concourse: creating sixteen subcategories of aesthetic dimensions

DESIGN LEVEL / SENSUOUS LEVEL	a. STUFF	b. SURFACES	c. SPACE & LIGHT	d. SURROUNDINGS
A. SENSORY QUALITIES	A – a	A – b	A – c	A – d
B. CONTEXTUAL FEATURES	B – a	B – b	B – c	B – d
C. SOCIAL DIMENSIONS	C – a	C – b	C – c	C – d
D. FUNCTION	D – a	D – b	D – c	D – d

By cross-tabulating the four *sensuous levels* with the four *design levels*, a 4 x 4 matrix is formed, resulting in sixteen different theoretical categories of how to relate to the care environment aesthetically (see Table 3). For example, the category A-a represents opinions on sensory qualities concerning movable stuff in the care environment, while the category A-d comprises sensuous ways of experiencing the surroundings outside the care building. Correspondingly, B-b is about the contextual meanings people attach to the surfaces and materials of the building, while C-c reflects on the social dimensions emerging from spatial layout. Along these lines, D – a connotes aesthetic features connected to the function of movable stuff, and D – c functional properties perceived in space and lighting conditions. The next section will look at how the Q statements were collected based on this theoretical model.

3.5.2 DEFINING THE Q SAMPLE

The Q sample can be considered a collection of stimulus items, in this case written statements describing the care environment, which the participants are asked to react upon during the Q sort. These statements generate a meaning and a status, firstly, when being rank-ordered in the Q sort by the participant, and secondly, when being factor analysed by the researcher. As such, the statements have “no inherent meaning or status as facts” (McKeown & Thomas 1988, p. 24). The statements represent plausible opinions about a subject and the task of the participants is to choose to what degree these opinions are representative of their points of view.

In Q methodology, statements have been classified according to their origin. In a *naturalistic* Q sample, statements are taken from the respondents’ oral or written communications, whereas in a *ready-made* sample the statements are retrieved from second-hand sources, such as literature or newspapers (ibid.p.25-27). In this study, I employed a *hybrid* sample, which included both naturalistic and

ready-made statements. The naturalistic statements were extracted from the 13 stakeholder interviews made during the pilot study on Japanese care environments (Ståhlberg-Aalto 2013). The ready-made statements were modified from research studies that reported on first-hand user experiences (Verma et al. 2013), research articles (Devlin & Arneill 2003), healthcare architectural literature (Arneill & Fransca-Beaulieu 2003, Cooper 2006), or from relevant fiction (Tanizaki 1977).

From a *raw material* of over 340 potential statements fitting the 4 x 4 categories of the theoretical model, I reduced the number of selected statements to 50 by eliminating or combining overlapping statements and by adding some theoretical considerations to further clarify the opinions expressed. A prototype set of statements was then tested in May 2013 in Tokyo, in a Q interview session with an architect of care environments, who acted as respondent, and a group of academic researchers. The participants commented on the statement structure, the coverage of opinions expressed and the interview instructions. Based on the feedback, the number of statements was reduced to 48 and a special effort was put into remodelling the statements in order to make them simple and easy to read with a clear and unambiguous content. The statements were deliberately kept on a concrete level, avoiding too abstract content and difficult vocabulary. Furthermore, the apprehension of the statements should not require any background knowledge on healthcare architecture or aesthetics. The final set of statements was translated in to Japanese, French, German, Swedish and Finnish by professional translators or by the author. The list of Q statements in English, classified according to the categories of the theoretical model, is presented in Table 7. For a complete list of statements in all five languages, see Appendix VI.

The structure of the statements was constructed so that it predominantly starts with a proclamation. This was done to avoid any doubt concerning the respondent's position on the subject matter. For example, Statement 21 starts as follows:

"Patients/residents should be able to alter the ambience of the room..."

And it then continues with an explanatory part giving examples of how this could be achieved:

"...by adjusting the window blinds, the reading light by the bed, the room temperature and moisture, or the amount of openness and insight into the room..."

The last part of the statement makes a stance on why this aspect is important:

"... – this is empowerment!"

Statement 21 is an example of a statement modified from literature and influenced by theoretical considerations. It also represents one of the most difficult

categories to find statements for, that is, C – b, referring to the social dimension emerging from surfaces. The problem is that surfaces are rarely explicitly dealt with using social attributes. The statement originates from a text on healing environments by Arneill & Fransca-Beaulieu (2003, p.184-85), in which the authors elaborate on Planetree design principles and give very concrete design recommendations for care environments. The Planetree movement stresses the importance of patients' control over the physical environment and patient participation, hence the reference to empowerment.

Statement 1, belonging to the category A – a, illustrates how the original oral or written opinions were modified and naturalistic statements combined with ready-made ones. In a stakeholder interview, the respondent stated, concerning the role of art works:

“When I see certain paintings they make me very active. When I walk through a museum I walk past many paintings without reacting, but certain paintings get my attention and make me stop. They arouse in me special feelings and make my sensitivity active; it gives me power.” (REPRESENTATIVE OF BUILDING INDUSTRY, TOKYO 2010)

In an academic research report, the role of art in the care environment is described as follows:

Works of art and the use of colours make the staircases more gay and initiate conversation. (VERMA ET AL. 2013, P.65, TRANSLATED BY FSA)

These two statements were combined and remodelled into one statement:

1. There should be works of art in the care environment. When I see paintings or handicraft work, they get my attention and make my sensitivity active – they give me power! They also initiate conversation in a natural way.

A third example, Statement 10, shows how some of the statements were preserved in almost exactly their original form and content as they appeared in the source material. A stakeholder of a psychiatric rehabilitation centre, who held an ultra-liberal view of relating to patients' rights, commented accordingly on the functional dimension of materials and furniture as follows:

“Things made by wood are flexible. Wood is a good material because it is soft and it is easy to break. If a child wants to break a chair and throws it on the floor it is good that it breaks. If it would not break the child would not feel the satisfaction of destroying something. Then we will fix it afterwards.” (DIRECTOR, HOKKAIDO 2010)

I made the statement more universal by erasing references to children and adding an explanatory note of why the unlikely act of break a piece of furniture

could be considered good and educational. The resulting statement ended up in category D – a, among the functional ways of relating to movable stuff and it reads as follows:

10. If a patient/resident wants to break a piece of furniture, it's good that it breaks. Otherwise you wouldn't feel the satisfaction of destroying something. In that sense furniture and other objects can have an educational function.

3.5.3 DEFINING THE P SAMPLE

In line with the aims of the study to highlight the experience of care environments in a holistic manner, giving a voice to different viewpoints and interpretations of the *aesthetic*, the participants were selected from among representatives of different user and stakeholder groups. It was hypothesised that the different users and stakeholders would perceive and value their environment in different ways. Five user/stakeholder groups form the P sample and were identified as follows:

- the architect who had designed the building and hence would have valuable background information about the applied design strategies and the different phases and processes that led to the final building solutions
- a person from the administration with insight into how the building functions as a whole
- a person from the care staff with insight into the practical everyday care work in the facility and with a professional view of the life of the resident, patient and client users
- a resident living in or a patient or client receiving treatment in the care building
- a family member of a user living or receiving treatment in the building, or a visitor.

I set out with the aim of making five Q methodological interviews for each of the ten case study buildings; one for every user/stakeholder group. The goal was nearly attained in that the 45 respondents participating in the study were quite evenly distributed on the user/stakeholder spectrum, both in the Japanese and the European case study environments (see Table 4). Special priority was put on attaining patients', residents' and clients' viewpoints, in view of the fact that these have received less attention in prior research. As a result, one quarter of the participants are patients, residents or clients (n=12). In turn, family members and visitors are underrepresented, due to the fact that many of them lived far from the case study buildings (n=6).

The participants form a heterogeneous group in terms of age, professional background and length of stay at the facility. The average age was 46.7 years, but the age of individual persons ranged from 12 to 87 years. The professional background of the architects, the administrative and care staff members was part of the stakeholder selection criteria. The background of the patients, residents, clients, family members and visitors included a wide range of professions, such as student, teacher, office worker, housewife, nurse and it-consultant. The length of stay or of taking part in treatment of the residents, patients and clients varied from a maximum of ten years to a minimum of 2 days, at the time of the interview. Twenty-four of the participants were male and 21 female. There were no significant differences in age and gender distribution between the Japanese and the European care environments (see Table 4).

The architects who were willing to conduct the Q interview were selected from the designers of the case buildings. The other users and stakeholders were indicated by the administration of the facility. The patients, residents and clients were selected with respect to somatic and psychological abilities. For example, in the maternity ward, the respondent had had a baby two days prior to the interview, but was nonetheless able to attend the interview, accompanied by the baby. In the case of patients or residents requiring support, the interviews were conducted as group sessions with the assistance of either care staff or family members or both. In one of the interviews, the spouse of the participant participated to ensure that the patient, who was recovering from a stroke, would not overly tire herself. It turned out that this married couple had the habit of discussing everything as a pair, which supported the rank-ordering task and animated the post-sorting discussion. One of the participants was an adult with quite severe autism, and therefore the Q sort was conducted as a group interview with the participant, her personal assistant and a close relative. Although it might be argued that the accuracy of the results might be compromised by such arrangements, I judged that the next of kin who had taken care of the main respondent all her life and the personal assistant who had accompanied the respondent for several years were adept at interpreting the respondents' reactions. In fact, I found that the interview method was very suitable for group discussions. One of the interview sessions had to be interrupted mid-way because the respondent, suffering from dementia, was not able to understand the Q statements nor follow the sorting instructions. Overall, the interviews were successfully concluded and I deemed that they provided rich and usable material.

During the interviews, information on the participants' personal data including age, gender, length of stay or treatments at the facility and profession was collected on a result sheet (see Appendix VIII). Additionally, the participants were asked: if they had the opportunity, would they choose the current facility when in need of care or not? The results of this last question (see Table 6, Chapter

5) and subsequent discussion, reflects on how well expert's evaluations of architecture coincides with that of actual users and stakeholders, thus addressing one of the initial research questions of the study, and will be discussed in Chapter 6.

Table 4. The participants: user/stakeholder data

N=45	total	Japan	Europe
participants	45 persons	46,7% (n=21)	53,3% (n=24)
average age	46,7 years	48,1 years	45,5 years
gender / male	53,3 % (n=24)	61,9% (n=13)	45,8% (n=11)
/ female	46,7% (n=21)	38,1% (n=8)	54,2% (n=13)

user/stakeholder status			
architect	22,2% (n=10)	23,8% (n=5)	20,8% (n=5)
administration	20,0% (n=9)	19,0% (n=4)	20,8% (n=5)
care staff	17,8% (n=8)	19,0% (n=4)	16,7% (n=4)
patient/resident/client	26,7% (n=12)	23,8% (n=5)	29,2% (n=7)
visitor/family member	13,3% (n=6)	14,3% (n=3)	12,5% (n=3)

3.5.4 CONDUCTING THE Q-SORTING EXPERIMENTS

The Q-sorting experiments predominantly took place in the case study buildings, which enabled the participants to have a fresh and on-site impression of the care environment they were asked to react upon. The administrations of the facilities and the architects had been provided with written information in advance about the interview methods and the estimated time it would take to conduct the experiments. The facility had then made the necessary arrangements for conducting the individual interviews with the residents, patients and clients, family members and visitors, the care staff and representatives of the administration. In most of the cases, the visit to the care building took one entire day, and included four Q interviews and walk-throughs of the facility. The architects were interviewed elsewhere, due to the large distances between their offices and the case buildings. All in all, the architects' interviews took place in six different countries. The Japanese field work was conducted in May – July 2013 and the European field work between September 2013 and February 2014.

Each Q-sorting session was conducted in the mother tongue of the participant and lasted some 1-2 hours. The general information letter, the interview instructions, the Q statement cards as well as the result sheet were translated into all interview languages (Appendices V-IX). Interviews held in Japanese and

German were interpreted by professional interpreters or by academic researchers. The Q sessions were taped and afterwards transliterated. A Japanese student of architecture, who assisted in contacting the care facilities and in arranging the case study visits in Japan, participated in nearly all the Japanese Q-sorting experiments.³⁶ In France, a French student listened in on some of the French interviews as part of a study course that involved the case study building.

At the beginning of the Q-sorting session, I briefly introduced my research project to the participant and explained the basic idea of a Q sort. The participant was also given written interview instructions, which we then discussed before starting the experiment. The Q-sorting procedures included three parts: firstly, the respondent arranged the Q statements according to the given instructions; secondly, a semi-structured interview was conducted to ensure that the Q-sorting technique had been understood as well as to retrieve ideas that might have been triggered during the Q sort; in the third part of the experiment, the respondent was asked to indicate places and features that he/she found especially supportive or meaningful in the care environment, which I then documented by photographing. In the cases where the interviews took place elsewhere than in the case buildings, the participants identified important features on photographs when available, or gave me photographs they had taken themselves.

At the beginning of the Q sort, I asked the participants to react to the 48 Q sample items describing the aesthetics of the care environment by arranging them on a scale of preference. The interview instructions specified that the final Q sort should describe the respondent's own personal viewpoint as a user or professional stakeholder. Furthermore, when possible, the reactions vis-à-vis the statements should be especially evaluated in relation to the particular case study building at hand. This instruction was important considering that some of the architects were professional designers of a wide range of different care environments and the administration staff could be in charge of several care buildings. The care staff might also be a family member of a resident, patient or client, and so forth. When defining the role of a participant, there is no clear line to be drawn between, for example, one's personal point of view as an architect and one's personal point as a human being who experiences spaces and has expectations concerning the care environment. Nevertheless, for an architect, this kind of empathetic ability to project and experience spaces from the perspective of the user is a fundamental part of any creative design task.

The Q statements were printed on business-card-sized white cards, with one statement on each card (see Fig. 8). The pack was shuffled before starting the Q sort so that the cards were in a random order. I instructed the participants to first read through all statements and arrange them on the table in three loose piles: one on the 'positive' side of the scale (+5, +4, +3, +2), one close to the 'zero' zone (-1, 0, +1) and one on the 'negative' side (-5, -4, -3, -2). Then, the participant was

instructed to rank-order the statement cards on the table into the normal distribution grid indicated on the result sheet (see Fig. 9). This forced quasi-normal grid ranged from +5 (most like my opinion) to -5 (least like my opinion). The zero 'zone' referred to statements about which the participant felt indifferent or neutral: The respondents were instructed to follow the distribution pattern whenever possible. However, it was allowed to deviate from the normal distribution if their personal view would have otherwise been compromised. The participants were encouraged to use all the time needed to adjust the positions of the cards, ask questions about the content of the statements, and to explain why they put the cards in a particular box, if they so wished. When all the statements were rank-ordered, the grid was photographed and the statement numbers copied on the result sheet along with the respondent's personal data (Appendix VIII).

The function of the forced quasi-normal distribution is to encourage the participants to make choices and to rank-order the statements. As part of the sorting instructions, it was explained to the respondents that the values on the scale do not mean anything absolute; they are a means of rank-ordering the statements in relation to each other. For example, a respondent does not need to totally disagree with a statement placed under -2. By placing it there, one simply means that it is 'more unlike' one's view than a statement under +2. However, if a participant would put nearly all the statements, for example, in the category +5, (which one of the participants unfortunately did), it is in fact a refusal to differentiate between the statements. Instead of ranking and weighing the different opinions expressed in the statements against each other, the participant preferred to give the same answer to all the questions, which is unrealistic. Q methodology is based on the assumption that, in every choice we make, we do in fact prioritise different competing stances. Furthermore, the logic of normal distribution lies within the Law of Error, which assumes that fewer issues are of greatest importance than those of less importance or of no significance. Hence, in the normal distribution grid there are fewer boxes in the extremes of -5 and +5 than in the middle. Here, the middle score does not represent an average of opinions, but a point neutral in meaning (McKeown & Thomas 1988, pp.34-35). It is important to note that even if there is deviation from the normal grid the reliability of the results is not statistically undermined. Prior research indicates that if a Q sample is well structured and not biased towards certain opinions, the results from a *free* and a *forced* distribution tend to yield the same results (Brown 1980, p. 201-203). In this case, almost all respondents, when given a possibility to do so, did deviate from the normal distribution; statements were more often placed on the positive side than the negative.

The Q sort was followed by an interview, including five questions asked of all participants, which had the technical purpose of checking that the statements as well as the Q-sorting instructions had been understood (Appendix IX). Although

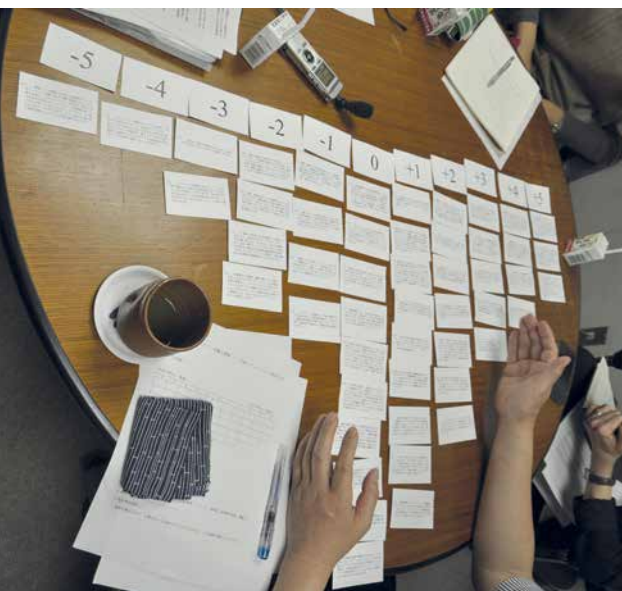


Figure 8. Prototype Q-sorting experiment

DISTRIBUTION SCORE SHEET[illegible]

Figure 9. Quasi-normal distribution grid

unplanned in advance, the third question, which asked the participant to explain why certain statements were placed in the extremes and in the middle zone, started a praxis of going through one-by-one all the statements in the extremes (-5, -4...+4, +5) and in the middle (o) of the scale. This method turned out to be a fruitful way of both recollecting the vast number of themes present in the 48 cards and of sharing some background information (also on a very personal level) that influenced the choices. I felt that the interviewees were able to open up and talk to me frankly, perhaps due to the fact that I was not only a stranger to them but also, in most of the cases, a foreigner in their country. The Käpylä Autism Centre is here an exception, since I knew several of the participants due to my involvement in the design of the building. These personal explanations proved valuable in the later analysis of the results. The semi-structured questions were followed by open-ended questions if the respondent was available for further discussion.

Another aim of the post-sorting questions was to evaluate the Q-sorting method. In general, the interviewees found that the Q-sorting task revealed new dimensions of the surroundings that they had not come to think of before. This was especially the case for the non-architect participants. For the architects who were specialized in healthcare architecture, the statements were not new. Some commented that these represented themes that they have to struggle with in their everyday design work. Some stakeholders criticized some of the statements for being inconsistent, in the sense that the content was contradictory, that is, you could agree with part of the statement but not entirely with the whole, which in turn affected the positioning of the card. It could be argued that this is often the

case in 'real life' when making decisions. When participants were asked if there were any statements missing, they mainly mentioned subjects that lay beyond the scope of the study, such as the availability of public transportation, the quality of the food, smells in the building, care staff dimensioning or the need to integrate auxiliary functions in the care environment, such as hairdressers, art galleries or libraries. Among factors that could be considered part of the broad definition of the aesthetic applied in the study was *acoustics* and, in fact, statements on the role of sound were found to be underrepresented. Also, issues such as the size of care units or hospital wards as well as features particular to certain user groups, for example, the need of persons with dementia to wander around, were found to be missing.

3.5.5 METHODS FOR ANALYSING THE RESULTS

Q Methodology has been described as a hybrid method that combines both *qualitative* and *quantitative* aspects. Here, qualitative refers to practices where the scholar determines the results based on judgemental criteria, whilst quantitative methods rely on mathematical. The qualitative methods dominate in the modelling of the concourse, the selection of the Q statements and the interactive Q-sorting experiments (Aalto 2001, p.108). In this case, as discussed in previous sections, the selection of case studies is a further domain where the judgemental efforts of the researcher are required. The data analysis phase represents the quantitative part, including three sets of statistical procedures: correlation, factor analysis and the computation of factor scores (McKeown & Thomas 1988, p.46). When the results of the statistically-produced factors are to be interpreted and defined, the pendulum swings again towards qualitative research.

First, the results of the Q sorts were run through the standard PQMethod statistical software, tailored to the requirements of Q studies, and factor-analysed with a principal components analysis (PCA) and a Varimax rotation. The factor analysis is based on the correlation between the Q sorts, correlating the 45 x 45 scores so that a correlation of -1.0 between two Q sorts indicates that the two respondents placed the Q items in a totally different way, while 1.0 indicates two Q sorts as identical. Varimax rotation aims at maximizing the differences between the factor loadings and in that way makes it easier to identify the patterns of agreement and disagreement between the main factors (e.g., the metaphor of only eating the tofu cubes in miso soup; we can all see them and they are easy to pick up). The factor score of each statement indicates to what extent that statement is significant to the factor either 'positively' or 'negatively' (see Table 7), while the totality of the distribution of scores for each statement by each participant shows how well the individual adheres to the different factors (see Table 6). In other words, the higher the positive factor loading of the Q sort given by the partici-

pant is on a specific factor, the stronger adherent of the factor the participant is, where a factor loading of +1.0 expresses total agreement with the factor. In other words, such a participant would be the ideal typical representative of that factor. The resulting factors represent clusters of opinions, expressed by the participants belonging to each factor, in this case, on the experience of aesthetics and architecture of care environments. Here, the clusters of opinions are interpreted to be overall aesthetic statements on the environment, that is, aesthetic discourses. A respondent is statistically significant on a factor when the factor score is 0.37 or higher.³⁷ In practice, higher factor scores weigh a lot more on the definition of the factor and are usually required for a factor to be well-defined and sufficiently related to the subjective views of the participants.

The preliminary PCA analysis and Varimax rotation identified four factors that were representative of a total of 44 % of variance among the responses and captured twenty of the participants (Ståhlberg-Aalto 2015). In order to achieve a higher coverage of responses, I set out to test some methodological alternatives and issues I had pondered upon during the interviews. One was to test if the Q-sort of the participant who had put a majority of statements on the positive extremes (+4 and +5), somehow affected the overall factor loadings or persons building up the factors. Thus, I deleted that participant's Q-sort and ran a new PCA analysis and Varimax rotation. The effects of the operation were hardly noticeable, given the high number of the participants (and Q-sorts) overall, so I decided to keep the participant and restore the analysis. Another issue that needed to be addressed was how, during the interviews, several participants had commented on and found it challenging to rank-order Statement 32, due to the way it was written. In the statement, the fact of not having privacy in the patient/resident room, with the only place to be alone being the toilet, was condemned. The content of the statement is quite easy to comprehend, but the negative phrasing led some participants to put it in the negative extremes (i.e., feeling that this is really a bad thing, which should have a negative rating) and some in the positive extremes (i.e., feeling that the content matched fully their own opinion and thus should have positive rating), although both groups felt that lack of privacy was terrible in a care environment. Since the issue of privacy was also treated in another statement (34), in a less ambiguous manner, and the respondents had had no difficulties in rank-ordering that statement, I decided to change the factor loadings of Statement 32 to nil in all of the Q-sorts. Whilst in the zero zone, the loadings of the statement would be neutral vis-à-vis the forming of the factors. Again, the effects of the change were indistinguishable after rerunning the analysis.

Since the coverage of responses had not improved with the efforts above, I then performed a hand rotation of the factor loadings. Instead of using a principal component analysis, I departed from a centroid factor analysis, which was

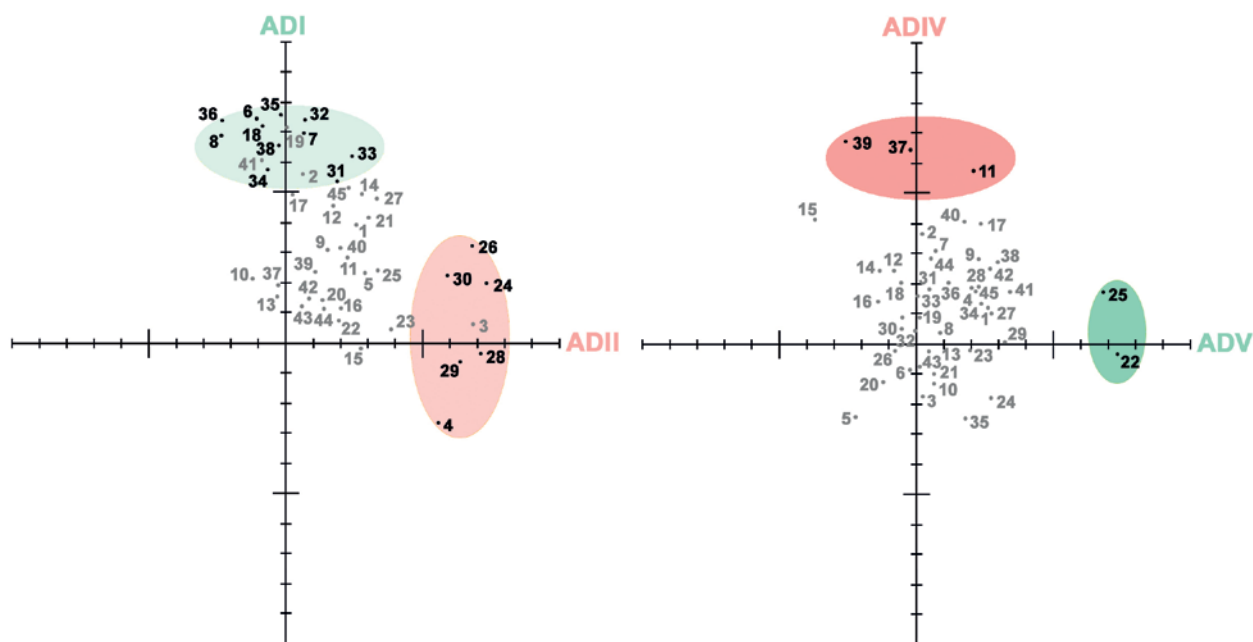


Figure 10. Graphic illustration of factors ADI – ADII and ADIV – ADV after hand rotation of factors. The numbers refer to the participants, where the defining members of the factor are marked in black.

the method of choice for Stephenson and his followers (see ‘Brown Centroids’ in Schmolck 2014, Brown 1986, p.60). In the hand rotation of factors, two factors at a time are rotated with respect to each other, the goal being to get clusters of participants as close to the factor axis as possible so as to maximise their factor loadings and thus produce a well-defined factor expressing and summarising the subjective views of these participants as well as possible, see Fig. 10. When persons in the two-dimensional factor space are situated close to a factor axis, the highest possible loadings are generated on that factor for those participants (*ibid.*). The rotation of factors does not alter the underlying data, that is the *Q* sorts, it simply enables the analyst to examine the existing data from different angles. As a result of these operations, the coverage of the analysis was improved, with 25 persons ending up with significant loadings on the factors chosen for interpretation, and where the factorial solution explained 47% of the variance among the *Q* sorts, distributed on five factors. However, I still wanted to exhaust one further option, namely to hand rotate the data run through both a PCA and a Varimax rotation. This is a somewhat unconventional combination of methods among *Q* scholars, yet it is fully reliable and justifiable, if and when the goal is to produce well-defined factors covering the variance in the data sufficiently. Consequently, the new solution covered 27 persons, explaining 53% of the variance on five factors. In order to choose which one of these methods to use as basis for

the final factor interpretation, I made a crib sheet summary of the three alternatives paths,³⁸ looking into the distinguishing statements of each factor and the respondents' adherence vis-à-vis them. Interestingly, there was little difference in the emerging themes and participants building up the factors between the two manually rotated alternatives. However, I judged the third alternative, based on hand rotation of PCA and Varimax analysed data, to be the most consistent, both considering the content of distinguishing statements and the discussion in the participants' interviews. I now felt confident that I had turned every possible stone, used and tested the available analysis options and could proceed to the factor interpretation phase of the five factors identified. The method's testing had thus not been in vain as a result of the fifth factor emerging.

3.5.6 METHODOLOGICAL REFLECTIONS ON GENERALISABILITY AND VALIDITY

In line with the overall qualitative inclination of the study and in order to cover the subject of interest in-depth, I limited the number of case studies to ten state-of-the-art care environments and the number of participants to forty-five. In multiple-case designs, ten case studies is an adequate number of cases (Yin 2009) and in Q studies in particular, any number of participants between 30 and 50 is sufficient to obtain comprehensive factors and reliability of factor arrays (Brown 1980, 1986). Moreover, five different user/stakeholder groups were targeted in each of the ten case buildings. One could say that the selection of both case study buildings and participants is based on informed and judgemental criteria in line with the principles of qualitative research. In other words, I did not ask random passers-by to react on random buildings, rather, on the contrary, the participants had specific relationships with carefully selected care environments.

This raises the question of the generalisability of the results. As opposed to the logic of sampling in quantitative survey research, where the sample is designed to be representative of the population at large through the vast number of respondents surveyed and often through a randomised selection of respondents, qualitative research proceeds from the basic idea that the sample is theoretically composed and therefore the results are not generalisable to the wider population on their own. In other words, this study does not claim that a quarter of the users and stakeholders of care environments in general support notions purported in Factor 1, even though a quarter of the participants adhere to this factor. Instead, the results can be interpreted to indicate that the clusters of opinions expressed in Factor 1 represent a distinct way of relating to the care environment and that these opinions differ from the opinions expressed in the other clusters of opinions, that is, in the other factors emerging from the analysis. In this case, the Q study

has helped to identify five different overall aesthetic statements regarding the care environment. Q methodology has thus provided a “way to compare attitudes as attitudes, irrespective of the numbers of persons holding to each” (Brown 1986, p.66). It suffices that two or three persons share views on the subject to establish a common factor. The content of the emerging discourses stem from the factor scores associated with the statements, not from the factor loadings of the participants of the study (Brown 1980, p. 92).

The main function of Q methodology is to identify a compact number of consistent and unique views, which we would expect to prevail in any given context and which originally gave rise to the concurrence of statements. Each factor is to form a coherent world view, the number of which we expect to be limited in each case. One of the basic ideas proposed by Stephenson (1953) in the *Study of Behavior* is that although people may be unique, their ideas are not necessarily idiosyncratic. Ideas are not only communicable, they are also *shared*. And when ideas are shared, they can be studied by the methodological procedures of Q, where a factor signifies a cluster of shared opinions (ibid. p.9). A totally other issue would be to study how many users and stakeholders adhere to each of the emerging factors, but for this quantitative survey research methods would be more suitable.

However, on a general level, qualitative research principles stipulate that conclusions derived from the case studies may be *situated* into the larger context (Alasuutari 2011, p.250). William Stephenson stressed the notion that a theory is a general conception that can be applicable to any person in principle and that nothing theoretically valuable would be gained by the use of “large numbers” of persons. Along these lines, he argued “[w]hen the physicist theorizes about a particular metal, any piece of it will serve his experimental purposes” (Stephenson 1953, p.3). Projected on this study, the metaphor implies that the results are valid expressions of stakeholder views, which we would expect to emerge even with a different set of statements and a different group of respondents.³⁹

Another methodological question that emerged during the analysis was why some respondents did not adhere to any of the discourses, that is, did not have significant loadings on any of the final five factors, or why some respondents had several significant loadings, meaning that selecting their Q sorts on any of the factors would have ‘contaminated’ that factor by means of bringing into its definition perspectives peculiar to another factor. The Q sorts were partly scattered and the five factors selected for interpretation covered less than two thirds of the respondents. One commonsensical explanation could be that the building type and user/stakeholder variance was so vast that it influenced the amount of shared ideas. Among the respondents were architects, administrators, care staff, patients, clients and residents, family members and visitors, all reacting to the environment from different perspectives. The case studies range from large hospital centres of nearly 600 patient beds and 2300 employees, where the goal is to get the

patients treated and out as swiftly as possible, to small scale home units aiming at making residents feel happy and comfortable for the years to come. Hence, expectations and emphasis on the environment are heterogeneous as a point of departure. Another notion is that not all people have clear and coherent views on the environment surrounding them. People themselves may be ambiguous and have conflicting opinions and as a result some such respondents may subscribe to two analytically distinguishable views (factors) simultaneously. Yet I feel reassured on the reliability of the study in view of the fact that this level of coverage of the subjective views compiled is quite common in Q studies.

3.6 CONCLUDING REMARKS

In the view of this study, one of the strengths of Q methodology lies within the abductive reasoning built into the methodology itself. A dialectic relation is formed between theory and practice. Statements selected with the help of theoretical considerations are tested in the empirical experiments, while the analysis of the results utilises insights from the theoretical level and the empirical field experience. The subjective experiences of the participants shed new light on the empirical data manifested in the Q statements. These reactions in turn, in the best of cases, can be utilised in forming new theory. One of the implicit objectives of the study was to tentatively identify aesthetic features relevant for *future* care environments.

The normative function of Q methodology lies not only in arranging existing information and perspectives from the domain of interest in a new way, but in empirically testing this information on the stakeholders and thus potentially generating new information. This acquired knowledge can then be used as a tool in further developing future practices. The domain of architecture, in particular, where testing the effects of different building solutions on the users experiencing these environments is both complicated, costly and time consuming, can profit from the 'stakeholder-driven' theory-testing espoused by Q methodology.

This 'user-driven' feature of Q methodology is one of the main reasons for preferring the method in this study instead of more mainstream research methods. Both the neglect of previous research to consider user experiences in a comprehensive way and the reduction of the aesthetic chiefly to appearances perceived by the sense of sight supported the selection of Q. The concept of *operant subjectivity* opens up the possibility to both hear the voice of users and stakeholders and to let them define the ambiguous concept of the *aesthetic* and the multifaceted experience of architecture. The subjective nature of the key concepts demanded a method that gives place to subjective voices. Here, Q methodology provides a vocabulary to communicate the experience of care environments.

In this chapter, I have outlined the different research methods and work phases applied in the study. The next chapter will focus on the case study buildings, firstly contrasting the buildings on a general level, then analysing the selected buildings individually.



THE CASE STUDY BUILDINGS

In the previous chapter, the research methods applied in the investigation on care environments were reviewed, including a discussion on the case study selection criteria, the building types and the countries included in the study. The interview methods used, the data collected as well the methods for analysing the results were introduced. This chapter focuses on the case study buildings themselves. After a general overview of the cases (4.1), each building is individually analysed, based on the architectural drawings, features observed on-site and the information collected during walk-throughs of the buildings and the stakeholder/user interviews (4.2). A set of photographs and drawings illustrate the architectural features and ambiances of the buildings in order to illustrate the care environments the participants react to in the Q experiments, the results of which will be reported in Chapter 5.

The individual case study descriptions start with the general context of the building and its designers. The building is positioned within the case study typology and the selection criteria. Then, the services provided and sizes of the building are explained, followed by a discussion on the aesthetic and architectural strategies implemented in the designs as defined by the architects during interviews or in literature and lectures. Sou Fujimoto lectured on the design concepts of Baum Haus in Finland in 2008, while Jérôme Brunet of Brunet Saunier Architecture shed light on the design principles of Marne-la-Vallée Hospital Centre in Paris in 2013. The architects' views on the design processes and goals were helpful in giving insight into the rationale behind design solutions.

The architectural features of the case buildings are here reviewed through the layers of the *design level* of the theoretical model developed in Chapter 2: the *surroundings, space and light, surfaces and stuff*. Special attention is assigned on the design solutions, such as the principles of spatial layout, use of light and shadow, selection of materials, colours, textures and detailing. Topical issues that emerged during the walk-throughs are also discussed.





4.1 OVERVIEW OF THE CASE STUDY BUILDINGS

4.1.1 BUILDING TYPES

This study divides the care environments into two general categories. On the one hand, there are the *acute* care environments, which refer to highly specialized hospital environments where a high standard of hygiene and technical equipment is adopted, and, on the other hand, there are the *chronic* low-tech treatment and living environments of rehabilitation centres, care homes and patient support centres. The *acute* high-tech environments comprise four hospitals or specialized clinics (see Tables 2 and 5). The Katta Public General Hospital and Marne-la-Vallée Hospital Centre are large publicly-run general hospitals providing several hundreds of in-patient beds and a wide range of medical specialties, high-tech diagnostic equipment and treatment facilities. The Katsura Ladies Clinic and the Malmö Emergency and Infectious Diseases Unit represent highly specialized care environments designated for special user groups. The former is a small scale private clinic offering a handful of women everything that is needed when giving birth. The latter is among the technically most advanced hospital units that exist, and focuses on the care of patients suffering from infectious diseases and the acutely ill and injured.

The *chronic* low-tech environments are represented by six quite different types of case study buildings. The Senri Rehabilitation Hospital is a 120-bed private facility offering physical rehabilitation in a homelike environment for stroke patients and victims of accidents, the average length of stay being three months. The Maggie's Centre in Glasgow, in contrast, represents a particular type of cancer rehabilitation that provides no clinical treatments or any in-patient beds. Instead, Maggie's Glasgow offers practical information, emotional and social support for up to 16 000 visitors per year in different stages of their cancer treatment. Baum Haus addresses the psychiatric rehabilitation of children, accommodating fifty children of different ages who spend an average of 2.5 years at the centre. The Käpylä Autism Centre offers both group home living for a dozen adults with the autistic disorder as well as rehabilitation and day activities for autistic clients living elsewhere in the community. Some of the residents have lived at the Käpylä Centre since it was inaugurated 13 years ago. The Yuraku Nursing Home for the Elderly as well as the Haus Steinfeld Centre are both care facilities for the elderly, where the residents, 100 persons and 50 persons respectively, live the last part of their lives.

Table 5. Case study building types

literal replication / theoretical replication	JAPAN	EUROPE
acute care environments	<p>4.2.1 Katta Public General Hospital</p> 	<p>4.2.6 Marne-la-Vallée Hospital Centre</p> 
HOSPITALS & SPECIALIZED CLINICS	<p>4.2.2 Katsura Ladies Clinic</p> 	<p>4.2.7 Malmö Infectious Diseases Unit</p> 
chronic care environments	<p>4.2.3 Senri Rehabilitation Hospital</p> 	<p>4.2.8 Maggie's Glasgow</p> 
REHABILITATION CENTRES & CARE HOMES	<p>4.2.4 Baum Haus Rehabilitation Centre</p> 	<p>4.2.9 Käpylä Autism Centre</p> 
	<p>4.2.5 Yuraku Nursing Home for the Elderly</p> 	<p>4.2.10 Haus Steinfeld Senior Centre</p> 

4.1.2 GEOGRAPHICAL LOCATION AND CONTEXT

As explained in the section on research design, an equal number of *acute* and *chronic* case study buildings were selected in the two geographical contexts of Japan and the European countries of Finland, Sweden, the UK, France and Austria (see Fig. 11 and Fig. 12). The five Japanese buildings are spread out throughout the country, from Hokkaido in the north to Tottori Prefecture in southern Honshu Island. The Baum Haus Psychiatric Rehabilitation Centre and the Yuraku Nursing Home for the Elderly both lie in the countryside: the Baum Haus on a scenic slope in southern Hokkaido overlooking the Pacific Ocean and Yuraku in a rural setting encircled by mountains in Tottori Prefecture. The Katta Public General Hospital, the Katsura Ladies Clinic and the Senri Rehabilitation Hospital are all located in more urban contexts: Katta in the outskirts of the mid-sized city of Shiroishi; Katsura and Senri amidst densely built residential areas in the city of Sendai and the larger Osaka city area respectively.

The five European case study buildings are all located in different countries and different urban contexts. The Haus Steinfeld Senior Centre lies in the most rural setting in the small Austrian village of Steinfeld in western Carinthia. The Marne-la-Vallée Hospital Centre, although it faces a wide field in the outskirts of Marne-la-Vallée suburbs, is still very much a part of the Paris Metropolitan Area, France. The Käpylä Autism Centre is integrated into the quite active residential suburb of Käpylä in the city of Helsinki, Finland. Maggie's Glasgow is located in the grounds of the Gartnavel General Hospital compound in the City of Glasgow, Scotland. The Malmö Emergency and Infectious Diseases Unit represents the most urban context, lying in the very centre of the city of Malmö, Sweden.

4.2 PRESENTATION OF CASE STUDY BUILDINGS

4.2.1 KATTA PUBLIC GENERAL HOSPITAL

CONTEXT Katta Public General Hospital is situated on an elevated plateau in the outskirts of the small city of Shiroishi in Miyagi Prefecture, Japan. The hospital was completed in 2002 and designed by a team of design offices led by Taro Ashihara Architects. The lead architects had no prior experience of designing hospitals, hence the design stems from a participatory planning process and dialogue with the client and future users and is not based on prevalent design praxis. An interdisciplinary workshop method was applied, including the designers, nurses, physicians and local authorities to survey relevant data and assess design solutions during the design process. Katta Hospital has been acknowledged by the JIHA

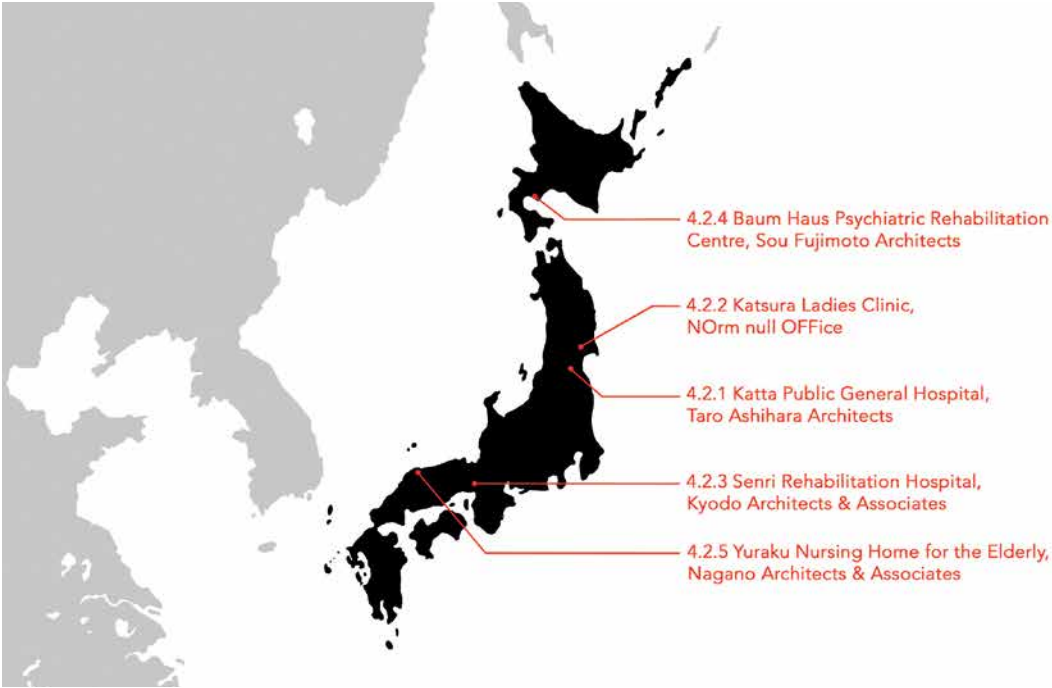


Figure 11. Japanese Case Studies

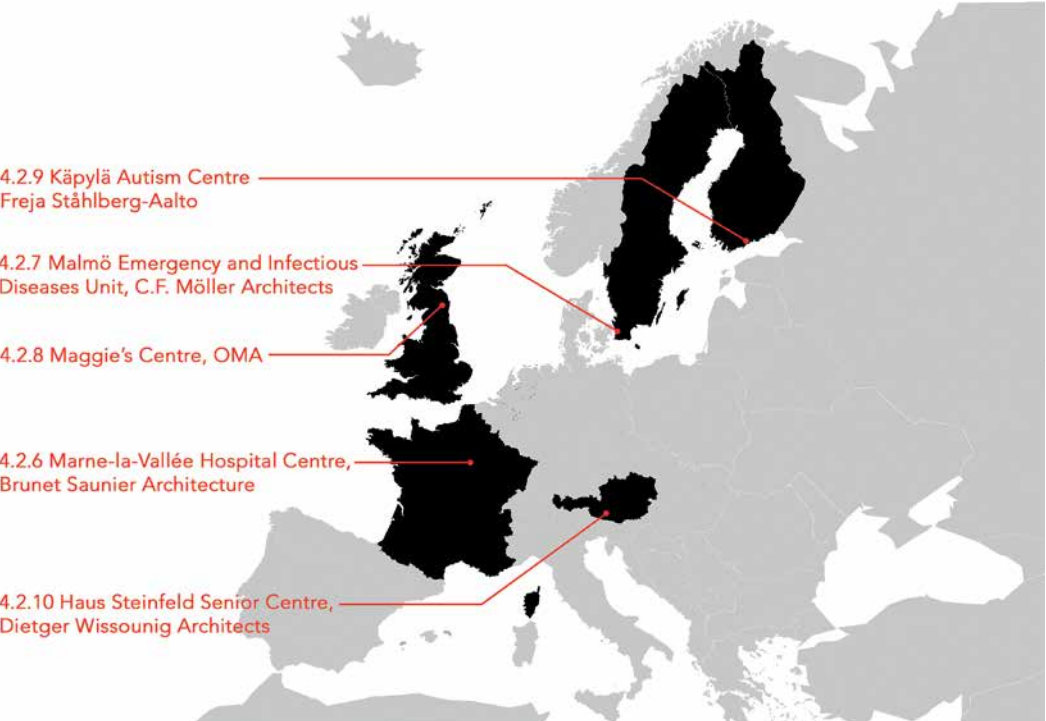
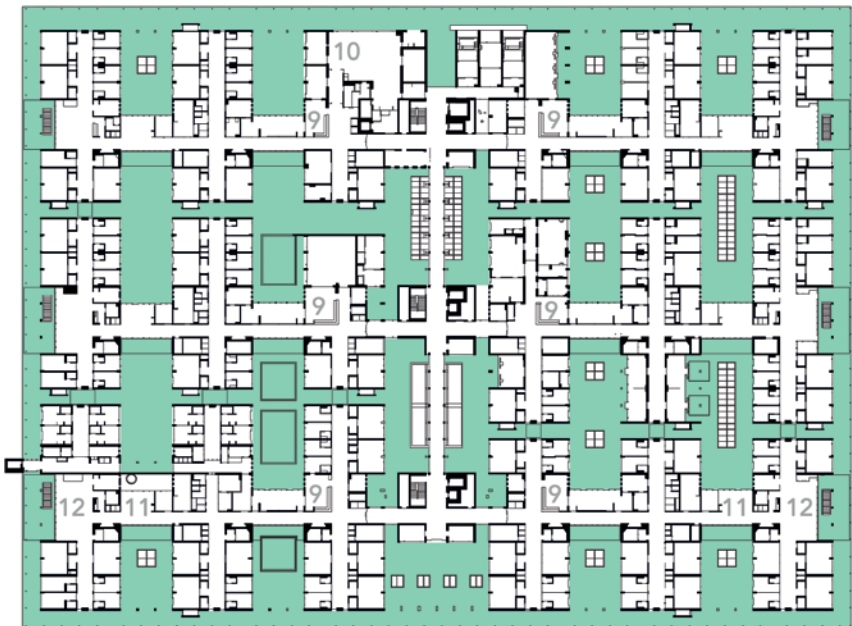


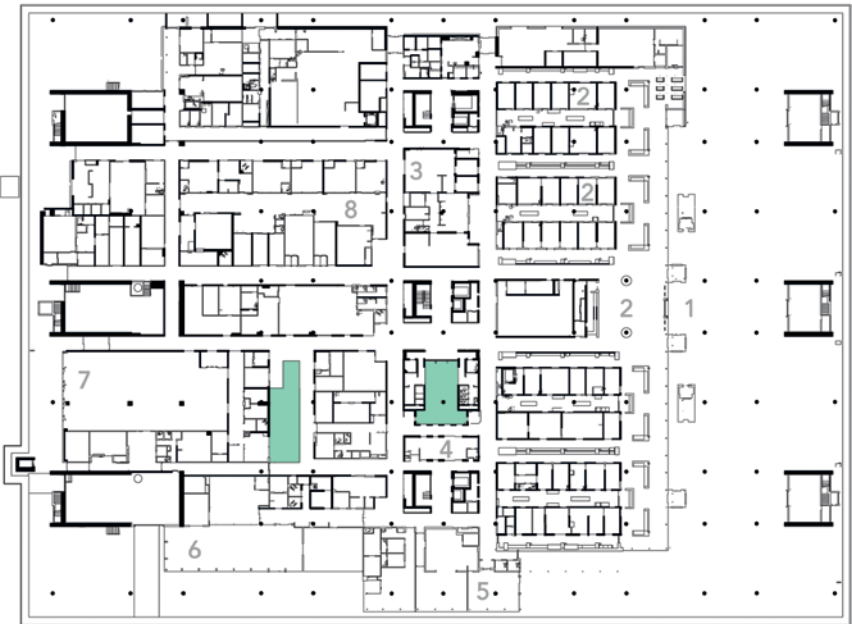
Figure 12. European Case Studies

Figure 13. Ground floor and 2nd floor plans, Katta General Hospital

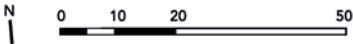
- 1 main entrance
- 2 outpatient services
- 3 emergency department
- 4 convenience store
- 5 cafeteria
- 6 rehabilitation
- 7 dialysis
- 8 radiology
- 9 nurse's station
- 10 ICU
- 11 visitors room
- 12 day room
- 13 single room
- 14 4-person room



2nd floor



Ground floor



Healthcare Architectural Award, the Tohoku District Architectural Award and the AIJ Annual Architectural Design Commendation. Within the methodological framework of the thesis, Katta represents an *acute* high-tech care environment.

BUILDING / SERVICES The 308-bed general hospital functions as a designated regional disaster response centre (Verderber 2010). The services span a wide range of medical disciplines from cardiology, surgery and obstetrics to emergency, ICU, paediatric and geriatric departments. The treatment and diagnostic services include dialysis, radiology and MRI scanning facilities. Services such as the cafeteria, convenience store and landscape garden are open to the public. The spaces of the 25 860 sq.m. low-rise building are scattered on three floors on a rectangular area of 120 by 140 metres. The large building site, twice the size of the total building area, is exceptional for the Japanese context, where plots tend to be small due to the high costs of land.

DESIGN CONCEPT The main design concept was influenced, on the one hand, by Le Corbusier's proposal for the City Hospital of Venice and, on the other hand, by ideas on healing architecture very much in line with Florence Nightingale's (1859) writings, such as access to natural light, nature and fresh air. In the plans of the unbuilt Venice Hospital, submitted a few months before the death of Le Corbusier in 1965, the spaces of the horizontally-outspread low building complex were distributed on the different floor levels according to the type of medical services, and the building was elevated on concrete cast-in-site *pilotis* (Verderber & Fine 2000, pp.23-26). Precisely the same principles were

Figure 14. Photos, Katta General Hospital



1. Exterior view of Katta Public General Hospital



2. Landscape art and recreational area for patients, staff and visitors, view from rooftop promenade



3. 2nd floor patient ward on pilotis above entrance



4. Main entrance airport
ambience



5. Glazed façades of out-patient
lobby

applied in Katta. The ground floor comprises the out-patient lobby, diagnostic, treatment and emergency departments, as well as support and kitchen facilities. The first floor is only partially built, containing the administration and a surgery ward. The circulation spaces of the first floor open up towards the airy two-storey high out-patient lobby and the corridors leading to the different treatment spaces. The uppermost second floor forms – akin to the plans for Venice – a plateau hovering on *pilotis* above the spaces of the lower floors. This second floor, the shape of a 120 by 140 metre rectangular slab, contains six hospital wards. Elevators and staircases form a grid of vertical connections between the in-patient wards and the treatment and diagnostic services.

SURROUNDINGS The connection between patient and nature is stressed in the design of Katta hospital, not only due to ameliorative effects attributed to nature, but also as a reaction to the building's context. The architects argue that the regional culture affects users' expectations on the care environment. One of the main design issues was how to translate the local culture, in this case the countryside way of life, into modern hospital architecture. In the countryside in Japan, people tend to live in large houses with big courtyards and gardens. Hence, a direct connection between patient room, the garden and the surrounding landscape was a spatial solution that the users would feel familiar with. This connection was taken as a point of departure in the design strategy. Nature is literally brought to the patient through a network of rooftop gardens and promenades on the in-patient floor. The patient wards are spread out like pavilions on the roof, allowing patients to access the gardens directly from their rooms. The gardens aim at bringing relief to the stressful experiences of being in a hospital. In Fig. 13 the exterior spaces of the patient floor are coloured and the interior left



6. Main entrance and out-patient lobby



7. View from 1st floor lobby



8. Staff station, ground floor

uncoloured, illustrating the pavilion-like nature of the spatial layout. From the roof promenades on all sides of the building, views open up towards the Shiroishi region and the surrounding mountain scape.

Natural elements are present in the lower floors of the building in the water pond garden on the ground floor, in plantings and in the meditation garden on the first floor. The meditation garden is composed of a set of wooden sculptures placed in an orthogonal grid on a surface of stones. Skylights allow for a meditative play of light and shadow on the wooden sculptures. These gardens and skylights are landmarks, *functional aesthetic* means, to aid the users in finding their way inside the building.

SPACE / LIGHT While the hospital plans for Venice proposed the radical spatial solution of windowless patient rooms, letting in natural light only through skylights, the architects of Katta on the contrary aimed at maximising the amount of natural light inside the building, views to the outside and access to fresh air. The patient wards, corridors and lobbies are flooded with natural light. Each patient ward is divided into three pavilions connected to each other by a main corridor going through the ward. The views onto the gardens create a spatial sequence that animate these corridors, which end with a common lobby space overlooking the surrounding landscape. The patient rooms are either single, double or 4-person rooms, accessed by corridors orthogonal to the main corridors of the ward. The patient can take in fresh air by opening windows or the terrace door. The ventilation system of the second floor is based on natural ventilation, letting in fresh air through the façade and exiting polluted air from the elevated ventilation shafts of the corridors. In the centre of the building the main elevator lobby runs through the whole building, connecting the wards to each other.



9. Water pond with skylight animating lobby



10. Logistics centre



11. Administration offices on the 1st floor

The artificial lighting is automated so that the light is brighter during day time and becomes softer and slightly orange-coloured during evening and night time. The aim was to create a soft ambience. The system also reacts according to outdoor lighting levels, increasing the light intensity inside when it is a dark day outside. Special attention was paid to avoiding glaring lights and to considering how the light might reflect on the surfaces. Skylights bring natural light to the central parts of the building volume, to the ground and first floor lobbies and to the corridors of the patient wards. Even the toilets of the patient rooms have skylights that direct light to the area in front of the mirror above the wash-basin.

SURFACES / STUFF The interior materials and colours are neutral and simple. Walls and ceilings are white and the floor is either wooden parquet in the patient wards or a white coating in the lobbies, out-patient and treatment spaces. Fixtures and furniture are white or have wooden surfaces. The signage system, specifically designed for Katta, utilises white textile covers, on top of which the names of spaces are printed in different colours depending on where in the building the sign is located: red in the out-patient and diagnostic departments and green in the patient wards. The white padded textile signs can be removed and washed. According to the designers, these tactile textile surfaces make a symbolic reference to features such as cleanliness and bandages, relating to the hygienic hospital environment. The graphic design borrows its language from that of airports.

A personalised and adaptable use of art in the hospital environment was part of the initial plan. Initially, the patients could choose what kind of illustrations they wanted to have on the walls of the patient room. However, due to an earthquake the pictures are now attached permanently to the walls. Wayfinding is supported by coding the main corridors using photographs of different coloured



12. View from 1st floor lobby, roof gardens with skylights



13. View from 1st floor lobby, meditation garden



14. Corridor connecting patient wards, 2nd floor



15. Corridor inside patient ward



16. Signage system with printed textile covers



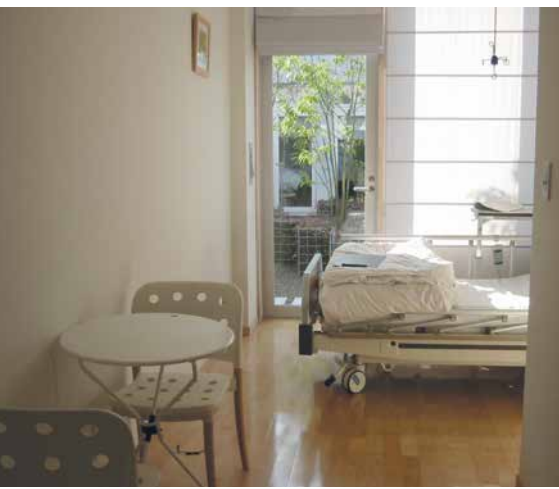
17. Rooftop promenade for patients



18. Rooftop patios for patients



19. Façade of patient rooms



20. Single patient room, rooftop garden view



21. Multi-person room



22. Wash-basin in patient room

flowers, for example, yellow flowers on the corridor heading north, red towards the south and so forth. The gardens with different themes also function as elements supporting wayfinding.

TOPICAL ISSUES The care processes are organised so that the in-patients spend their time mostly in the wards and attend the lower floors for special treatments, to spend time in the cafeteria or to access the outdoor therapeutic garden. The out-patients mainly access the services on the ground floor. The physicians and other care staff, on the other hand, move between the patient wards and between the different floors of the building, making the span of everyday walking distances long, due to the pavilion-like layout of spaces. However, the architects made a conscious choice to put primacy on patient comfort, access to natural light and to the outdoor gardens, above staff considerations. The notion of patient-centred care is here viewed not only in a strictly functional and organisational manner. For example, the staff is made to come to the patients while the patients are empowered to freely use the indoor and outdoor spaces. Moreover, in an *aesthetic* sense the patients are put at the centre of the aesthetic choices of the building design.

The spatial layout, the long distances and lack of visual connection between the patient rooms and the staff station located at the entrance of the patient ward have affected the care praxis and safety assessment of patients. The need to survey individual patients dictates their placement within the ward. Patients that need considerable support and surveillance are put in rooms near the staff station, in some situations leaving the rooms the furthest away unoccupied. Camera surveillance of the rooms is used in some cases to ensure patient safety, with the consent of the patient. The shortage of care staff, which is a general problem in Japan (Shinjo & Aramaki 2012), further aggravates the situation.

4.2.2 KATSURA LADIES CLINIC

CONTEXT The Katsura Ladies Clinic is a small, privately-run maternity clinic located in a residential area of the city of Sendai, Japan. The building was designed by the Sendai-based architects office Norm Null OFFice and completed in 2011. Katsura Ladies Clinic has not received design commendations nor been published in architectural journals. It was selected as a case study based on recommendations from Japanese experts on healthcare architecture. According to the classification of this thesis, Katsura represents an *acute* care environment; a high-tech specialized clinic built for a distinct purpose.

BUILDING / SERVICES Katsura Ladies Clinic is a 19-bed maternity clinic spanning 930 sq.m. The spaces are spread out on one floor level. According to Japanese medical care laws, clinics may have no more than 19 beds. The building regulations concerning clinics are less strict than those concerning hospitals (Hamajima et al. 2017). The facility performs an average of 45 births per month and is visited by 40 to 50 out-patients per day. The average length of stay for mothers giving birth is five to seven days, the length depending on whether or not the delivery is made by Caesarean section. The clinic also provides maternity services, information courses and activities for mothers and families. The care staff comprises two physicians and eight nurses.

Figure 16. Photos, Katsura Ladies Clinic



1. Exterior view from the street



2. Façades of concrete blocks and window niches



3. Rooftop view over surrounding residential area



4. Main entrance viewed from the restaurant window

DESIGN CONCEPT The main aesthetic strategy is founded on the notion of privacy and sense of individuality of the patients. Every patient room, delivery theatre or space with a distinct function is articulated as an individual and unique box within the overall building volume. The building hence resembles a collection of enclosed boxes of different heights and proportions. As a design principle, the boxes are distributed in a random composition with no rigid modular grid. This made it possible to flexibly adjust the size of the spaces according to functional or aesthetic demands and to fit the building volume more easily on the small site.

Within this network of boxes, the spaces are divided into the functional zones of in-patient, out-patient, emergency and delivery, staff support and maintenance, and the administration. A centralized nurse station is located in the very centre of the building, in front of the main entrance, from where the distances are short to all parts of the building. The in-patient zone includes patient rooms, common showers, toilets and make-up lodges, nursing rooms, a vending machine room and a multipurpose room that functions as dining hall. The out-patient zone consists of a reception, a waiting-room that can be divided into two separate multipurpose spaces, five examination rooms and an x-ray room. Get-togethers and information courses for families and mothers are arranged in the multipurpose waiting-rooms. The emergency zone spans three delivery theatres: two smaller rooms which serve the recovery after delivery, and one larger room comprising an operation theatre. Instruments and equipment are sterilised in a small box built for the purpose .

SURROUNDINGS Due to its windowless and monolithic concrete façades, the Katsura Ladies Clinic turns its back on the surrounding residential area. The windows are systematically placed in the niches of the façades so that the con-



5. View from restaurant towards patient corridor and lobby



6. Central staff station with skylight

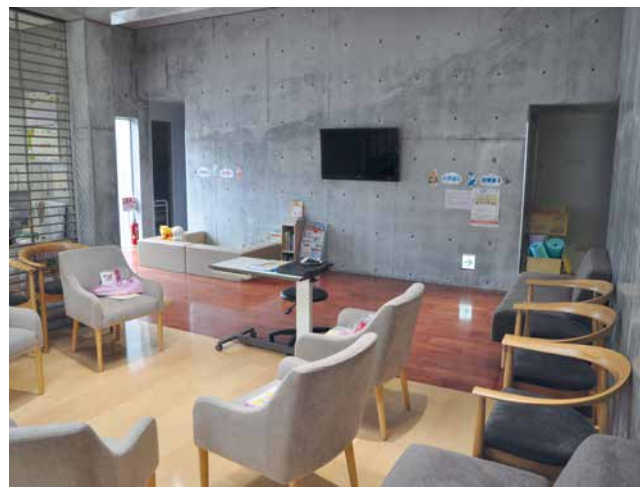
crete outer shell of the building remains intact. However, the façades between the boxes are glazed, opening up views towards the surroundings in all directions. The building has four entrances, located in-between the boxes: the main entrance, the emergency entrance, a staff entrance and a maintenance entrance for the kitchen. The main entrance is discretely hidden and accessed through a narrow enclosed courtyard.

SPACE / LIGHT The spaces created between the boxes form a continuous spatial sequence of a more public nature, including niches and corners for chatting or breastfeeding, waiting areas, dining or meeting rooms. The width and height of each box, the relationship between the boxes and the spatial pattern they create, was the focus of much attention on the part of the architect and evolved during the design process.

The issue of patient integrity influenced the overall spatial layout of Katsura Ladies Clinic. The delivery theatres and the emergency units are placed at one end of the U-shaped public corridor area, while the patient rooms are located at the other end, on the outer perimeter of the building volume. The idea was that the sounds from the delivery rooms would not be heard in the patient rooms, where mothers are waiting for the birth to commence. Fourteen of the fifteen patient rooms are single rooms and one is a 4-person room. The multi-person room is required in the building regulations. The single patient rooms have a small private toilet and are furnished with a bed, a bedside table, a wash-basin, a TV-screen and a cupboard for storing personal things. In the 4-person room, privacy is enhanced by dividing the room into two parts and placing movable cabinets between the beds. All beds have access to a bedside window and a shutter for letting in fresh air. In line with the individuality concept, there are no two identical patient rooms.



7. Restaurant for patients and staff



8. Out-patient waiting area and multipurpose room

The layout of each room differs slightly, either by the location of the toilet and the wash-basin fixture or the placement of the bed and the window.

The location of windows and the way natural light comes into the building was carefully studied. Each patient room has two windows: one skylight and one main window reaching from floor level to door height. The windows are fixed aluminium profile windows, equipped with a blind aluminium ventilation shutter. Additionally, three small interior courtyards bring light to the central parts of the building volume. The courtyards are furnished with a single tree and wooden terrace decks.

SURFACES / STUFF The choice of materials is a mix of rough concrete in natural grey, soft wooden panels and glass partitions. The ‘boxes’ are concrete on the outside and predominantly wooden on the inside. The aim was to make the interiors less hospital-like by the use of tactile, natural materials and rough surfaces. The walls of the delivery theatres and patient rooms are coated with wooden panels, integrating the technical medical equipment. The floor consists of a patchwork of different wooden parquets in various colours, applying wood types such as maple, oak and teak. The wooden wall panels are of Japanese pine. The common toilets, bathrooms and make-up lodges of the in-patient zone are separated from the corridors by opal glass partitions. Soft velvet textiles or leather is used in the furniture as a contrast to the hard concrete surfaces. The large glass walls of the examination, nursing and patient rooms as well as the delivery theatres are equipped with white curtains that let in natural light, yet shield the spaces from seeing in.



9. Examination room



10. Circulation area in in-patient part



11. View from in-between boxes



12. Circulation area with make-up stations



13. Toilet for visitors and patients



14. Patient corridor



15. Delivery theatre; wooden walls and ceiling panels



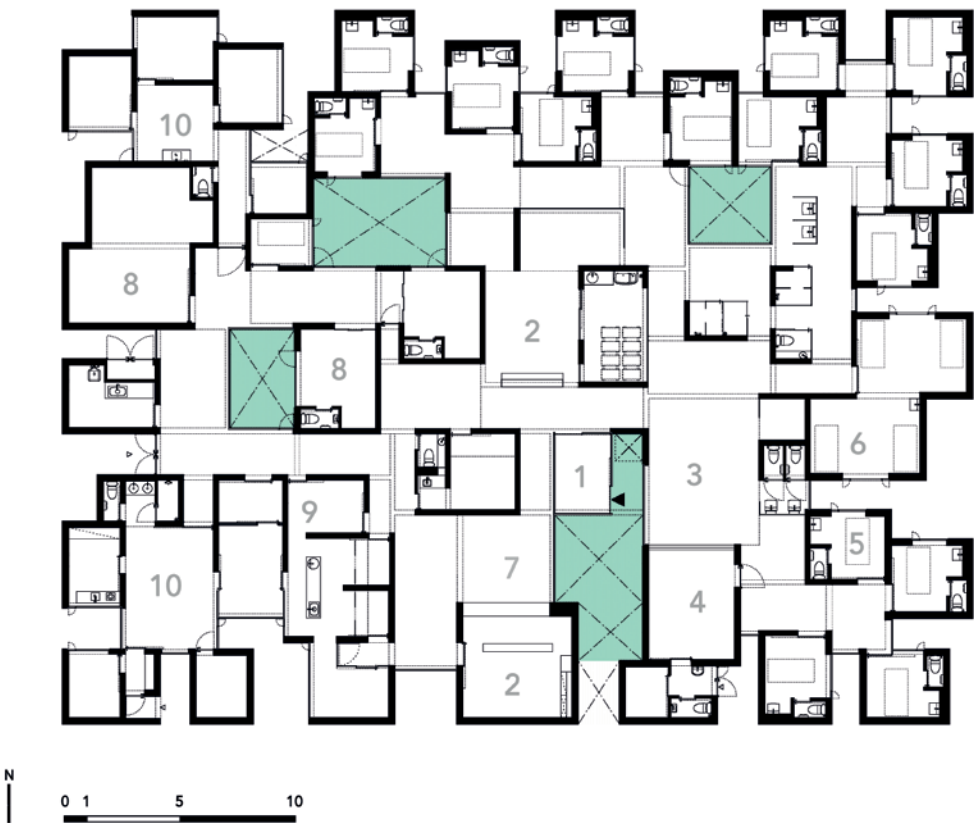
16. View from patient room



17. Patient room toilet

Figure 15. Ground floor plan, Katsura Ladies Clinic

- | | | | |
|---|----------------------------|----|---------------------------|
| 1 | entrance | 7 | lobby / multipurpose room |
| 2 | nurse station / reception | 8 | delivery room / surgery |
| 3 | dining / multipurpose room | 9 | examination room |
| 4 | kitchen | 10 | administration |
| 5 | single patient room | 11 | auxiliary staff spaces |
| 6 | four-person patient room | | |





18. Multi-person patient room



19. Single patient room



20. Textile patches hiding patients' names

TOPICAL ISSUES The way the building is used reinforces the importance of the privacy and integrity of patients. The single rooms are filled first and the multi-person room last. Another topical issue in current Japanese care praxis is the right of patients to remain incognito during their care visits. At Katura Ladies Clinic, the names of the occupants are marked on the outside of the patient room, albeit hidden beneath a textile patch the shape of a flower (Fig. 16.20). In the out-patient area, the physicians do not call on patients with their names. Instead, they send a text message with instructions of which examination room to go to. This gives the patients freedom to wait for their turn in different parts of the building or outdoors.

On the other hand, the current trend of family participation does not seem to have been influential in the design process. The patient rooms are so small, on average 11.2 sq.m., that the fathers or visitors cannot fit. The concept of family room, allowing for both parents to take care of the new-born, which is currently popular, for example, in the Nordic countries, was not a point of departure at Katsura. This could be due to the Japanese context, in which child care in general is considered the woman's domain, at least in comparison to northern European attitudes.



4.2.3 SENRI REHABILITATION HOSPITAL

CONTEXT The Senri Rehabilitation Hospital is a physical rehabilitation hospital located in the residential area of Minoh, Osaka. The building was completed in 2007 and designed by Kyodo Architects & Associates, an office with extensive experience in designing a wide range of care environments, both hospitals and care homes. The director and owner of the facility actively participated in setting the goals for the design, the decision-making and the design process of the building. In 2009, the building received the JIHA Healthcare Architectural Award. In line with the case study classification of this study, Senri could be considered a *chronic* low-tech care environment.

BUILDING / SERVICES The 120-bed rehabilitation hospital spans 7 255 sq.m. distributed over four floors. Run by the private Medical Corporation, Wafukai, the facility offers physical rehabilitation for stroke patients, victims of accidents and the like. One of the main goals of the rehabilitation is to train the patients to cope with their disabilities and prepare them for a normal life at home. The average length of stay at Senri is three months. When arriving at the facility, the patients are first examined and evaluated in a 14-bed general ward equipped with X-ray, CT scanning facilities and a laboratory. A treatment plan is worked out according to their personal needs, after which the patients are placed in the rehabilitation wards of their choice.

Figure 18. Photos, Senri Rehabilitation Hospital



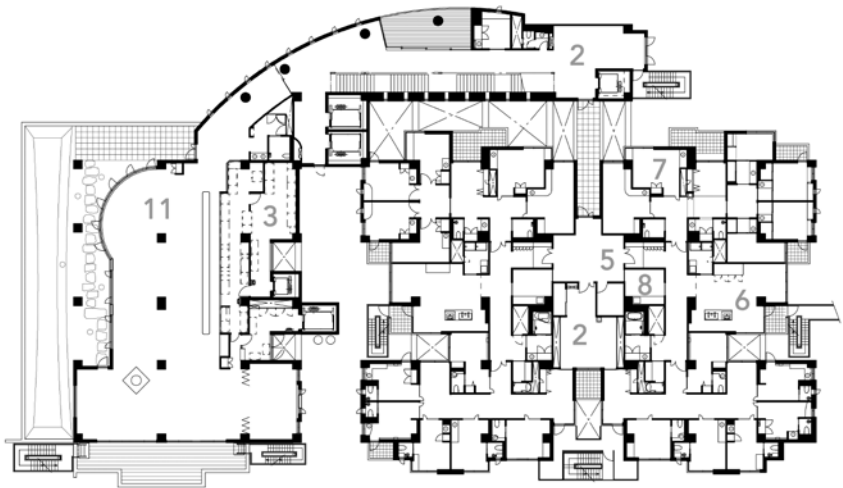
- 1. Exterior view of main entrance and rehabilitation centre
- 3. Patient condo including private kitchen-living room



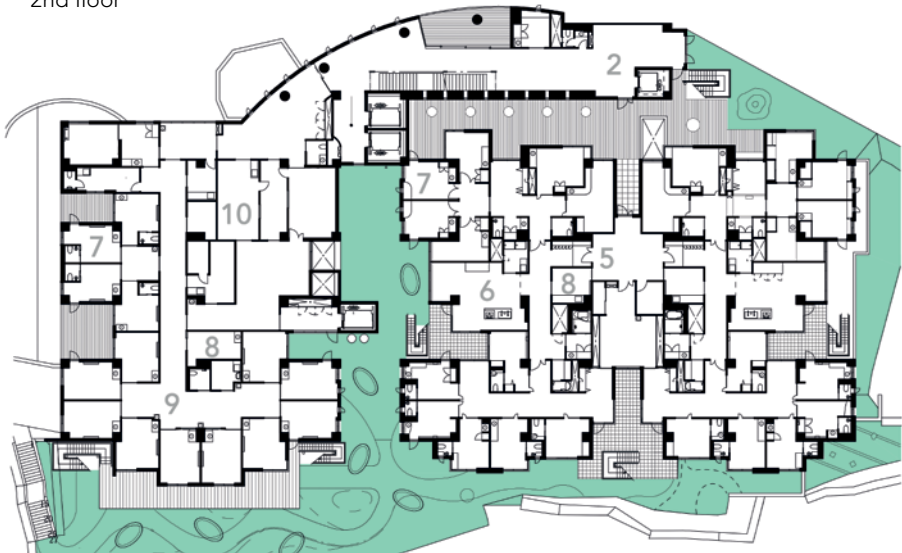
- 2. Promenade between care units

Figure 17. Floor plans B - 2F,
Senri Rehabilitation Hospital

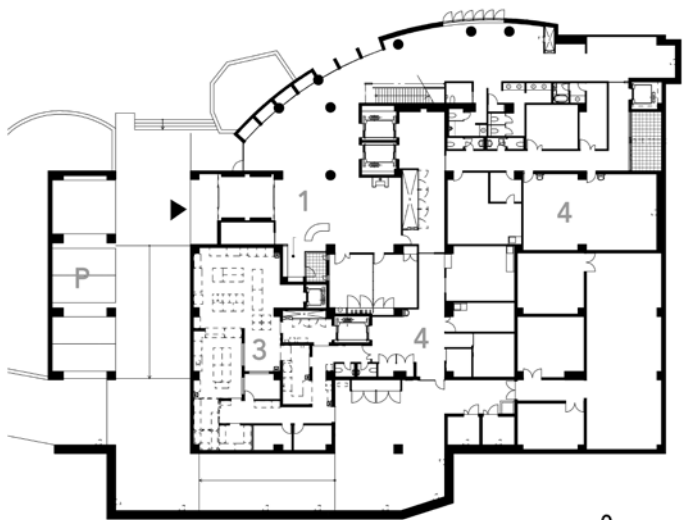
- 1 entrance
- 2 lobby / rehabilitation
- 3 kitchen
- 4 auxiliary staff spaces /
administration
- 5 care unit entrance
- 6 care unit kitchen /
dining / living room
- 7 single patient room
- 8 staff station
- 9 general ward
- 10 examination room
- 11 restaurant



2nd floor



1st floor



Ground / basement floor





4. Main entrance and lobby



5. Hotel-like signage system



6. Main staircase

DESIGN CONCEPT The main aesthetic strategy of the building design is to resemble a hospital as little as possible. In fact, the aim is to mix the positive ambience of a holiday resort with residential features. Residential features enable the rehabilitation of patients through domestic chores in a domestic environment. The building is stripped of any hospital-like attributes such as dominant signage systems, handrails placed to support patients in every imaginary situation, over-efficient glaring lights, and half-panels protecting the walls from damage by patient beds or maintenance machines. Instead, the walls are plastered white from floor to ceiling with a rough structured and sensuous plaster. The main staircase is equipped with handrails only on one side of the stairs in order to confront patients with the real situations they will meet outside the hospital. In the corridors, indirect lighting is integrated into the few remaining handrails and the ceiling. The furniture and guidance signs in the lobbies and common spaces resemble those found in any high-end hotel lobby.

Another design aim was that the care environment should challenge the patients. An environment that offers no physical challenges gives patients a false impression of their abilities to manage outside the hospital. Hence, in Senri, the notion of rehabilitation is on all levels built into the design and the ways in which the building is used. Patients learn how to manage a normal life in a normal setting: shoes are taken off before entering the care unit in accordance with Japanese custom; toilets are small-sized residential toilets, not large institutional ones as is common in hospitals; refrigerators contain bottles with screw-tops, obliging patients to practise how to open them. In the morning, the patients practise washing themselves in their own rooms and getting dressed in their normal clothes. Then they proceed to the common kitchen of the care unit where they can practise preparing breakfast. These are all tasks which can be difficult to perform after a brain injury.



7. Rehabilitation session on balcony



8. Sensory rehabilitation in garden



9. Roof access to patient condo

SURROUNDINGS Located on a densely-built and steeply sloping site, the building volume is split into several smaller building blocks of various shapes, creating narrow passages and courtyards. This enhances the residential ambience of the overall building complex. The wards are placed in separate buildings rather than in the main rehabilitation spaces. The wards are accessed through rooftop courtyards or, on the upper floors, by outdoor balconies. This architectural solution marks a transition between the private and domestic residential units and the public common spaces. The restaurant can be accessed by a courtyard promenade, which simulates going into a restaurant in the city. The terraced building volume further provides rooftop spaces that are used by patients and staff in the rehabilitation. The surrounding garden is used for sensory therapies.

SPACE/ LIGHT A characteristic feature of Senri hospital is that the rehabilitation does not take place only in specific and for-the-purpose designed spaces. On the contrary, the rehabilitation takes place everywhere in the building and on the outdoor terraces, courtyards and gardens. At the heart of the building is the main staircase and lobby that runs through the whole building as it connects the floors to each other. The staircase and lobbies function as multipurpose rehabilitation spaces. It is the most public part of the building, open to all patients and visitors. The visitors enter the building on the ground floor, which is a half-basement floor comprising the reception lobby, a fireplace lounge and a small library. Support spaces include offices for the administration, the main kitchen, storages and technical spaces. The first floor contains two rehabilitation wards and the general ward. The second floor comprises two rehabilitation wards and a restaurant open to patients, visitors and the staff. The third floor has two rehabilitation wards identical with those of the lower floors and a special care unit for five patients.



10. Library in 1st floor lobby



11. Restaurant for patients and staff



12. Nutrition advice by staff



13. Entrance to care unit



14. Corridor leading to patient rooms



15. Detail of handrails and rough wall plaster



16. Staff station combined with rehabilitation space



17. Living room in care unit used for rehabilitation



18. Patient bathroom



19. Patient bedroom in condo



20. High quality care made into a brand

The rehabilitation wards are not hospital wards in the traditional sense. Patients stay in single rooms grouped into 12-bedroom residential care units. The care unit shares a common kitchen-dining-living room area, staff station, laundry room and two bathrooms. The spaces enable patients to re-learn the elementary skills of cooking and eating and to participate in other forms of physical rehabilitation. The bathrooms are equipped with a bathtubs and seats for showering in a sitting position, as is customary in Japanese homes. The patient rooms are grouped into two wings of six rooms each, located on both sides of the common area. These sub-units have living rooms and terraces for getting together within the smaller unit. Half of the patient rooms have private toilets, while the other half share toilets with others in same the wing. The rehabilitation wards are entered from a centrally-located lobby space, with access to a small staff common room and a rehabilitation space. The special care unit on the third floor comprises five one-person flats, consisting of 1-2 rooms, a fully-equipped kitchen, bathroom and toilet. These apartments have their own private rooftop terraces and are entered from a roof promenade.

SURFACES / STUFF The choice of materials aims at creating a residential ambience. The façades are articulated with a mix of light-coloured brick, natural stone and concrete. Wooden lattice on the railings of the balconies enhance the domestic feeling. The surface of the ground is paved with different materials, such as stepping stones, gravel and wooden decking, in order to provide patients with opportunities to practise walking on and feeling the sense of the different materials.

The patient can choose between two types of patient rooms, a so-called western-style and a Japanese-style room. In the western rooms, patients sleep in beds and the flooring is a combination of wooden parquet and soft textile carpet. The

patient rooms are equipped with a wash-basin, writing desk and chair, closets and a refrigerator. The Japanese-style rooms are furnished, in the traditional Japanese manner, with raised tatami floors and rice-paper panels in front of the windows. Wall details and roof panels are in wood. Here, the patients can sleep on futon mattresses if they wish. On each floor, four of the patient rooms are Japanese-style. The multiple fireplaces in the restaurant, lobbies and in the care units, as well as the wooden flooring and the soft carpets are determined by the aims of making patients feel comfortable. The ambience these create surmounts more pragmatic concerns of maintenance and fire safety.

TOPICAL ISSUES The activities at Senri centre on the topical issue of patient empowerment. The patients can choose where in the building to hold the rehabilitation sessions or where to spend their leisure time. Patients can socialise with other patients or visitors in the various common spaces, or choose to stay in their private patient room. Instead of food being served in the patient rooms, the patient can order dinner in the restaurant and choose between numerous dishes. A nutritionist helps the patient to compose a well-balanced meal and for each meal the patient receives a tab, where the number of calories is accounted for. Learning healthy ways of cooking and eating becomes part of the rehabilitation.

Family participation in the care environment is supported, as it is seen to be a way of ensuring a successful return home after the rehabilitation. Family members and visitors are welcome to eat in the restaurant, where the prices are kept at an affordable level, or they can stay in the patient room during rehabilitation sessions. The visitor has a place to be without intruding upon the privacy of other patients or disturbing the staff. In comparison, in another hospital run by the Wafukai corporation, the families participate in the care process considerably less and patients stay in 4-person rooms.

Efforts to make the care environment less hospital-like have affected the care praxis and the technical systems. Typical hospital smells are avoided by an extra-efficient ventilation system. Diapers, which contribute to bad smells in hospitals, are not used. The personal hygiene of patients and regular bathing is emphasised. A dentist visits the facility on a weekly basis to check the dental hygiene of patients.

4.2.4 BAUM HAUS PSYCHIATRIC REHABILITATION CENTRE

CONTEXT Baum Haus is a children's psychiatric rehabilitation centre located in the countryside near the small city of Date in southern Hokkaido Island. The centre was designed by the renowned architect, Sou Fujimoto, and completed in 2003/2006. It has been acknowledged by both international and national design awards, such as the JIA Grand Prize and the AR Awards Grand Prize. In this study, Baum Haus represents a *chronic* low-tech care environment.

BUILDING / SERVICES The centre functions as a home and a support station for mentally disturbed or abused children of all ages. The children live at the facility for an average of 2.5 years while attending schools in the surrounding community. The compound consists of three buildings. The main building, spanning 2500 sq.m, includes a dormitory for fifty residents, a rehabilitation clinic and the administration. A separate dormitory building of 570 sq.m. serves as a training home for independent living for twenty adolescents. A small annexe comprises two residences for visiting family members.

DESIGN CONCEPT The aesthetic strategy of Baum Haus is founded in a theoretical approach towards architecture and spatial concepts that concerns both the role of the patient and patient-caregiver relationships. The philosophy starts from the idea of taking design back to the “time before architecture became architecture” (Fujimoto et al. 2008, p.21). In his manifesto, *Primitive Future*, Fujimoto ap-

Figure 20. Photos, Baum Haus

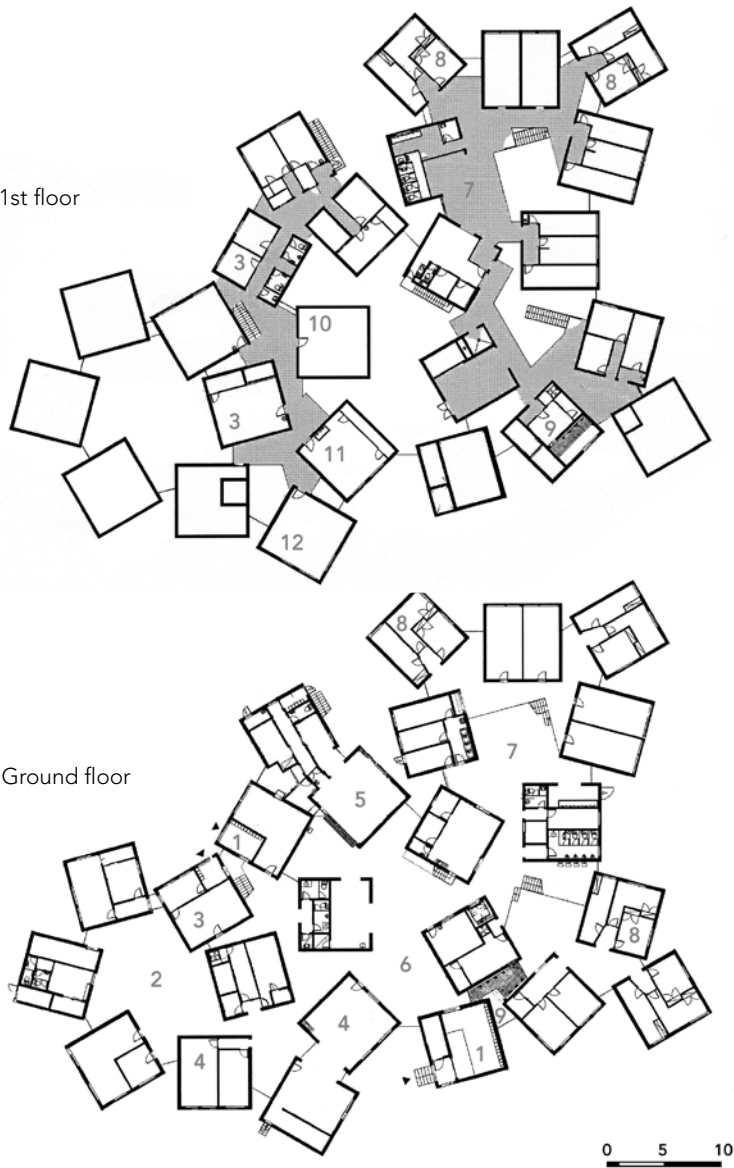


1. Baum Haus main building viewed from the south



2. Main entrance on upper courtyard

Figure 19. Ground floor and 1st floor plans, Baum Haus



- | | |
|--|----------------------------------|
| 1 entrance | 7 multipurpose space / dormitory |
| 2 multipurpose space / rehabilitation clinic | 8 bedroom |
| 3 therapy room | 9 bathroom |
| 4 administration / staff room | 10 gym |
| 5 kitchen | 11 wood workshop |
| 6 dining hall | 12 meeting room |



3. Black dormitory building



4. Dormitory for visiting family members

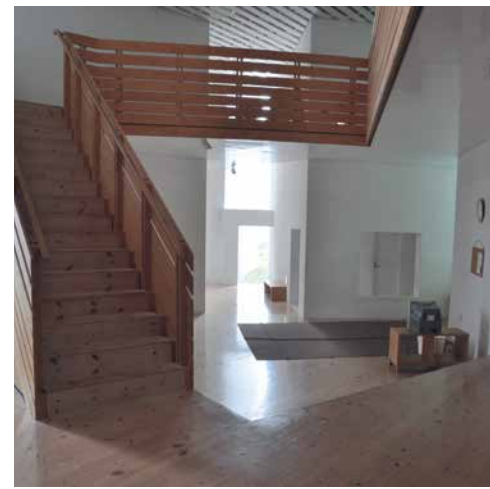


5. Entrance in one of the white boxes

proaches architecture through *ten geneses*, which include the archetype of a cave; geometry as an analogue of time and music; space as distances; the city-house-tree metaphor; and, the dissolution of spatial boundaries between inside and outside. Fujimoto envisages a spatial order based on the idea of an unpredictable and ambiguous human nature. Space is a stage for limitless human interactions and place-making, without fixed functions or predefined boundaries. In this situational approach, the users define the functions of spaces each time anew. Fujimoto challenges the rationale of modernist architecture, which departs from functional considerations and orthogonal geometry. The modernist paradigm of *form follows function*, discussed in Section 2.1.7, is no longer valid.

In Baum Haus, these theoretical ideas are translated into different design concepts for each of the three buildings. The focus of this study is on the main building, which, according to the architect, symbolises *house*, *city* and *forest*. The building is composed of twenty-four white monolithic cubes arranged in a seemingly random fashion. The two-storey high white cubes, 6.3m x 6.3m in size, form a miniature city, while the individual cube symbolizes the home. The forest is seen as the primordial state of the house and here the white cubes grow as arbitrarily as trees in a forest. The rehabilitation dormitory, in contrast, is black and composed of archetypical houses connected to each other by glass facades. A molecular composition is created, resembling an undulating village street. The dormitory for visiting families consists of a row of what seems to be seven small wooden houses attached to each other. However, it contains only two family residences located under a seven-fold pitched roof.

This fragmentation of the building into a landscape of smaller parts can be seen as a typical Japanese approach to architecture, according to which the creative process starts from parts and ends up with a whole, combining these parts.



6.-7. Dining hall between and inside the white boxes

8. Common living room spaces

Fujimoto has described the design process with the concept of *weak architecture* that refers to “not making architecture from an overall order but from the relationship between each of the parts” (Ito 2008, p.9). This fragmentary design process, discussed in Section 2.1.8 results in an organic, diverse and informal architecture (Edagawa 2009).

SURROUNDINGS The role of the surrounding environment is emphasized by the location of Baum Haus on a scenic mountain slope overlooking the bay of Uchiura Wan in the Pacific Ocean. Although adjacent to the city of Date, the site radiates tranquillity and is set apart from the noise of the railways and bustling traffic routes of the coastline. By dividing the building into smaller parts, the size of the complex relates to the surrounding small scale city structure. Through the large glass façades connecting the white cubes of the main building, the surrounding nature and the compelling views of the ocean are present in the interior of the building. The boundaries between environment and building, exterior and interior, are dissolved.

SPACE/ LIGHT In the main building, the subtle angles and distances between the white cubes are meticulously designed to create a continuous fluctuating space. The space varies from being narrow and dense, formed through the tension between the cubes, to being wide and open. This space continues from the inside to the outside of the building through the glazed facades. The play of light and shadow in the interiors springs from these high windows. In line with the theoretical metaphor, the space thus created is “a geometrical, transparent cave infused by light” (Fujimoto et al. 2008, p.54). The continuous space between the cubes connects the three main parts of the building: the dormitory, the treatment



9. Common living spaces



10. 1st floor corridors on balcony



11. Common washing space for patients

clinic and the administration.

The borderline between public and private space is intentionally diffuse. In the dormitory part, the space between the cubes is of a more public nature, providing places for common activities such as dining and leisure. However, functions of a more private nature, such as teeth-brushing or bathing in the small Japanese *onsen* bath, are also placed between the cubes. The insides of the cubes predominately contain closed spaces with functions that require privacy or sound insulation, such as bedrooms, toilets, a small library or the kitchen. Then again, some of the cubes form alcoves towards the open areas. The children are placed in one-person, two-person or four-person bedrooms, according to their needs, and they are divided according to gender, with the girls on the first floor and the boys on the ground floor. In the treatment clinic part, the spaces between the cubes are multipurpose spaces, while the therapy rooms, ping-pong and boxing rooms and a workshop for wooden crafts are located inside the cubes.

SURFACES / STUFF The spatial conception is supported by the sparse and simple use of natural materials and colours. The white cubes are homogenously white on the inside and outside of the building. The varnished wooden floor continues throughout the building, both inside the cubes and between them. The wooden material is repeated in the heavy railings of stairways and the first-floor balconies, as well as in the furniture of both the residents' rooms of the common areas. The flow of space between the white cubes is visually enhanced by the suspended ceiling, composed of a sparse grid of wooden boards painted white. The ceiling conceals all technical installations, while letting through natural light from the skylight windows.



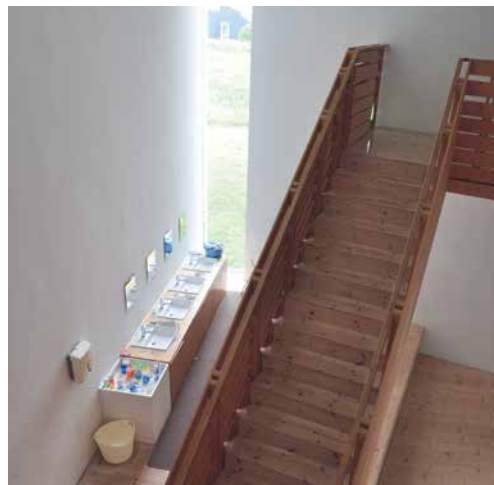
12. Common spaces



13. Well-framed views towards landscape



14. Small common bath with views



15. Staircase connecting common spaces



16. Detailing of staircase



17. Study desk in bedroom



18. Multi-person bedroom



19. Common spaces on 1st floor



20. Wood workshop as a part of the rehabilitation



21. Therapy room

TOPICAL ISSUES The idea at the core of the design concept of the building, providing spatial *voids* that the children turn into *places* with an identity by using or playing in them in different ways, starts from topical notions of respect for and empowering of the patient. The children can choose how much they participate in the activities of the common areas. The niches, alcoves and corners that cannot be seen or easily surveyed by the staff, offer the patients integrity and different degrees of privacy. This spatial layout affects patient-caregiver relationships in that the staff, unable to survey the spaces, need to trust the children. However, due to the mentally and emotionally disturbed states of the patients, this theoretical point of departure has turned into a drawback. Patients with a history of abuse or violence have abused other patients. Features of the building have rendered this possible, for example, the spaces that are impossible to survey, doors that can be blocked from the inside of bedrooms, and acoustics that prevent staff from locating where abuse is taking place. The trade-off seems to be between, on the one hand, trusting the children by giving them freedom and privacy, and, on the other hand, securing the safety and the physical untouchability of all patients in their daily life. The patients themselves are not in a position to choose which facility to attend; the facility is appointed to them.

A positive feature of the spatial layout is that it has been experienced by the children like a toy to be discovered. Living in the building has been compared to playing hide and seek in their daily lives. In the seemingly complicated circulation of spaces, the children find it easy to orientate. Furthermore, as the building is neither homelike nor resembling the environments the children are used to, it offers them something new – a new start and a way of disconnecting from the accustomed.

4.2.5 YURAKU NURSING HOME FOR THE ELDERLY

CONTEXT Yuraku is a nursing home for the elderly located in the rural area of Tottori Prefecture, in the south-western part of Honshu Island. Completed in 2003, the facility was designed by the architect, Kazuo Nagano, of the Kyoto-based design office Nagano Architects & Associates. The late Tadashi Toyama (1988), professor at Kyoto University and influential in bringing the group home care model from the Nordic countries to Japan in the 1990s, participated in the concept phase of the design process. The building received the JIHA Healthcare Architecture Award in 2005. In line with the methodological framework of this study, Yuraku is a *chronic* low-tech care environment, where residents spend the last years of their lives.

BUILDING / SERVICES The 6 600 sq.m. nursing home comprises living facilities for one hundred residents and a day activity centre for twenty elderly. The accommodation spaces are divided into eight nursing home units with 9–12 residents each and one dementia group home, which, according to Japanese regulations, may have a maximum of nine residents. The *unit care* model is based on the idea that the integrity and individual needs of the elderly can best be respected in small care units. The home units offer residents all the spaces needed for an ordinary home life and at best a social network akin to family cohesion. In the unit, the scale of the care environment is small enough to be homelike and human. A personalized and familiar home environment in turn is found to be supportive for the elderly

Figure 22. Photos, Yuraku Nursing Home for the Elderly



1. Exterior view onto courtyards



2. Main entrance; traditional building materials



3. Central courtyard accessed from the public common spaces



4. Water pond in central courtyard

as opposed to impersonal large scale institutional settings. At the time of the case study visit, the average age of the residents was 87 years and the average length of stay 4 years. 98 % of the residents suffer from severe dementia.

DESIGN CONCEPT / SURROUNDINGS The main aesthetic strategy applied in Yuraku is related to the unit care model. The social and contextual objectives of the model are translated into the architectural expression on all levels. In order to make the residents feel at home, the building compound is split into a dense village of small houses, borrowing their scale and architectural language from the surrounding rural townscape. Scattered over a large area, the care units and the associated staff and service spaces are detached from each other by means of inner courtyards, narrow outdoor passages and glazed corridors. The care unit symbolises the family house and the layout of units forms neighbourhoods in this three storey village. The ground floor consists of six home units, the administration, the day activity centre and common spaces, such as library, dining hall, art gallery, hairdressing saloon and a traditional Japanese tearoom. The first floor houses three home units as well as common roof terraces. A small bar open for guests, residents and staff is located on the uppermost second floor.

SPACE/ LIGHT The living units, connecting corridors and courtyard gardens form a rich spatial network. A spatial complexity is intentionally created by making turns and twists in the otherwise long corridors and by opening views towards the different gardens. The hierarchy of spaces is divided into *private*, *semi-private*, *semi-public* and *public* spaces (see Fig. 48). The most private spaces are the single rooms of residents, equipped with toilet and washbasin and furnished with personal items. The common spaces of each home unit, including kitchen, dining and living



5. Hairdressing salon among services in the public area.



6. Semi-public entrance between two care units.

rooms, a bathroom featuring a traditional wooden bathtub, a veranda and a small pocket garden, represent the semi-private areas. The entrances to the rooms of the residents are placed in niches, forming transitory spaces between the private and the semi-private areas of the home. Additionally, all rooms of residents have large sliding doors opening up towards semi-private porches facing the surrounding green courtyard. Between the home units, semi-public lounges provide places for residents to meet up with family members and friends outside the home. The common areas of the facility as well as the day activity centre represent the most public spaces. The restaurant and the library are open to people from the community.

The numerous courtyards and the large sliding door windows make all parts of the building literally flood with natural light. The bedrooms are turned to face either the east or south in order to avoid the hot evening sun from the west. The natural light is made soft by the use of traditional rice paper panels in front of the large windows, or by using vegetation or wooden latticing to create shadow. In the choice of artificial lights, indirect and soft lighting is preferred.

SURFACES / STUFF The architect stresses the importance of using traditional Japanese elements in a modern manner, raising the issue of how to translate features related to Japanese cultural identity into contemporary architecture. On a general level, as discussed in Section 2.1.8, the question has been debated in Japan. In the nursing home setting, traditional architectural elements are assumed to be beneficial for the elderly, as it reminds them of the homes and environments they are accustomed to. In Yuraku, the traditional plaster and wooden structures of the facades, as well as the use of black and brown *karwana* tiles on the pitched roofs, aim at making the building as familiar as possible for the users originating from the region.



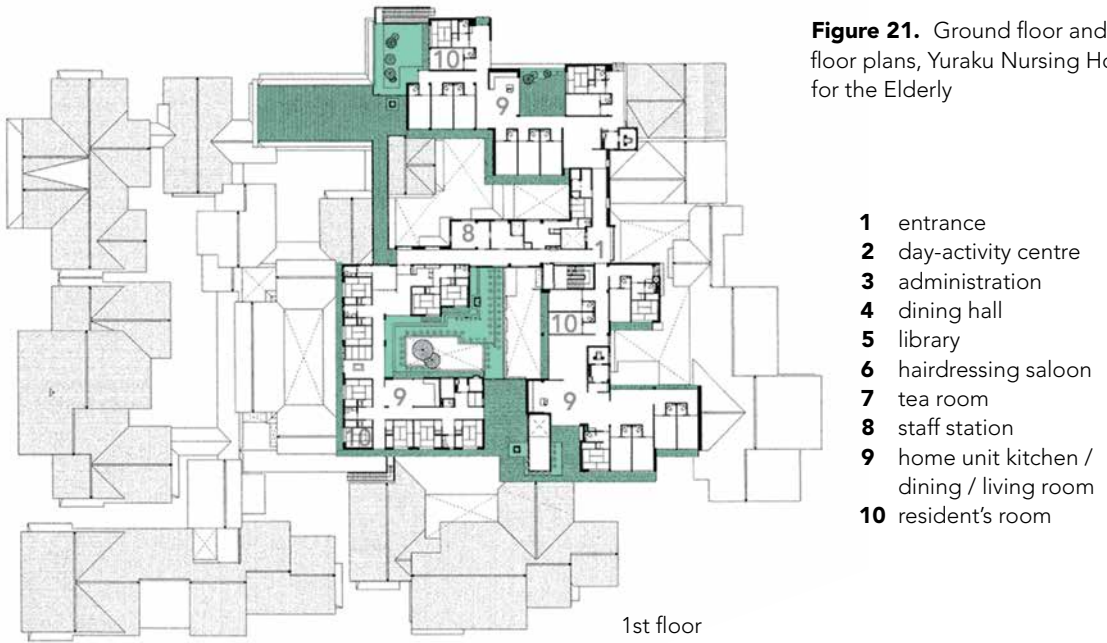
7.-9. The tea room with adjacent stone garden. In the region of Tottori people enjoy tea ceremonies as part of their everyday lives.

The entrances to the rooms of residents are equipped with wooden sliding doors, traditional wooden *ranma* grids and *noren* curtains (see Figs. 22.19 and 22.20). The *noren* curtain is a traditional partition element hanging in the door aperture, preventing seeing into the room when the door is kept open. The *ranma* grid, positioned between the door and the ceiling, was originally used to ensure the flow of air in traditional wooden houses. The openness between the inside and the outside of the building, a feature associated with traditional Japanese architecture, provides the residents with yet another familiar spatial experience.

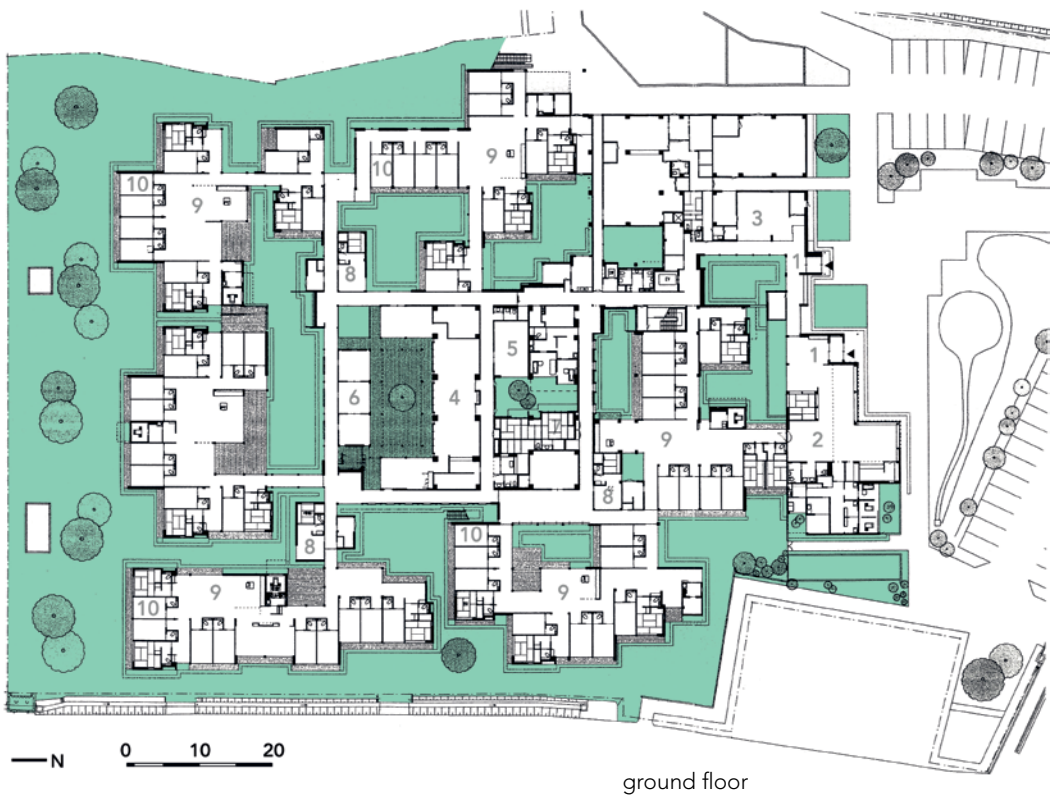
Throughout the building, the sensory qualities of materials and the design of details aim at making the residents feel comfortable. Floors are in varnished wood, walls are in light colours and the ceilings either painted white or made of wooden panels. In each unit three resident rooms are furnished traditionally with tatami floors, making it possible for the residents to sleep on futon mattresses which are rolled away during daytime. The interior of the dementia group home applies an even more traditional approach to the materials. The walls are plastered in a light green colour, wooden wall structures are left visible, and all resident rooms have tatami floors.

TOPICAL ISSUES A topical issue addressed in the design of Yuraku is the use of architectural elements to support wayfinding. The different courtyards, the way natural light comes into the rooms and the individualized detailing of doors and lattices function as landmarks and signs that help the residents orientate within the building. The architect designed the details of the entrances, doors and grids differently for each home unit, with the aim of helping the elderly to identify their own home. Instead of using a signage system, which would have made the ambience of the care home institutional, these architectural elements

Figure 21. Ground floor and 1st floor plans, Yuraku Nursing Home for the Elderly



- 1 entrance
- 2 day-activity centre
- 3 administration
- 4 dining hall
- 5 library
- 6 hairdressing saloon
- 7 tea room
- 8 staff station
- 9 home unit kitchen / dining / living room
- 10 resident's room





10. Access to roof terrace from residents' rooms



11. Roof terrace next to dining room

and details are used as a subtle means of communicating to the users. Another function of the interior courtyards is to increase the visibility of the staff from one part of the building to the other in an indirect manner, without intruding on the privacy of the residents.

Another topical theme is the user-centred approach. The building is on all levels designed on the terms of the resident user. At the main entrance, there is no reception desk, which avoids an institutional ambience. Materials have been chosen based on their sensuous and contextual qualities, such as the tatami mats, rather than being based on properties of maintenance. The fact that the home units are dispersed over a large area makes the building inefficient from the point of view of the care staff. The walking distances inside the building are long. However, this permits the residents to enjoy the tranquillity of the isolated home unit, relax on the veranda outside their room or participate in activities in the courtyards. In order to facilitate the work of the staff, a staff unit that comprises a kitchenette, toilet and resting room as well as a laundry station is located between every two home units. This permits one staff member to supervise two units during the night.



12. Cosy atmosphere in home unit dining room



13. Semi-private space of group home



14. Wooden bathtub in home unit



15.-17. Japanese-styled resident's room; tatami mats, rice-paper panels, plastered walls, wooden fittings and wash-basin area



18. Detailing of group home entrance door



19.-20. Traditional noren curtains & wooden ranma grid in resident's entrance





4.2.6 MARNE-LA-VALLÉE HOSPITAL CENTRE

CONTEXT The Marne-la-Vallée Hospital Centre is a public general hospital situated in the Paris metropolitan area. The building, completed in 2012, is designed by Brunet Saunier Architecture, a Paris-based architectural office with long experience of designing hospitals. The design concept is thus the result of a thorough design process anchored in the experience of several decades of hospital planning. The design was a result of an open architectural competition and the building has since been nominated for the prestigious French architecture award, the Prix Equerre d'argent. Within the methodological framework of the thesis, Marne-la-Vallée Hospital Centre represents an *acute* high-tech care environment.

BUILDING / SERVICES The hospital is the largest of the case study buildings, comprising 585 beds on a total floor area of 72 000 sq.m. The three-storey hospital building covers all types of medical disciplines including emergency, surgical, obstetric and psychiatric departments, and has a staff of 2 300 employees. The well-equipped intensive care unit comprises 25 general beds and 15 beds of cardiology. The ground floor spans the main reception lobbies, out-patient services, social services and occupational medicine, diagnostic imaging, the laboratory, as well as the emergency department⁴⁰. The first floor houses the surgery, cardiology, ICU and maternity departments, while the second floor houses the paediatric, child and adult psychiatry. A basement floor comprises auxiliary and technical spaces, as well as underground connection to a separate logistics building. The average length of stay at the time of the visit was 2.9 days, nearly attaining the goals set out by the French government.

Figure 25. Photos, Marne-la-Vallée Hospital Centre



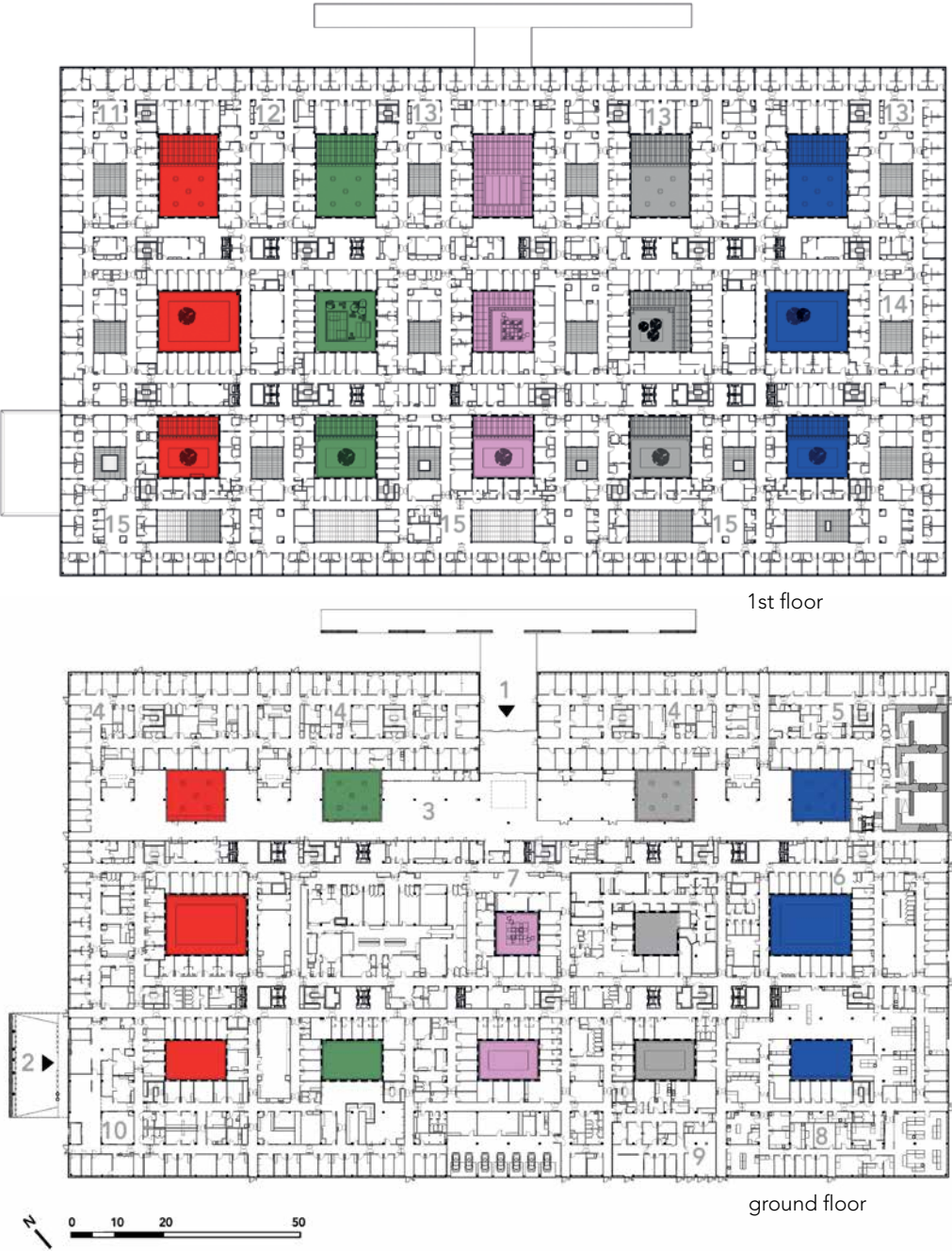
1. Exterior view – emergency entrance
3. Interior courtyard – red



2. Main entrance roof in evening lighting

Figure 23. Ground floor and 2nd floor plan, Marne-la-Vallée Hospital Centre

- | | | | | | |
|---|--------------------------|----|----------------------|----|-------------------------------|
| 1 | main entrance | 6 | social services | 11 | paediatric department |
| 2 | emergency entrance | 7 | diagnostic imaging | 12 | geriatric department |
| 3 | outpatient lobby | 8 | laboratory | 13 | internal medicine departments |
| 4 | outpatient consultations | 9 | mortuary | 14 | oncology department |
| 5 | radiation therapy | 10 | emergency department | 15 | patient wards |



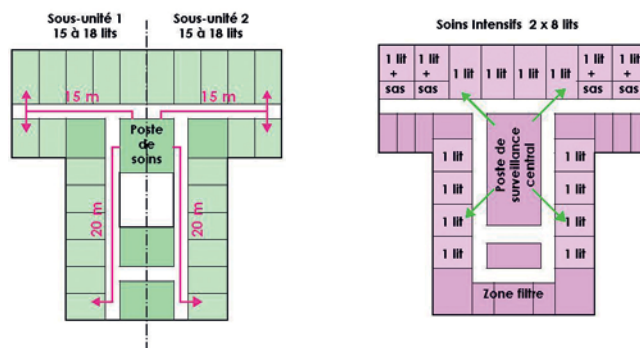


Figure 24. The monospace concept: different ways to sub-divide the space units.

DESIGN CONCEPT The architectural strategy of the hospital is founded on the design concept of *monospace*, which refers to a neutral basic space unit that, systematically connected, creates an endlessly expandable and convertible hospital structure. The *monospace* is a space unit that in itself is void of function. It is dimensioned and built on a technical platform so that its use can be adjusted according to future medical needs. The concept stems from the idea that the constantly and unpredictably evolving medical field needs a hospital environment which is genuinely flexible regarding organisational, medical and technical changes. During the eight-year long design and building process of Marne-la-Vallée Hospital, large changes were made to the brief, such as adding a 125-bed psychiatric ward in the building. According to the architects, the monospace concept is characterized by a systematic and fixed structural grid, stratification of functions and technical layers, a tree-like system of circulation and a uniform envelope (Blin, 2013, p.29). The building can be adapted to future needs by changing the use of spaces or the borders between wards and care units, by densifying the use of space within the existing building or by extending the structural grid, the technical layers and the envelope.

The Marne-la-Vallée hospital has been divided into three zones according to the use of spaces: the diagnostic (ground floor), the interventional (first floor) and the convalescent (second floor). This layout resembles the one in Katta General Hospital. Furthermore, horizontally on each floor, there are three zones running in the longitudinal direction of the building, based on the flow of people: the public, the buffer and the medical zones. This stratification of spaces and functions is part of the *monospace* concept and differs from the strict functional differentiation of the hospital into *cold* or *hot* spaces common in hospital design. In the *monospace*, the hot and cold spaces can technically be located anywhere in the building. Instead of having fixed boundaries, these functional layers are adjustable according to the changing needs of the hospital.⁴¹



4. Entrance drive-in

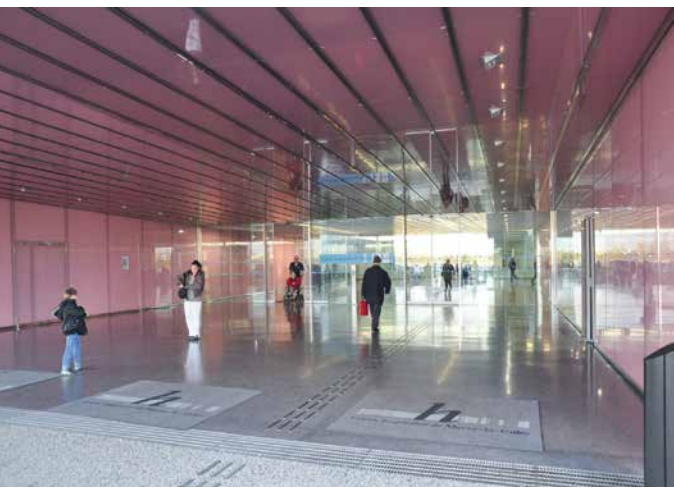


5. Main entrance roof with coloured glazing

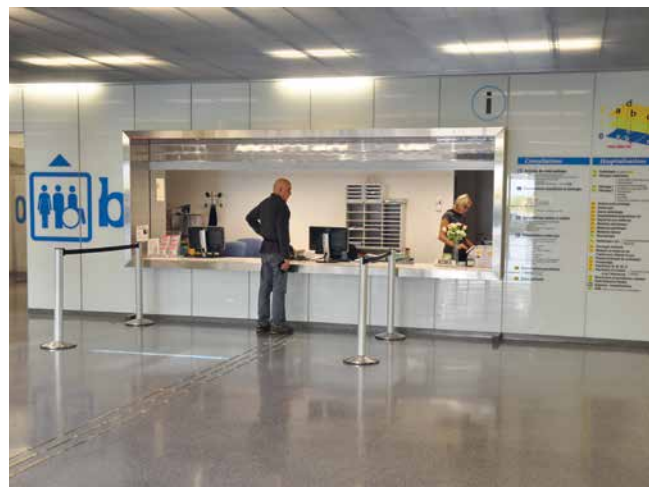
SURROUNDINGS The Marne-la-Vallée area is well-known for the Disneyland Paris amusement park with accompanying urban development. The hospital is located at the northern edge of Jossigny suburb, on a site of 12 hectares in the middle of vast flat fields. This horizontal landscape accentuates the horizontal nature of the 12.8-metre-high hospital building, with a size of 115 x 200 metres. The main entrance is located in the middle of the rectangular building, emphasised in the façade by a freestanding, horizontal and L-shaped entrance roof. A separate logistics centre is located a bit apart from the main building, articulated as a black building, the façades being composed of perforated and enamelled metal sheets.

SPACE/ LIGHT The hospital building is pierced by a grid of fifteen differently coloured interior courtyards and smaller light shafts and patios. These courtyards give the building its distinct identity while bringing natural light to the inner parts of the compact building volume. The different colours, furnishing and vegetation of the courtyards serve as landmarks helping the users orientate inside the building. The structural grid is a three-dimensional frame composed of a 7.20 x 7.20 x 4.2 metre standard post-and-beam construction. This structural grid can be divided in numerous ways, for example, a standard office room is 1/3 module x 2/3 module (2.4 x 4.8m), a patient room 1/2 module x 2/3 module (3.6 x 4.8m), while the operating theatres or the interior courtyards occupy entire modules or more.

The patient rooms are predominantly single rooms. A typical room size is 18 sq.m., toilet included. There are two types of rooms: one located on the exterior perimeter of the building, equipped with large windows overlooking the surrounding landscape, and the other located around the interior courtyards. The rooms around the courtyards have a special atmosphere due to the different



6. Main entrance



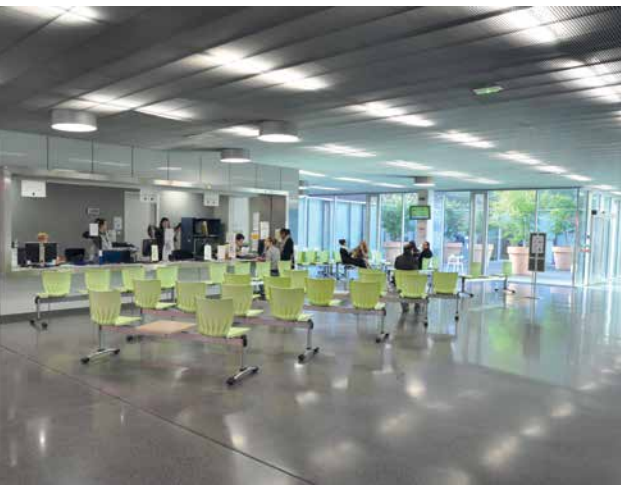
7. Main reception desk

coloured façades of the patios and are equipped with smaller windows to prevent unwanted looking in. In the standard room layout, the toilet is located on the corridor side of the room and the rooms are mirrored so that the toilets are adjacent.

The layout of spaces is based on a 'tree-like' structure of circulation, in which the flow of people and services is the biggest in the centre and on the ground floor, that is, the trunk of the tree, and then diminishes and spreads out when moving upwards and towards the extremities of the building, like the branches of a tree. The main lobby is a horizontal space running almost the full length of the floor, guiding the patients to the different out-patient services. The main lobby includes spaces such as the main reception, smaller reception and waiting areas of the out-patient departments, a cafeteria, a lecture hall and a library. A series of four courtyards in different colours animate the lobby. Distributed along the main lobby is a grid of vertical connections directing patients and visitors up to the patient wards of the upper floors.

Spaces are accessed by a grid of double corridors along two longitudinal paths: one private and closed, designated for the medical and emergency flows, and the other open and public, intended for patients and visitors. Six cross-paths connect the patient wards. Between the double corridors there are staircases, elevators, ventilation shafts, small courtyards and auxiliary spaces. The vertical connections are located in the intersections of these pathways. In order to make spaces flexible concerning future changes, all corridors are approximately the same width.

SURFACES / STUFF According to the monospace concept, the building needs a uniform envelope, in other words interior surfaces and facades that are standardised, in order for the building to be convertible and expandable. In Marne-la-Vallée, the exterior façades are completely composed of identically-dimen-



8. Waiting area in ground floor lobby; views to interior courtyard



9. Interior courtyard – red



10.–12. Interior courtyards in different colours



13. Surface materials in courtyard



14. Double framed windows



15. Corridor in in-patient floor



16. Single patient room



17. Patient room fixtures colour-coded



18. Single patient room in the corner of the building

sioned glass elements, printed with a random pattern of vertical white stripes. The stripes are continuous from the roofline to the base of the façade. The façade is horizontally divided into six window panes, two per floor level. This creates the impression of a monolith bloc with a dematerialised skin, the sky and the clouds being reflected in the glass surface. Every other horizontal row of windows is transparent, allowing for views from the patient and procedure rooms towards the surroundings in all directions. These windows are double-framed and openable, equipped with a system of integrated blinds adjustable by patients and staff. Every other horizontal row of windows is blind, hiding the joints of floor and roof slabs, as well as the technical installations of the inner ceilings. The detailing of the façades is refined and minimalistic. It is almost impossible to distinguish the openable windows and doors from the fixed glazed surfaces.

The façades of the inner courtyards differ from the outer envelope. These are made of aluminium panels, printed with a reflective spectra-colour-paint, shifting in different shades of red, green, blue and grey. The metallic surface makes the courtyards glow, depending on how the sun hits the surfaces. Originally, the intension was to project moving pictures on the façades of the courtyards, in memory of the French cineaste, Henri Cartier-Bresson, who came from the Marne-la-Vallée area. While this did not fit into the project budget, the shifting colour palette of the metallic surfaces is reminiscent of the moving pictures.

In the interior spaces, the material and colour palette is restrained. The floor is a grey coating. The walls are either composed of opaque glass panels in the lobbies or painted white elsewhere. The inner ceilings are either white in the rooms or made of a dense metal grid in the corridors. The signage system and the colouring of staircases, corridor surfaces and furniture utilises bright blue, green or yellow colours.



19. Operating theatre with panorama window



20. ICU ward with windows

TOPICAL ISSUES Topical themes of evidence-based design guidelines influenced the design principles of Marne-la-Vallee Hospital, such as the single patient rooms, views from patient rooms, access to natural light and staff walking distances. The staff has especially applauded the design of the operating theatres, as all theatres have large windows with views over the fields. Although the building is wide and low, the walking distances for the care staff, who stay predominantly within one ward, are not long. A basic ward unit is T-shaped, comprising 30 beds and bordering interior courtyards on both sides. The staff station is located in the centre, enabling the unit to be divided into two sub-units (see Fig. 24). For the logistics personnel, the walking distances are inevitably longer since they cover the whole building.

4.2.7 MALMÖ EMERGENCY AND INFECTIOUS DISEASES UNIT

CONTEXT The Malmö Emergency and Infectious Diseases Unit is located in the city centre of Malmö, Sweden. The building was completed in 2011 and designed by the Danish firm, C. F. Møller Architects, in collaboration with the Swedish office, SAMARK, today part of LINK Arkitektur. C.F.Møller Architects have previously been involved in the design of several hospitals. During the design process of the Malmö Unit experts on health care architecture were involved and multidisciplinary groups of staff members participated in defining the design goals. The building has been acknowledged on several accounts. The design was the result of an open international architectural competition arranged in 2006 and the building has received the British BBH Award for Best International Healthcare Design and been nominated for the Swedish Kasper Salin Prize. Within the framework of this study, this extremely specialized high-tech facility falls into the category of *acute* care environments.

BUILDING / SERVICES The Malmö Infectious Diseases Unit is part of the larger Skåne University Hospital compound. The 24 000 sq.m. care unit is composed of a 19 000 sq.m. new building, mainly housing the Infectious Diseases Unit. The emergency department is located in a renewed existing building, spanning 5 000 sq.m. The renewed old building connects the new units to the larger hospital compound. The 51-bed new unit is specialized in the care of patients with infectious diseases and the prevention of the spread of diseases in the community.

Figure 27. Photos, Malmö Emergency and Infectious Diseases Unit



1. Exterior view of Infectious Diseases Unit



2. Central courtyard



3.-4. Courtyards bringing natural light to the spaces on 1st and B floors



5. Direct entrance to emergency patient room

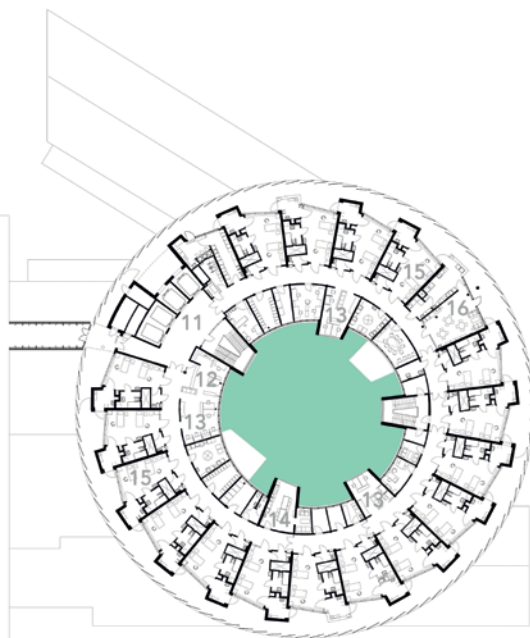
The casualty and trauma centre, including a children's emergency ward, treats all types of the acutely ill and injured.

DESIGN CONCEPT The main aesthetic strategy was based on a strict geometrical shape and on functional considerations and hygiene doctrines. The Infectious Diseases Unit is a circular seven-storey building. The main design principle concerning the use of the building is to separate the flow of contaminated patients and visitors from the clean circulation areas of staff and the non-contaminated patients. The patient rooms are located on the exterior perimeter of the building, allowing for visitors and contaminated patients to enter the rooms directly from outdoor balconies running the full length of the façade. Waste and laundry is removed from the patient rooms through the exterior balconies. The staff, non-contaminated patients and visitors use a separate interior corridor to access both the patient rooms and the auxiliary staff spaces located around the interior perimeter of the building. The patient floor can be subdivided into smaller isolation units by closing doors along the interior corridor. Contaminated patients can access special patient rooms in the emergency unit directly from the ambulance courtyard. The use of elevators is strictly regulated.

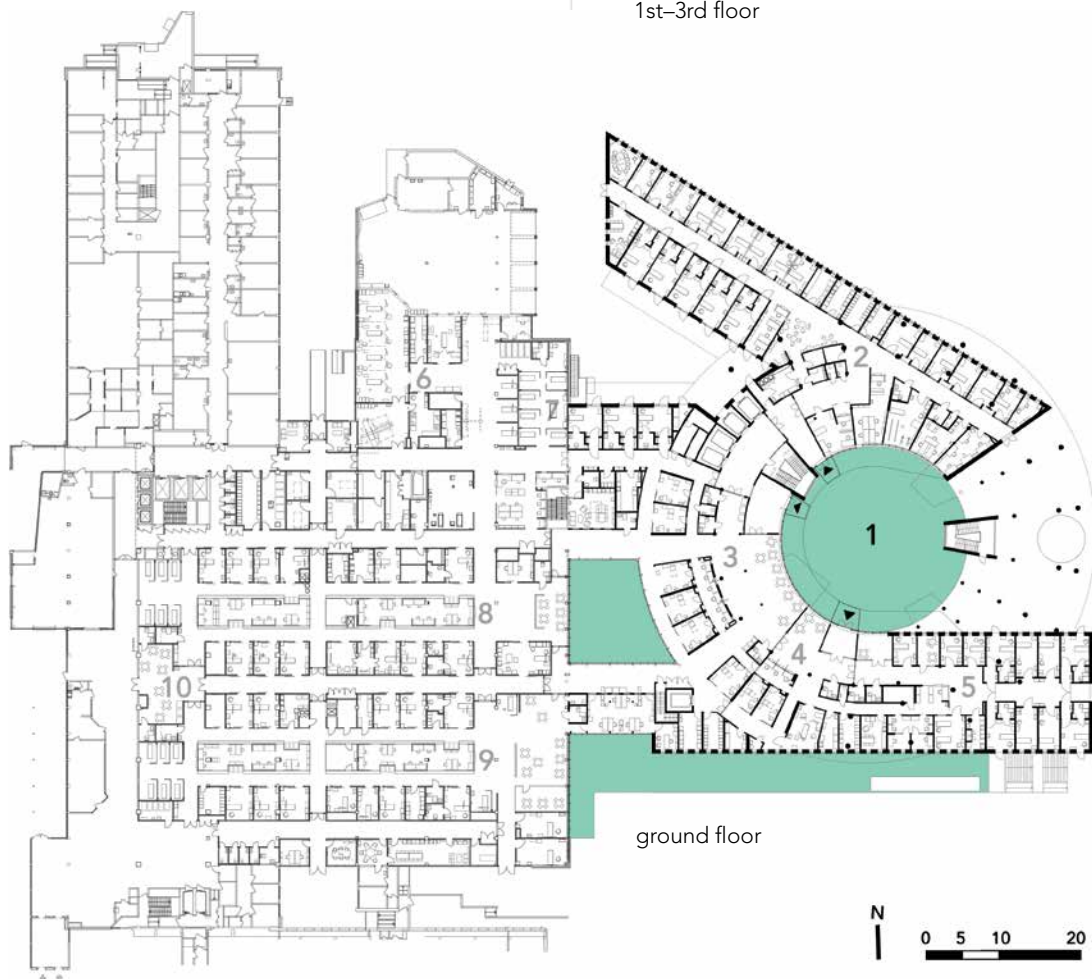
In the centre of the new building, a circular courtyard serves as a main entrance to both the emergency department and the Infectious Diseases Unit. The ground and basement floors comprise the emergency department, outpatient clinics and auxiliary staff spaces, covering almost entirely the dense building site. These form a podium on which the circular Infectious Diseases Unit stands. Arriving patients are triaged in the main entrance lobby, then directed further to the emergency clinics or to the infectious diseases wards. Highly specialized and monitored emergency spaces are located next to the ambulance courtyard. The

Figure 26. Ground floor and 1st–3rd floor plans, Malmö Emergency and Infectious Diseases Unit

- 1 main entrance courtyard
- 2 infectious diseases consultations
- 3 triage in, adults
- 4 triage in, children
- 5 children's emergency department
- 6 highly specialized emergencies
- 7 monitored emergencies ward
- 8 specialized emergencies clinics
- 9 local emergencies clinics
- 10 triage out
- 11 elevator lobby
- 12 reception
- 13 staff station / office
- 14 staff breakroom
- 15 patient room, 1-2 persons
- 16 dining room, patients & visitors



1st–3rd floor



N

0 5 10 20



6. Entrance gateway with art installation by Monika Gora



7. Art graphics in the elevator lobby

circular building contains in-patient wards on three floors, including 17 patient rooms per floor. Above the patient wards, there are two floors of staff offices and educational spaces for researchers. The top floor is a technical HVAC floor.

SURROUNDINGS The aim of the architects was to make the new building a landmark in the city that is easy to distinguish in the larger hospital compound. Thus, patients and visitors can easily find their way to the acute units. The building stands out in the surrounding cityscape due to its round shape, the exceptional use of glass lamellas and the colourfully plastered façades.

SPACE/ LIGHT Flexibility and highly specialized isolation technology was emphasised in the design of the standardised patient rooms. All rooms are spacious single rooms that can be converted to small double rooms. The room unit of 50.3 sq.m. includes a 31.5 sq.m. patient room, a bathroom equipped with toilet and flusher-disinfectors, and two anterooms, serving as intermediate spaces between the patient room and the interior and exterior corridors. The air pressure levels of the patient unit are divided into four pressure zones, the toilet being the most negative zone from where the polluted air is exited. Each patient unit has a vertical shaft leading up to the technical spaces on the top floor. The flexibility of the room implies on a technical level that the isolation standards can be individually adjusted according to the needs of the patients. The level of isolation ranges from extremely high to more mainstream hospital levels. The air circulation can be adjusted to be renewed 1, 5 or 10 times per hour. Seventeen rooms, dispersed on the different floors, are equipped with the highest isolation standards, including HEPA filtration of exhaust air. When used as so-called normal patient rooms, the anterooms can be discarded and the room entered directly from the corridor.



8. Triage reception counters at the emergency department



9. Reception desk at infectious diseases wards

A general characteristic of infectious diseases wards is that patients are confined to isolation in the rooms, where they might feel abandoned and not seen by staff (Holmdahl & Lanbeck 2013). At Malmö, this was avoided with the large windows of the patient rooms enabling patients to connect with the city and enjoy the views from inside. The patient room is also equipped with a window towards the corridor, from which the staff can observe the patient or from which the patient can watch the activities in the corridors. Nevertheless, the patients are in full control of the openness and the amount of natural light in the rooms by an automated system of blinds in both exterior and interior windows. To diminish the sense of isolation, the outdoor balconies permit patients to go outside directly from the room. Although visitors or patients can look inside the rooms of others while walking around the balcony – a seeming breach of privacy – the patients interviewed did not find it disturbing. On the contrary, the balconies were largely enjoyed.

The circular courtyard in the centre of the building brings natural light to the staff rooms and visually connects the rooms along the interior perimeter of the building. These spaces include a reception office, staff stations, small private offices for conversations and breakrooms, as well as storage facilities. Some of the spaces extrude into the courtyard, articulated in the façade with brightly coloured steel panels and windows reaching from floor to ceiling.

SURFACES / STUFF The glass lamellas, surrounding the balconies of the patient wards, are important architectural elements that make the impression of the building change depending on how the light hits the façade. At the same time, the vertical glass lamellas, 0.6 x 4m in size, serve as a protective layer adding privacy to the patient rooms. Behind these lamellas, the exterior façade is



10. Work stations in the Infectious Diseases Unit



11. Staff breakroom, art installations on the wall

clearly articulated into a rhythm of windows, the full height and width of the patient rooms, and the brightly coloured walls enveloping the building blocks formed by the anterooms and toilets. The red, yellow and light green colours form a random composition. The same colour continues from the façade through the patient room and into the interior corridor. The aim was to use colours as *functional* means to articulate the spaces and aid in wayfinding inside the building. However, as the colours do not signify a code in relation to the patient receiving care in the room, they have been considered confusing by some care staff members and patients.

Contemporary works of art are integrated into the building design, such as the sculptures by Monika Gora in the entrance courtyard and the graphics by Jacob Dahlgren, Lena Ignestam and Michael Johansson on the elevator doors and in the lobbies.

TOPICAL ISSUES The design of Malmö Infectious Diseases Unit was strongly influenced by evidence-based design principles, including notions on single patient rooms, views from windows, sunlight, outdoor access and the safety of patients and staff (Holmdahl & Lanbeck 2013). However, the doughnut shaped floor plan resulted in long walking distance for the staff, a theme that has received attention in EBD research. The inner corridor spans a distance of 100 metres. In order to address this issue and to shorten the everyday walking distances, important staff functions, such as the staff stations, the medication preparation rooms and the supply rooms, are decentralized and dispersed along the inner perimeter. A supply service delivers the supplies and the laundry directly to the patient and storage rooms, reducing the work tasks of the staff.



12. Staff breakroom



13. Interior corridor, movable staff station



14. Isolation room door installations



15. Patient room, green



16. Dining room for patients & visitors



17. Patient room installations, yellow



18. Toilet with disinfectant machine



19. Furniture in patient room



20. View from patient room to balcony



21. Balcony and patient room entrance

Furthermore, the care work has been organized so that the staff members are stationed in distinct segments of the floor, for example, patient rooms number 1-5 or 6-10 and so forth, thus minimizing the need to move around. During rounds the staff uses movable staff stations equipped with computers for direct transcriptions. However, some staff members have found that these arrangements have resulted in a lack of social contact and communication between employees. Instead of meeting in person, staff members communicate by telephone. The spatial layout does not support casual meetings, nor can the staff see when other staff members are in need of help. The circular shape of the interior corridor prevents staff from overseeing the patient ward and the visibility in the corridor is limited to some ten metres.

The patient rooms are dimensioned so that they function in normal situations as single rooms and in case of an epidemic the rooms are spacious enough to accommodate two or even more patients. However, at the time of the case study visit, the rooms were predominantly used as multi-person rooms due to the lack of space in the hospital in general, not due to the medical status of the patients.

4.2.8 MAGGIE'S GLASGOW

CONTEXT Maggie's Glasgow is a cancer caring centre designed by the Office for Metropolitan Architecture (OMA). The partners in charge were Rem Koolhaas and Ellen van Loon. The building was completed in 2011. The Maggie's Centres have become a British institution and a privilege for famous architects to design them. At the time of writing, there are twenty Centres in the UK and abroad. In the UK, the Centres are located in connection with large NSH hospitals, thus functioning as aesthetic counterparts for cancer patients receiving treatment in the often-outdated main hospital buildings. Maggie's was developed by the late cancer patient Maggie Keswick Jencks and her husband, the architectural critic and landscape designer Charles Jencks. Her fight against cancer in the early 1990s, depicted in the booklet *A View from the Front Line* (Keswick Jencks 1995), initiated the design for the first centre that opened in 1996 in Edinburgh and was designed by Richard Murphy. All Maggie's Centres have thereafter been designed based on the same brief, yet abounding in different building solutions depending on the architects involved (Jencks & Heathcote 2010, p.219). A central part of the care concept at Maggie's is the belief that the physical environment, its aesthetics and architecture, influence both the wellbeing and healing processes of patients, and the care given by carers. Hence, a high-quality environment is invested in by employing renowned architects to design the Centres. An art-coordinator selects works of art for the Centres, which are often donations by well-known artists.

Maggie's Glasgow has been acknowledged by receiving the Andrew Doolan Best Building in Scotland Award and being shortlisted for the RIBA Stirling

Figure 29. Photos, Maggie's Glasgow

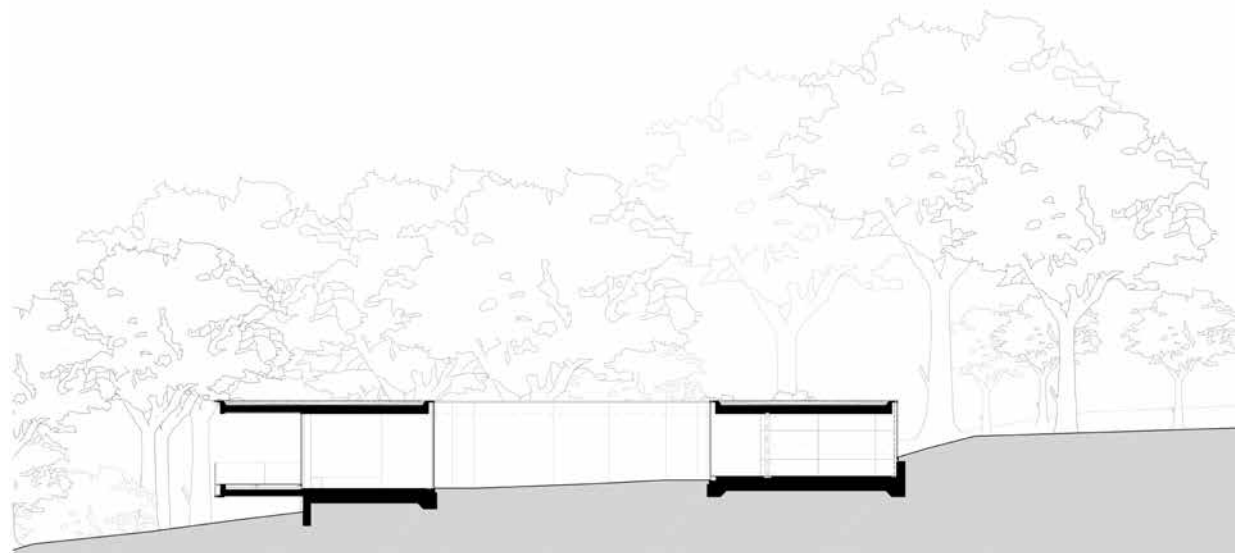


1. Exterior view from entrance pathway



2. Entrance lobby with view onto central courtyard

Figure 28. Ground floor plan and section, Maggie's Glasgow





3. The kitchen, open for everybody



4. The flowing space, switching from Meeting/dining room to kitchen

Prize. In line with the methodological framework of this study, the centre is a *chronic* and low-tech care environment.

BUILDING / SERVICES The small pavilion of 534 sq.m. is the smallest of the case study buildings. Maggie's Centres represent a special type of cancer rehabilitation in that they do not provide any clinical treatment, nor physicians, nor patient beds. Instead Maggie's Centres offer the complementary services of practical information, emotional and social support for users in different stages of their cancer treatment, as well as for their families and friends. The Centre has around 70-110 users visiting daily and some sixteen thousands a year. There are eight staff workers, including cancer support specialists, benefits advisors and stress and relaxation therapists. The services offered are personal discussions regarding cancer treatments and the practical and emotional effects of having cancer, group meetings, lectures, physical therapy and activities such as nutrition classes and cooking. The users may themselves search for information about their illness in the library or on computers. A precept of Maggie's care philosophy is to empower the patient to participate and actively engage in the care and treatment processes, rather than being a passive victim of the disease. Nevertheless, participation is voluntary and the users may also simply drop in for a cup of tea or to gather their thoughts on their way to and from treatments.

DESIGN CONCEPT The main design strategy of Maggie's Glasgow was to arrange the spaces of the single-level building around a central courtyard. The courtyard captures a part of the woodland nature on-site and creates a sheltered sanctuary that serves as a respite from the daily challenges of coping with cancer. The landscape design played a central role in the building design as both the interior



5. The kitchen table



6. Staff office with views towards the central courtyard



7. Meditation spot

courtyard and the surrounding park are visually present everywhere in the building. Nature, the weather and the different seasons are a part of the interior space.

SURROUNDINGS The building is located on a green slope overlooking the Gartnavel General Hospital, which dates from the 1970s, and the Beatson West of Scotland Cancer Centre, completed in 2008. The landscape was designed by Lily Jencks, Maggie's daughter. In order to make it a place apart, the building is half hidden in the surrounding small park, giving the person arriving some time to think while walking through the woods. The park consists of a combination of light birch trees and the heavier and twisted Scottish pine. The back side of the building is dug into the slope, which in the winter fills with water and daffodils bloom along the hill. The roofline of the building is horizontal, while the floor levels respond to the topography of the site, creating spaces of varying height.

SPACE/ LIGHT The building is a symbol of the home. The spatial sequence consists of a series of domestic spaces: library, kitchen, dining and living rooms, distributed in a continuous flowing ring of interlocked spaces. Within this ring, L-shaped building volumes demarcate specific areas of different sizes and of different degrees of privacy. The entrance of the building functions as a library, furnished in a casual manner with sofas and armchairs, to read and spend time in. The user may stay in the library without feeling pressured to interact with others or the staff. From there on, the space evolves into the more social space of the kitchen, equipped with a kitchen island for cooking and gathering around and a large dining table. Then, the path continues through a separate dining space, also serving as a meeting room, an office for the staff, the users' workstations and on past the counselling rooms. The staff office is an open space with visual con-



8. Diffuse borders inside - outside



9. Users' workstations for information searches



10. Carefully designed ceiling detail



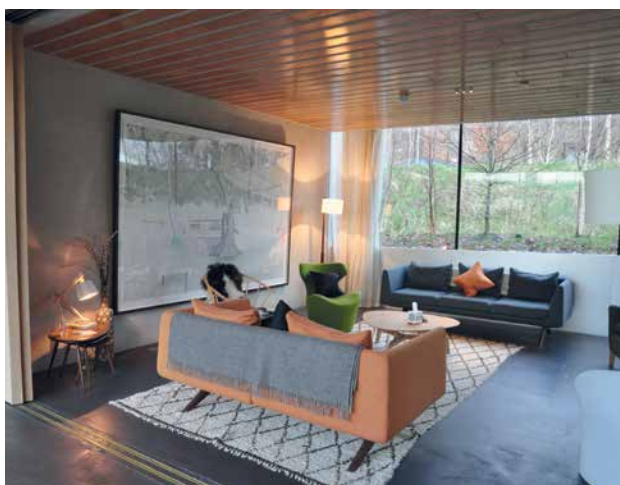
11. The courtyard designed by landscape architect Lily Jencks



12. Corridor space, entrances to the counselling rooms



13. Small counselling room



14. Medium-size counselling room



15. The 'womb'; a place to be alone



16. The toilet – a place for crying

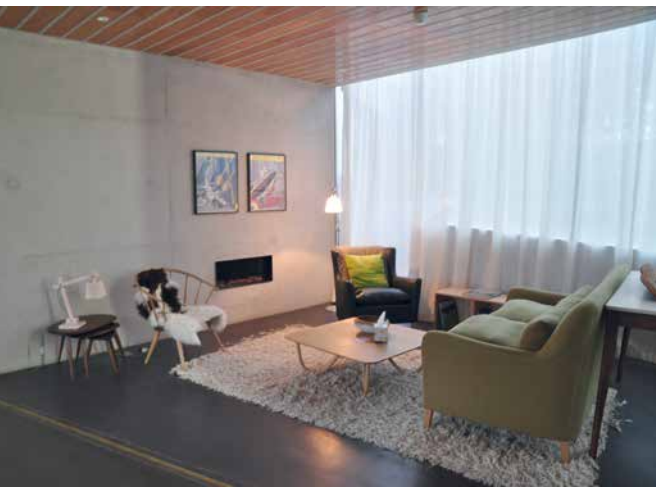


17. The continuously flowing corridor space, view towards courtyard

tact to the main entrance through the central courtyard. The counselling rooms, furnished like living rooms, can be closed off from the corridor space by sliding doors when required. Last in the series of spaces is a large exercise room, which again can be opened up towards the main entrance library. The building is the antithesis of a hospital in the sense that in hospitals there are corridors that lead to secluded rooms. In Maggie's Glasgow the whole building is a corridor that metamorphoses into the different spaces of the brief.

SURFACES / STUFF The choices for building materials and colours at Maggie's Glasgow have been kept simple. The windows are frameless glass walls reaching from the floor to the eaves of the roof. Technical installations such as ventilation grids or heating, that would disturb the simplicity of the space, are integrated into the floor. The floor is a dark grey concrete coating that continues throughout all spaces. The walls are either white plaster or light grey concrete. Opal glass is applied in kitchen cabinets and sliding doors. The ceiling is composed of varnished wooden boards integrated into the concrete slabs. Wood is used in the large sliding doors of the counselling rooms, wall fixtures, book shelves and movable furniture. The cold glass and concrete surfaces are further softened with soft cushions, blankets and carpets.

A special ambience is created in the so-called *womb* room where visitors can go to have a cry. It is an intimate enclosed space with walls made of curved wooden panels, lit by a round skylight. Likewise, the toilets are furnished in a cosy manner with wooden wall panels, carpets and armchairs for crying. The building is the antithesis of a hospital: every detail is meticulously designed; the furniture, the lighting and the works of art are carefully selected. Hospitals are made in the most cost-efficient, most hygienic and easiest ways to maintain, whereas at Maggie's



18. Medium-size counselling room



19. The pathway around the central courtyard starts and ends in the entrance lobby

the uniqueness of place is valued. The feeling of uniqueness is translated into the everyday experiences of art and architecture. In Maggie's Centres the concept of patient-centred care is taken to its fullest and translated into aesthetic dimensions.

TOPICAL ISSUES The layout of spaces at Maggie's Glasgow differs from the other Maggie's Centres, where the spaces are organized around the kitchen, a central theme of Maggie's original architectural brief in which monotonous corridors are banned altogether. Usually, the kitchen forms a central hub of the buildings, from which one moves or spirals out to the more private spaces of the consultation rooms. In Glasgow, the opposite is sought. The centre is taken out and a garden is put into the void, a space that you look at but seldom enter. However, the kitchen remains the main meeting point in the Centre. The domestic quality of the centre is enhanced through the relaxed use of the spaces. The staff eat their lunch in the kitchen with the users, use the same toilets and the office is totally open towards the public spaces. The social dimension and a sense of community are considered to be important in order to make users feel comfortable. The spatial sequence gives a casual and carefree impression, yet every space is carefully designed and the views selected to open towards the surroundings. The building can be exited in several directions: to the balconies, to the interior courtyard or towards the surrounding park. The border between the inside and the outside is diffuse.

Charles Jencks has named the Maggie's Centres a *hybrid* building type "that is not quite a museum, church, hospital or home but has aspects of each", mixed together in an informal and easy-to-approach manner (ibid. p.14). This approach of mixing functions is quite topical in architectural debate in general and in hospital architectural concepts in particular. Hospitals have come to be seen as neighbourhoods, with streets filled with services that go beyond care and cure.

Figure 30. Ground floor, 1st floor and 4th floor plans, Käpylä Autism Centre

- 1 main entrance
- 2 rehabilitation room
- 3 breakroom
- 4 gym
- 5 staff room / administration
- 6 dining hall
- 7 kitchen
- 8 laundry room
- 9 group home living / dining room
- 10 kitchen
- 11 resident's flat
- 12 technical room / storage
- 13 sauna
- 14 lounge



4.2.9 KÄPYLÄ AUTISM CENTRE

CONTEXT The Käpylä Autism Centre is a group home and rehabilitation centre for adults with autism located in the city of Helsinki, Finland. The building was completed in 2004 and designed by the author at the office of Tuomo Siitonen Architects. The design was founded in my research work on the special user demands related to autism (Ståhlberg 2001). The study as well as the initial designs for the Käpylä building was part of my Master's thesis in Architecture. The building has received the Helsinki City honorary prize for good building design and been published in the Finnish Architectural Review (2/2005). The Käpylä Autism Centre, providing long-term living and rehabilitation services, represents a *chronic* low-tech care environment.

BUILDING / SERVICES The Käpylä Autism Centre spans 1 790 sq.m distributed on five floors. It comprises three group homes for altogether twelve residents and a day-activity centre, with services for 35 clients living in the Helsinki region. The centre is run and was built by a non-profit welfare organization, the Autism Foundation [*Autismisäätiö*]. The building also functions as an administrative centre for the Foundation. In the early 1990s, the Autism Foundation was a pioneer in importing rehabilitation methods from the US and Europe and developing these into a method named the *Käpylä model*⁴². The rehabilitation services include cognitive and physical tasks, art therapy, subcontracting work for companies, laundry chores and work in the kitchen, which serves the Käpylä Centre as well as transporting food to other care units of the Foundation.

Figure 31. Photos, Käpylä Autism Centre



1. Entrance courtyard viewed from the Käpylä street



2. Residential façade facing the adjacent park



3. Rehabilitation centre courtyard



4. Main entrance



5. Movable wooden shutters

DESIGN CONCEPT The design concept seeks to help users in achieving an adult life as independent and rich as possible through the design of a supportive environment. Separating the home from work was found elementary in making the care environment non-institutional. The residents need to exit their homes when going to work, that is, going to rehabilitation, as is often the case in normal life. Hence, the building is composed of two visually and spatially separated parts: a five-storey residential part made of brick and a two-storey wooden day activity centre. A staircase connects the two, serving as the main entrance. The ground floor and the top floor house spaces common to the whole facility, such as the administration, a dining hall, the kitchen, laundry and maintenance, as well as a rooftop sauna. The sauna includes a fireplace lounge and rooftop terrace. The care praxis at Käpylä supports the efforts for normalisation in that residents work or attend rehabilitation outside the building, while the clients of the day centre come from living units or homes in the community.

Four aspects related to the autistic spectrum affected the design solutions: the structured rehabilitation methods, an emphasis on the visual, challenges in coping with social situations, and hyper-sensibility towards sensory stimulation in combination with challenging behaviour (Ståhlberg 2001).

SURROUNDINGS The Käpylä Autism Center is located in the residential suburb of Käpylä. The location of the care environment in a bustling urban context was questioned by some experts during the design process. It was contradictory to the common praxis of situating facilities for the disabled in the countryside. Today, integration and blending in has become the new order. Along these lines, the Käpylä Autism Centre aims at also blending in architecturally with the urban surroundings. The housing part is located the furthest from the street, facing



6. Communication by pictures



7. Wardrobe of day activity centre



8. Main entrance lobby

and taking its scale from the adjacent residential block, designed by the Finnish architect, Hilding Ekelund, in the 1940s. The brick façades are brightly plastered as are the neighbouring residential buildings. The day activity part is aligned with the street and the same height as the two-storey healthcare centre located on the southern side of the narrow site.

SPACE/ LIGHT The *structured* approach to rehabilitation affected the design of spaces. The method aims at conducting specific activities in specific places in order to make each moment of the day distinct. Translated into design principles, each space has a proper function, an antithesis to the common concept of multi-purpose spaces. In between each task, the user consults his/her day schedule in order to know what to do next. In the group homes, the spaces are articulated clearly according to living functions: entrance, kitchen, a separate living and dining room and the personal flats of the residents.

The spatial layout aims at supporting difficulties in social interaction, by dividing the spaces into small care units, both in the group homes and the day activity centre. One group home of 175 sq.m houses four residents. Each resident has his/her own flat of 23 sq.m equipped with a bathroom and the possibility to install a kitchenette and washing machine. The flats have windows in two directions, enabling residents to choose from which direction the natural light enters the room. The flats are grouped in pairs, located on both sides of the common spaces. The common spaces comprise kitchen, dining and living rooms, a balcony, as well as a staff station including a small office, laundry room and guest toilet. The kitchen is dimensioned and equipped so that the residents can cook together with the staff. The common spaces provide opportunities for social interaction, while the private flats give privacy and seclusion. The group home can be divided into two units of



9. Rooftop get-together space and terrace



10. Detailing of the corner window



11. French balcony in rehab space



12. Rooftop sauna for residents and the staff



13. Aid equipment in bathroom



14. Staff office in group home



15. Group home dining room with access to kitchen



16. Group home kitchen



17. Group home kitchen with space for cooking together



18. Group home balcony



19. Group home balcony

two residents each, sharing only the entrance and the kitchen. The entrance is spaciouly dimensioned, leaving enough space for getting dressed and moving around. Initially the kitchenettes were installed in half of the flats, facilitating cooking and independent living. However, at the time of the case visit – ten years after the inauguration – none of the residents had the capacities to use the kitchenettes.

In the day centre, activities are structured so that the clients perform tasks in the main rehabilitation rooms. Then they have a break in a separate room, which may include practising social skills or other rehabilitation exercises, and then again returning to the main rehabilitation room. The main rehabilitation spaces are aligned facing the garden. The breakrooms, a space for calming down, the toilets and the staff room are located between the rehabilitation spaces, creating a spatial rhythm. On the ground floor, the mandatory bomb shelter functions as a gym. The main corridors, connecting the spaces to the entrance lobby and the dining room area, can be closed off by sliding doors, making the division into smaller units flexible. The rooms can be grouped into four smaller units of eight clients each; two on each floor. The day centre can be entered through four paths: the main entrance or a side entrance, going either to the ground floor or the first floor units. Each client has his/her personal wardrobe. The wardrobes are distributed in groups of four along the main corridors. The courtyard garden can be accessed directly from the breakrooms.

Social codes, such as keeping a distance to other persons as well as controlling one's movements, can be inconceivable for a person with autism, resulting in the need for sufficient space, especially in corridors and entrances, in order to avoid involuntary physical contact and conflicts. Quiet resting rooms, where it is possible to be alone and to shut out sensuous impulses, are needed.



20. Group home common living room



21. Resident's flat



22. Resident's kitchenette in the flat

SURFACES / STUFF The visual, often used in communicating with pictures (see Fig. 31.6), was set as a point of departure in the building design. The spaces are coded by colours, materials and surface properties. The different parts of the building have flooring in different colours, linoleum in the rehabilitation spaces and ceramic tiles in toilets and bathrooms, (see Fig. 30 for the colours used). As a contrast, the walls and ceilings are white, with the exception of the wooden doors and fixtures. The walls of the entrance lobby and dining hall are orange, a continuation of the exterior plastered brick façades.

The ways and extent to which spaces are open or closed and how they are furnished affect the visual. In the interior of the group homes, the wardrobes are placed in front of the main entrance so that they are visually perceivable directly when entering the home. The space can be completely closed off by wooden sliding doors in order to shut out unwanted stimulus. The kitchen is articulated as a distinct building volume, enveloped with wooden panels in birch. The entrances to the flats are in niches to mark a transition between private and semiprivate space. The day schedule or other personal information concerning the resident can be placed in the niche. The residents furnish their own rooms with the help of family or staff.

In the exterior, the balconies are articulated as freestanding boxes on all sides enveloped by wooden grids. The aim was that the wooden grids and the light coming through the grids would create a distinct spatial experience that is simultaneously open and closed. The breakrooms of the day centre are articulated in the façades by windows spanning the full height and width of the rooms, equipped with doors or French balconies towards the garden.

To address the over-sensibility towards sensuous stimulus connected to autism, glaring lights and shining surfaces were avoided. Surfaces were selected to

be durable and safe to prevent users from hurting themselves or breaking things. Ambient features such as heating, moisture and lighting is adjustable and technical solutions provide a good level of sound insulation and prevent undue noise. Individually adjustable solutions were needed since the way the senses and the behavioural patterns affect the users is individual. Higher standards of sound insulation than required in normal housing were applied in building structures and technical HVAC solutions. The walls and floors of the flats are sound insulated to a level of R'_w 57dB / L'_n 48 dB from the rest of the group home.

TOPICAL ISSUES The Käpylä Autism Centre was constructed at a turning point when emphasis shifted from centralised and isolated large institutions towards decentralized small scale units integrated in the community. However, at the time, the funding mechanisms were not up to date on the spatial requirements relating to special users. During the design process, restrictions dictated by the funding authorities⁴³ limited the implementation of design recommendations. For example, the recommended space needed in corridors for two persons to encounter without confrontations was 1.8 metres (Ståhlberg 2001). However, the funders insisted on narrowing the corridors to 1.4 metres. In praxis, the width of the corridors has influenced the organization of activities and the selection of clients. Clients with demanding autistic disorders are rehabilitated elsewhere, while the Käpylä Centre is used by clients with less severe disorders and higher coping abilities. Furthermore, the size of the building was reduced and the basement removed. As a result, there is shortage of staff and storage spaces, making the rehabilitation spaces cramped. As for the homes, at the turn of the century the funding authorities accepted no more than 16-23 sq.m. for the private rooms and all in all 30-40 sq.m. /resident in the group home (RAY 1999). Today, the minimum size of the private room is 25 sq.m. (ARA 2019) and the total floor area 45 sq.m. /resident (RT 93-11134). The Käpylä residences are perceived of as being small in comparison to newer facilities and thus less attractive in public tendering.

Another topical theme being debated in the Finnish context concerns issues of independent life and community in connection with housing solutions for special users. In current design recommendations, the emphasis has switched from a community thinking embedded in the Käpylä group home to a more individualized approach, in which the common spaces are considered less important. Independent living and coping have become central goals. However, inherent in disorders such as autism are the challenges of social interaction. There is a risk that striving for individuality and privacy will result in isolation and loneliness. A common feature of the residents at Käpylä Autism Centre is a lack of friends, other than family members or relatives.

4.2.10 HAUS STEINFELD SENIOR CENTRE

CONTEXT The Haus Steinfeld Senior Centre is a nursing home for the elderly located in the countryside, in the small village of Steinfeld, in the western part of Carinthia, Austria. The building was designed by Dietger Wissounig Architects, a Graz-based design office. The Senior Centre has been acknowledged in many ways. The design was a result of an open architectural competition and the building, completed in 2005, has since received several Austrian architecture awards. In line with the methodological framework of this study, Haus Steinfeld is a *chronic* and low-tech care environment, where residents spend the last years of their lives.

BUILDING / SERVICES The compact three-storey wooden building spans a total floor area of 3 658 sq.m. The senior centre comprises living facilities for fifty elderly residents as well as services open to the surrounding community, such as a chapel, a library and some common activity spaces. At the time of the case study visit, the average age of the residents was 83.5 years, two thirds of whom were estimated to suffer from dementia. The facility was built and is run by the Social Welfare Association of the Spittal Drau region.

DESIGN CONCEPT The design concept of Haus Steinfeld is related to the local context. The rectangular and freestanding building was conceived as a modern archetype of the traditional Austrian house. In traditional houses of the Carinthia region, the basement was made of natural stone while the upper parts were of wood. In the Senior Centre, these building principles are translated into

Figure 33. Photos, Haus Steinfeld Senior Centre



1. Location of Haus Steinfeld in the mountain landscape



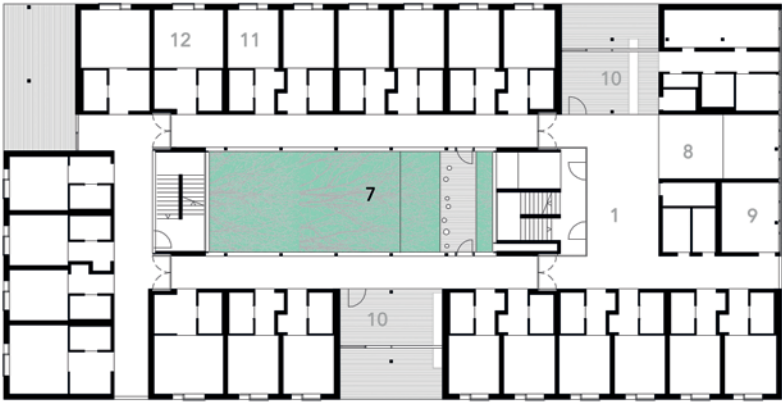
2. Resident's window sills



3. Easy and safe outdoor access

Figure 32. Ground floor, 1st floor and 2nd floor plans, Haus Steinfeld

- 1 entrance / foyer
- 2 dining / event hall
- 3 kitchen
- 4 chapel
- 5 library
- 6 administration
- 7 atrium garden
- 8 staff station
- 9 unit bathroom
- 10 common living / dining room
- 11 single room
- 12 double room



2nd floor



1st floor



Ground floor



4. Highway for wandering underneath the eaves of the 1st floor



5. Balcony on residential floor overlooking elementary school

contemporary architecture. The slightly set-back ground floor is constructed of reinforced concrete and glass façades. Placed on this plinth, the constructions of the first and second floors are of laminated timber framework, combined with prefabricated timber-framed walls.

A main component of the architectural concept is an interior atrium, running the full height of the building, comprising a botanical garden on the ground floor. This winter garden is visually present throughout the building, animating the spaces and bringing natural light to the central part of the building. On the ground floor, the entrance lobby, the dining hall, the circulation spaces and staircases all border on to the atrium. On the first and second floors, the corridors leading to the rooms of the residents encircle the winter garden. The apartments of the residents are located along the exterior perimeter of the building.

SURROUNDINGS The Haus Steinfeld Centre, quite centrally located in the village, has been active in building up relations with the surrounding community. The building functions as a community centre in the village. The library is open to the public and every other week there is a service in the chapel. Workshops and events are arranged on a regular basis in the ground floor activity rooms and traditional events, such as the October Fest, are celebrated on the premises. The location next to an elementary school has initiated afterschool groups to use the dining hall of the Senior Centre for snack breaks. The residents have enjoyed the sounds and activities of the children.

SPACE/ LIGHT The rectangular building is positioned on the site in a south-north direction. This enables the location of residents' rooms on the eastern, southern and western sides, thus optimising the amount of natural light in all



6. Atrium with botanical garden



7. Wooden structures, balconies and glazed roof in atrium



8. Leisure spots in atrium

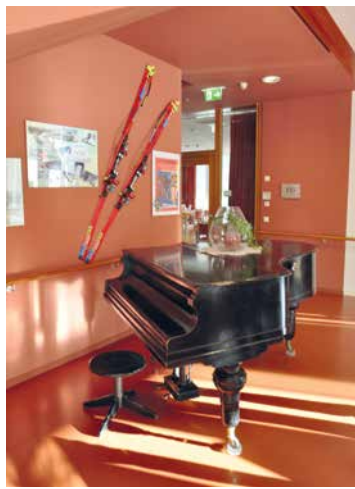
living spaces. The residential floors each contain one care unit of 25 residents. Thirty-four of the residences are single rooms and eight are double rooms, the latter being primarily meant for couples. The personal apartments, 19.4 sq.m. for the single rooms and 28.0 for double rooms, include one room and a bathroom, but no kitchenette. The common spaces of the unit comprise a living room, combined kitchen and multipurpose dining space, several balconies and a bathroom fully equipped for the washing of bedridden residents. In addition, each floor has a staff station and maintenance spaces.

The walls bordering the atrium are full height profile-less glass walls, allowing for a maximum view to the garden. Glass partitions connect the common spaces to the corridors and to the atrium garden, making the interiors flooded with natural light. Bridges are laid across the atrium, creating patios where the elderly can spend time or take a nap. The staff can also make shortcuts across the atrium. The design goal of the winter garden was to create a healing environment where the elderly residents could appreciate nature with all their senses. The elderly, who rarely have the possibility to travel, can have a refuge of their own in the garden, a place to get refreshed and go on mini-holidays.

The needs of the elderly, especially those with dementia, were stressed in the design of Haus Steinfeld. The spatial layout provides routes that can be walked around, without dead-ends that may cause confusion. This is a feature considered important as persons with dementia have an inherent need to move and wander. Inside the building, the atrium can be walked around. An outdoor pathway going around the building, underneath the cantilevered first floor is actively used by residents for their daily wandering tours. Hence, the popular pathway has been nicknamed *the high-way*. From this high-way, paths connect the building to the adjacent small park with a picturesque pond and to the recreational areas of the surroundings.



9. Dining hall next to atrium garden



10-11. Get-together spaces for residents and people from the community



SURFACES / STUFF The façades of Haus Steinfeld are equipped with movable wooden grids, which make a reference to traditional haylofts and barns. The ventilation of crops was ensured by letting air in through wooden grids. The architects aimed at capturing the special atmosphere created by the light coming through the wooden shutters. The degree by which the shutters cover the windows can be regulated electrically, according to the wishes of the residents. The wood of the façades is larch, which is traditionally used and grown in the western parts of Austria.

Each apartment has a large window and a French balcony. The deep window sills are furnished with shelves for personal objects or flowers. The idea was that the inhabitants could express their personality through objects placed on the window sill. While walking outside, the residents could recognize their home by seeing the personal objects in the window. The views onto the surrounding mountain landscape was found important, since the residents come from the region and are used to having a close relationship with nature. The details and the selection of materials aim at supporting the elderly residents.

A warm but sparse palette of materials and colours is applied. The floors are either wooden parquet or a reddish coating. Walls and interior ceilings are composed of wooden panels or painted white or terracotta red. The entrance doors to the apartments of the residents are wooden, making them easy to discern from the white walls of the corridors. Each entrance is equipped with the nameplate and photograph of the resident. The furniture of the common areas is kept modern and simple, utilising wood and terracotta-coloured textiles. On the first floor, the common living room is furnished with old-style furniture and objects, which was a refurnishing made after the completion of the building. This *memory lane* aims at creating an atmosphere familiar to the residents, thus evoking memories.



12. Atrium courtyard viewed from balconies



13. Resident's rooms accessed from corridors around the atrium



14. Views from residential corridors through the atrium



15. Common kitchen and balcony on residential floor



16. Common living room on residential floor



17. Resident's entrance



18. Resident's window sill



19. Personal items



20. Resident's room; photos and personal items were found important



21. Resident's bathroom

TOPICAL ISSUES The size and layout of the care units at Haus Steinfeld has been debated among the architects and the administration of the facility. At the time of construction, the spatial layout, based on two larger care units, represented a state-of-the-art solution. The layout has been labelled a 3rd generation solution in German care environment analysis, that is, the residents have their personal sphere within a larger care unit. The unit is more akin to a dormitory than a home, since the scale of the environment is too big to resemble a family home. Persons with dementia, however, might have difficulties in coping in such large groups (Michell-Auli & Sowinski 2012). Consequently, the design of subsequent nursing homes by the Social Welfare Association have been based on creating smaller family units than those in Haus Steinfeld, comprising a handful of residents per care unit, sharing small scale and homelike common spaces, a so-called 4th generation solution. These efforts are much in line with the topical unit care design principles adopted in Japan and discussed in connection with the Yuraku Nursing Home.

Topical aspects related to sustainability affected the design of Haus Steinfeld. The winter garden has an important technical function. The fresh air entering the building is either pre-warmed or pre-cooled in the atrium, utilizing geothermal collectors. This, in addition to other technical solutions, such as a high level of thermal insulation, the utilisation of solar energy, district heating, individually-regulated heating in the rooms and the use of rainwater has diminished the energy consumption by a third as compared to similar nursing homes (Schittich 2007, p.104). These combined technical efforts have gained the Haus Steinfeld a nomination for the Austrian State Award for Energy and Sustainability.

4.3 CONCLUDING REMARKS

In Chapter 4, the ten selected case study buildings, located in Japan and the European countries of Finland, Sweden, the UK, France and Austria, have been introduced. The multiple-case study design was chosen in order to contrast the different building types. This chapter has shed light on the aesthetic and architectural qualities of the buildings, with the aim of keeping the subsequent discussion on a concrete and tangible level.

The analysis of the individual buildings has sought to address in greater detail the background and relevance of the case studies in relation to the methodological objectives of the study, including the distinctions made between the different features that architectural design can directly influence. The design concepts and the relationship of the building with its surroundings, the principles of spatial layout and the use of light and shade have been addressed. Surface qualities, the materials used and the movable stuff and objects of the interiors have been described. Furthermore, topical issues that emerged during the walk-throughs have been discussed. This has all paved the way for introducing the actual results of the study in the next chapter, in which the experiences of the users and stakeholders will be scrutinised by means of Q methodological procedures.



THE RESULTS OF THE Q METHODO- LOGICAL EXPERIMENTS

In the preceding chapters, prior research related to care environments has been reviewed with an emphasis on environmental psychology, evidence-based design and empirical aesthetics. The concept of the aesthetic as applied in this study was defined based on aesthetic and architectural theory, and the theoretical model to be used as a methodological tool was thus compiled. In Chapter 3, the research design was introduced, including the definition of case study selection criteria, a step-by-step introduction to Q methodological procedures and the participants of the study. The related interview techniques and analysis methods were discussed. In Chapter 4, I provided an overview of the case studies, as well as individual descriptions of the buildings the users and stakeholders react upon during the Q experiments. This is in order to shed light on the aesthetic features and properties of the care environments under scrutiny.

In this chapter, the focus returns to methodology and the results of the Q experiments. First, the statistical characteristics of the results are introduced, followed by a discussion of the techniques with which the results are retrieved and finally interpreted. Two features are essential from the point of view of interpreting the results. On the one hand, how each and every participant positions him/herself in the universe of opinions. When several participants *share* viewpoints on the care environment, statistically speaking, their rank-orderings of the Q sample

(their Q sorts) together form a factor. On the other hand, by looking at which statements become salient to each factor, the content of the shared viewpoint becomes evident (5.1).

The five emerging clusters of views, or factors, are interpreted here as five discourses⁴⁴ of aesthetics. The discourses, combined with the information on the case studies and the backgrounds of the participants adhering to them, provide an *elementary* answer to four of the initial research questions of this study. Initially, I asked in what ways the aesthetic could be defined in the context of the care environment and how the different users and stakeholders experienced the aesthetic features of their environment. The Q experiments revealed five coherent, yet mutually different, aesthetic conceptions of the care environment. First-hand user and stakeholder experiences emerged during the experiments and these contribute to the definition of the discourses. To illustrate the reactions of participants to the Q statements, the aesthetic discourses will be accompanied by a set of quotations expressed during the interviews. In the initial research questions, I asked furthermore, whether the aesthetic definitions and solutions were building-type specific and/or if they were dependent on the cultural and geographical context of the participants. As a response, for each of the aesthetic discourses, the type of care building and the backgrounds of the users and stakeholders is traced back and reported (5.2).

Furthermore, the statistical characteristics of the results shed light on the extent and manner by which the discourses are distinguished from or resemble each other. The compatibility and incompatibility of the discourses are assessed with respect to building type and respondent background (5.3). Some viewpoints are recurrent in all of the discourses, and are known as consensus statements. Their implications on forming more generic conceptions of care environment aesthetics are discussed in Section 5.4.

As a separate line of questioning, the important places and features of the care environment indicated on-site by the participants after the Q sorts are arranged and discussed according to user and stakeholder groups for each case building (5.5).

This chapter deals with the most *elementary* results that can be statistically analysed and subsequently interpreted on the basis of the Q experiments and the subsequent stakeholder interviews. A discussion on how these results reflect the ongoing healthcare architectural debate and what consequences the results may have on the design endeavour of the architect, the project management of constructors, and how we comprehend the ways users relate to the care environment will be addressed in the next chapter.

5.1 UNCOVERING THE AESTHETIC DISCOURSES

In the Q methodological experiments, the users and stakeholders were asked to react to 48 statements describing the very care environments in which they were receiving treatment as clients or living in as patients or residents, working as care staff or in the administration, visiting as relatives or friends, or had had a professional interest as members of the design team. The 48 statements had been put together based on a theoretical model that divided the experience of the care environment into sixteen sub-categories by cross-tabulating the categories of *sensory qualities*, *contextual features*, the *social dimension* and *function*, with the design levels of *stuff*, *surfaces*, *space and light* and the *surroundings*. In the Q experiments, 45 participants rank-ordered the statements on a scale ranging from -5 to +5. The pattern by which the participants ranked a certain statement vis-à-vis the other statements in the Q sort expresses their subjective opinion and way of relating to and valuing the different aesthetic features of their care environment. In fact, the resulting Q sort forms an overall aesthetic statement of the care environment as perceived by the respondent.

As is common in Q methodology, the statistical analysis of the Q sorts is based on clustering the emerging views through factor analysis, in this case resulting in five distinct aesthetic discourses. In other words, the aesthetic discourses represent viewpoints *shared* by the participants adhering to the discourse. What the statistical application does is to compare the pattern by which a participant has rank-ordered and thus given a value to the statements with the patterns of the other participants of the study, indicating which statements and which participants contribute to the forming of the individual factors, interpreted here as discourses. The extent to which each participant adheres to these factors is illustrated in Table 6 below. In the five columns on the right-hand side of the table (ADI-ADV), the participants' factor loadings show the degree of agreement and disagreement with each of the discourses. The higher the positive loading, the more the participant associates with the particular factor. Negative loadings indicate the degree of disagreement. Statistically significant factor loadings⁴⁵ that define the discourse are marked with an X. On the left-hand side of the table, the participants' user/stakeholder status, country, category of case study building, age and gender are reported, making it possible to trace back and compare the backgrounds of each adherent of a discourse.

The content of the emerging aesthetic discourses can be interpreted with the help of the factor scores accumulated on the statements for each of the discourses. In Table 7, the factor scores displayed are idealised scores; technically, a composite of the factor scores of each of the Q sorts that build up the discourse, weighted according to their loading on the factor. In other words, the Q sorts of participants loading high on the factor, or the way they rank-ordered each

statement, weighs more in the formation of the factor score for each statement than the rank-orderings by participants whose association with the factor is weaker, expressed by a lower factor loading of such participants on that factor. Here, in line with the Q-sorting instructions, the factor score +5 indicates a maximum agreement with the statement and −5 maximum disagreement with the statement, as compared with the other statements. In the following sub-sections I will explore the emerging discourses by connecting the factor scores of the statements in Table 7 with the participants' background information and factor loadings of Table 6. A selection of distinguishing statements will be pinpointed for each discourse as these summarize the main attitudes and ways of relating to the surrounding care environment.

Table 6. The participants of the Q-sorting experiments and their factor loadings

N	stakeholder/ user status	location	building type	age/ gender	aesthetic discourses					choice*
					AD I	ADII	ADIII	ADIV	ADV	
1.	architect	Japan	acute	50 / M	0.39	0.26	0.16	0.12	0.26	yes
2.	architect	Japan	acute	58 / M	0.56	0.07	0.40	0.37	0.02	-
3.	admin	Japan	acute	46 / M	0.07	0.69	0.45	-0.17	0.02	-
4.	care staff	Japan	acute	58 / F	-0.27	0.56X	0.26	0.19	0.14	-
5.	family	Japan	acute	31 / F	0.23	0.28	0.58X	-0.24	-0.22	yes
6.	architect	Japan	acute	- / M	0.74X	-0.11	0.17	-0.08	-0.02	yes
7.	architect	Japan	chronic	56 / M	0.70X	0.06	0.17	0.31	0.07	yes
8.	admin	Japan	chronic	56 / F	0.69X	-0.24	0.34	0.04	0.08	yes
9.	care staff	Japan	chronic	26 / M	0.31	0.15	0.41	0.28	0.23	yes
10.	patient	Japan	chronic	52 / F	0.21	-0.12	0.24	-0.13	0.07	yes
11.	patient	Japan	chronic	46 / M	0.28	0.22	0.11	0.58X	0.21	yes
12.	family	Japan	chronic	53 / F	0.45	0.17	0.50	0.23	-0.10	yes
13.	admin	Japan	chronic	59 / M	0.15	-0.03	0.57X	-0.03	0.04	yes
14.	care staff	Japan	chronic	53 / M	0.51	0.27	0.18	0.25	-0.14	yes
15.	patient	Japan	chronic	12 / M	-0.02	0.27	0.10	0.41	-0.37	no
16.	patient	Japan	chronic	18 / F	0.13	0.19	0.03	0.15	-0.14	yes
17.	architect	Japan	chronic	59 / M	0.50	0.01	0.37	0.41	0.23	yes
18.	admin	Japan	chronic	61 / M	0.72X	-0.08	0.19	0.21	-0.06	no
19.	care staff	Japan	chronic	46 / F	0.71	0.00	0.42	0.09	-0.06	-
20.	resident	Japan	chronic	79 / M	0.14	0.12	-0.04	-0.13	-0.12	-
21.	family	Japan	chronic	43 / F	0.41	0.31	0.45	-0.10	0.07	yes
22.	architect	Europe	acute	59 / M	0.07	0.19	-0.00	-0.03	0.73X	yes
23.	admin	Europe	acute	54 / M	0.05	0.38	-0.04	-0.02	0.19	yes
24.	care staff	Europe	acute	62 / M	0.20	0.73X	0.09	-0.17	0.27	yes
25.	patient	Europe	acute	29 / F	0.24	0.33	0.20	0.17	0.68X	yes
26.	patient	Europe	acute	32 / M	0.32	0.68X	0.06	-0.03	-0.08	yes
27.	architect	Europe	acute	52 / M	0.49	0.33	0.18	0.10	0.27	-
28.	admin	Europe	acute	54 / M	-0.03	0.71X	0.09	0.18	0.20	yes
29.	care staff	Europe	acute	44 / F	-0.07	0.64X	0.24	0.00	0.32	yes
30.	patient	Europe	acute	79 / F	0.22	0.59X	0.23	0.09	-0.05	no
31.	patient	Europe	acute	45 / M	0.53X	0.19	0.21	0.18	0.05	yes
32.	architect	Europe	chronic	33 / F	0.74X	0.07	-0.12	0.05	-0.01	yes
33.	admin	Europe	chronic	30 / F	0.62X	0.24	-0.11	0.16	0.00	yes
34.	visitor	Europe	chronic	23 / F	0.58X	-0.06	-0.08	0.13	0.24	yes
35.	visitor	Europe	chronic	23 / F	0.75X	-0.01	-0.05	-0.25	0.18	yes
36.	architect	Europe	chronic	40 / F	0.74X	-0.23	0.17	0.20	0.12	yes
37.	admin	Europe	chronic	- / F	0.19	-0.02	0.27	0.65X	-0.02	-
38.	care staff	Europe	chronic	47 / M	0.66X	-0.02	0.01	0.27	0.29	yes
39.	resident	Europe	chronic	50 / F	0.24	0.11	0.09	0.67X	-0.26	yes
40.	resident	Europe	chronic	38 / F	0.32	0.19	0.36	0.41	0.17	yes
41.	architect	Europe	chronic	44 / M	0.61	-0.09	0.40	0.17	0.34	yes
42.	admin	Europe	chronic	45 / M	0.14	0.09	0.77X	0.25	0.27	yes
43.	care staff	Europe	chronic	46 / F	0.12	0.06	0.81X	-0.02	0.05	yes
44.	resident	Europe	chronic	87 / F	0.11	0.13	0.65X	0.28	0.05	yes
45.	family	Europe	chronic	30 / M	0.51	0.23	0.48	0.18	0.21	yes
Factor Explanation Variable %					20	10	11	7	5	

Total Factor Explanation Variable: 53% X = defining sort, statistically significant factor loading > 0.37

* = participant's choice: 'if you had the opportunity to choose and were in need of care, would you stay at this facility?'

Table 7. Q statements and factor scores (idealised Q sorts)

No. Statement	code*	ADI	ADII	ADIII	ADIV	ADV
1 "There should be works of art in the care environment. When I see paintings or handicraft work, they get my attention and make my sensitivity active – they give me power! They also initiate conversation in a natural way."	A-a	1	0	-4	1	4
2 "Furniture made of plastic or metal is disagreeable to touch, for example when the bed is made of cold metal frame or the plastic gets all too sticky. Bad materials just make people feel bad."	A-a	-2	0	0	2	-2
3 "The artificial lights should be soft and indirect, not strong and bright. This makes us feel comfortable and creates a soft atmosphere. Glaring lights on the other hand cause headache and fatigue."	A-a	4	3	3	4	4
4 "It's of prime importance to have personal familiar objects in the resident/patient room, e.g. a lamp from home, photographs, decorations. These objects evoke memories – a sense of personal history – and make you feel attached to the place."	B-a	0	-5	4	3	-2
5 "The architect is the best person to choose the furniture for the facility; not the patients or the residents. The care environment shouldn't be personal – it's not a home, but a place to get cured."	B-a	-4	-4	-5	-3	1
6 "It's good that there is nearly no visible medical equipment or technical aids in the rooms. These intimidate people and remind them of the fact that they are frail/sick and in need of help."	B-a	-1	-4	1	-4	4
7 "Family participation is vital! The rooms should have couches for family members to sleep on and the family should be able to influence the interior decoration. This activates them to participate in the care and in creating a good care environment."	C-a	0	-3	1	-2	2
8 "There should be many small groups of chairs and tables in the common spaces/lobbies, so that people can choose their favourite place to sit in and choose with whom they socialize. It's easier to talk with people in smaller groups. That's real empowerment!"	C-a	2	1	2	1	-4
9 "I hate it when the television dominates the common spaces/lobbies. I don't want to watch the programs and it's impossible to talk with people when the television is on all the time."	C-a	4	-1	-3	-2	2
10 "If a patient/resident wants to break a piece of furniture, it's good that it breaks. Otherwise you wouldn't feel the satisfaction of destroying something. In that sense furniture and other objects can have an educational function."	D-a	-3	-5	-3	-5	-5
11 "Materials should foremost be hygienic and the placement and design of fixtures, such as washbasins and disinfectants, should encourage people to wash their hands. It's really a question of bacteria and the spreading of diseases."	D-a	-2	4	0	-4	-2
12 "The medical equipment/technical aids make me feel safe and protected. A high-tech environment attracts me and instils confidence in the facility's ability to provide the latest care and treatments."	B-a	-5	0	-2	-2	-1
13 "Colours should be stimulating and activating; not too neutral or soft. The colours of the walls and other surfaces are of great importance, because they affect how we feel, what we do and how we recognize places. Colours guide us inside the building."	D-b	0	0	1	-3	1
14 "The entrance of the building should be clearly articulated, have a reception desk or a legible and clear signing system to show the way to the different spaces. Doors should be clearly discernible from the walls, by the use of a different colour or material."	D-a	-3	4	-1	0	5
15 "Surfaces made of hard materials, such as concrete or metal, are cold and hostile. These cold surfaces alienate us and really should be avoided in the care environment."	A-b	-4	-2	2	4	-3
16 "I like it when there's only the essential; when the material, surfaces and details are restrained and simple. It's reposeful and calm."	A-b	-2	1	0	-4	3



17 "I like the feeling of textile carpets under my feet: they are soft to walk on and suppress hard noises. This creates a nice atmosphere. Too much noise is a big problem in the care environment."	A-b	1	-4	-5	2	-4
18 "It's important to have as much as possible natural materials, such as wood, stone or brick, on the surfaces of floors, walls or fixtures. Natural materials are so sensuous – not just to look at; but to touch and feel."	A-b	1	-1	0	2	0
19 "The materials and colours of surfaces; floors, walls and ceilings; and the way they are detailed, should express traditional values. It's therapeutic and makes you feel comfortable – makes you connect to it."	B-b	-2	-1	-2	-3	-1
20 "High quality materials and carefully designed details make the place unique and special. It makes the users feel valuable – that they are important beings – and it makes the care staff give better care."	B-b	5	2	-1	-1	1
21 "Patients/residents should be able to alter the ambience of the room; by adjusting the window blinds, the reading light by the bed, the room temperature and moisture, or the amount of openness and insight into the room – this is empowerment!"	C-b	2	2	-1	2	2
22 "The staff should be able to see all spaces. A clear layout of spaces and the use of transparent walls, such as wooden grids, glass or other material, make it possible to supervise the users. Too complex spaces should be avoided because they prevent control and visibility."	C-b	-3	2	-4	-5	-2
23 "Easy maintenance is essential; I can't stand it when it's dirty! Surfaces should be easy to clean and not too sensitive. The colour white for example gets easily dirty and a wooden floor or tatami-mat scratched or soiled. These should be avoided."	D-b	-5	2	-3	-4	3
24 "Safety is the key issue when choosing materials. Surfaces should not be rough so that users hurt themselves, nor slippery so that they fall. The way the light is reflected on shiny floor, can make it difficult to walk on it."	D-b	-4	5	3	5	0
25 "The resident/patient rooms shouldn't be too small, otherwise you feel cramped. The size of the room is important."	A-c	1	5	2	4	0
26 "I prefer it when spaces are placed in random, not strictly aligned. A certain complexity makes the spaces rich and more varied – the building should be like a toy to be discovered. It's so boring when rooms are aligned along a strait corridor."	A-c	2	-3	-5	3	-3
27 "For maximum comfort, spaces should have just the right amount of natural light. Being able to feel the sunlight is one of the most important features, but to be able to sit in the shadow is also soothing. The heat of direct sunlight can be disturbing."	A-c	3	3	2	5	4
28 "The common spaces/lobbies should be divided into smaller intimate spaces. Big spaces are institutional and intimidating, while small spaces have a human scale and make you feel at home."	B-c	1	0	-1	-2	-4
29 "To have a view from a window is a key issue. The windows should be placed so that people really can see outside when sitting or lying in bed – not only the sky. It connects the inside with the world outside. This is very important, also for the staff."	B-c	5	4	4	0	5
30 "The patient/resident room is foremost a place to live in; it symbolizes the home. A homey ambience weighs more than practical issues of aid equipment, maintenance or staff working conditions. Put the patients first!"	B-c	3	-3	1	5	-1
31 "Different spaces reflect traditions and cultural identity; like the tea room, a café or a bar, the sauna or a spa. Users value these, because they convey that the facility respects their cultural identity."	B-c	0	-2	1	0	0
32 "The only place to be alone in is the toilet – this is intolerable! The smell and sounds from the other patients/residents in the room is very disturbing. You can't even have visitors, without everybody in the room listening to your conversation."	C-c	-1	-2	-2	-1	-1
33 "Spaces should have different degrees of privacy. The resident/patient room is the most private and its entrance should be set apart from the more public common spaces/lobbies so that you do not stumble directly from private to public."	C-c	4	0	3	-2	-5

34 "The private room is not important at all and I don't mind that the toilet is accessed by the corridor. In fact, it feels safe and good to sleep in the same room with others."	C-c	-5	-5	-4	-5	-5
35 "Spaces should be different so that it's easier to recognize where one is! A striking piece of furniture, art work or a view through a window act as landmarks that help people orientate inside the building. Not to get lost gives a sense of control and reduces stress."	D-c	4	1	-4	-3	3
36 "Space efficiency and functionality is everything – the building should be compact! The scattering of spaces on a large area and long distances between the spaces prevent staff from doing their job and force patients/residents and visitors to walk too much."	D-c	-4	2	-1	0	2
37 "The distance from the bed to the toilet should be as short as possible. It gives a feeling of safety when the toilet is near and you can use it as independently as possible."	D-c	-3	5	0	0	-4
38 "An important function of the building is to activate the users; to get them to be interested in things and to move. In that sense long walking distances inside the building are good because they make the users exercise."	D-c	-1	-4	0	3	0
39 "All resident/patient rooms should have direct access out on a terrace or balcony, or, nature should be brought inside the building in courtyards or through plants. Nature is an important source of well-being; it activates all our senses, makes us positive and relaxed and think of less stressful things."	A-d	2	3	5	1	1
40 "The views outside animates the spaces and makes being in the building a real experience. I really love to just sit and contemplate the scenery. It gives me energy to go on; it gives me power."	A-d	3	4	5	4	5
41 "Materials and colours should stem from the surroundings; local materials, local culture and local history. This attitude gives an identity to a place; makes it part of a larger context in time and space."	B-d	0	-2	2	0	-1
42 "The surroundings enable us to feel the passing of time and the different seasons; the sun rising in the morning or setting in the evening, the heat of summer or the typical smell of autumn. This scenery initiates discussion in a natural way."	B-d	5	3	5	1	0
43 "I don't mind that the building stands out in the surrounding s or is flashy! An area may have historical traditions, but these traditions evolve and we are part of this evolution."	B-d	-1	-1	-2	-1	-2
44 "There should be many places to spend time in outside; in the courtyards surrounded by trees or in the open places; in the shadow or in the sun. I feel that it's easier to meet people and chat outdoors, because it's a neutral place to talk in."	C-d	3	-1	4	1	2
45 "It's good that there are no walls or fences around the building site. That way you can look at what's going on in the neighbourhood and the building feels part of the surround-dings. The building should also be used by people from outside, from the community."	C-d	-2	-2	4	-1	-3
46 "The flexibility of a space is the key issue! The spaces should foremost be designed so that it's possible to use them in many different ways, and adopt them to the needs of different users and their way of life. The users define the spaces."	D-c	0	1	-3	3	3
47 "The surroundings should provide lots of activities for the users; walk around or sit in the courtyards; dry laundry; grow vegetables and gardening. These activities are important because they turn the care environment into a real healing environment – they make us live."	D-d	2	-3	-2	2	-3
48 "The surroundings should be easily attainable, flat, clearly articulated and well-lit. This makes it easier for the users to go outside without help of staff or family members. It gives a feeling of safety."	D-d	-1	1	3	-1	1

*code = matrix code in the theoretical model



5.2 THE EMERGING DIMENSIONS OF THE AESTHETIC

5.2.1 AESTHETIC DISCOURSE I: '*Putting patients first*'

This aesthetic discourse was defined by eleven participants with quite heterogeneous backgrounds. Four of the participants come from Japan and seven from the European countries of Finland, Sweden and the UK. The participants belong to all five user groups: four are architects, three representatives of the administration, one a care staff member, one a patient and two visitors of the care environment.⁴⁶ The gender of the participants is mixed, five male and six female. The care environments the participants reacted to predominantly represent *chronic* environments, including Senri Rehabilitation Hospital, the Yuraku Nursing Home for the Elderly, Maggie's Glasgow and the Käpylä Autism Centre. Two of the participants were stakeholders of the *acute* environments of Katsura Ladies Clinic and the Malmö Infectious Diseases Unit. All and all, the factor loadings of this discourse explain 20% of the variance among the results, thus having the strongest support among the participants. It is worth noting that although eleven respondents were selected to define the discourse, another ten respondents had significant loadings on the factor. However, these respondents also had significant loadings on other discourses, namely on Aesthetic Discourse III, implicating that they had competing viewpoints that might interfere with the interpretation of the discourse, and therefore were excluded from the analysis.

The defining point of *Aesthetic Discourse I* (ADI) is the high priority put on the respect and the integrity of patients, clients and residents, here viewed as a larger moral-aesthetic concept pervading the design of the surroundings, spatial layout, lighting, surface qualities and the detailing of the building. As with the patient-centred care philosophy of the Planetree movement discussed in Chapter 1, the experiences of the patient and resident is here *put first* on all design levels. Aesthetic choices and good care quality is seen to go hand in hand. A high quality environment, viewed from a patient/resident perspective, makes these users feel good and the care staff respectively provide better care.

Aesthetic features such as the quality of materials and the attention put on designing the details of the building are viewed as signs of good care and as a moral statement that the users are considered valuable. A unique and special environment makes patients and residents feel unique and special.⁴⁷ Uniqueness has an intrinsic value as a positive aesthetic quality. The aesthetic quality of the environment is seen to influence care quality by prompting the care staff to provide better care. Furthermore, this notion of uniqueness and attention to detail should run throughout the whole building and its spaces. The users'

abilities to orientate and cope in the building is supported by differentiating the individual spaces with the help of landmark elements such as pieces of furniture, works of art or views from windows. This in turn induces a sense of control over the environment, reducing stress levels of the patients and residents (st.20+5, st.35+4).

“I think uniqueness and specialness is important and something that we have both in the details of the building and in the whole idea of the personal service and the unique way that we approach everybody as individuals. There’s a kind of value in uniqueness – the differentness of an individual is valuable. It’s a little bit of a metaphor in design, and I don’t know if it’s really true in how it translates to everyday people’s experience, but as a designer, I think uniqueness is a metaphor for value. When you’re in big hospital institutions and everything is made in order to be the cheapest, most efficient and most hygienic, cleanest and easiest to maintain, we get you in and get you out as quickly as possible, you can see it in the way the door handles are done, the bathroom tiles are done; the details of the building are exactly like that – efficient.” ARCHITECT, INT.32

“It is that whole idea of making it a special building that people come to. We are not a hospital; we are very special buildings that are very highly designed. They are very thought out. It is that little bit of an escape that people can have when they are going through a traumatic experience.” ADMIN, INT.33

“I really wanted to build a hospital that made the patients feel that they are cared for. That is the most important thing. For this purpose, design elements that create comfort, such as the lighting, the views from windows or spaciousness, are important.” ADMIN, INT.8

“Everybody is okay with having an environment that is aesthetically refined. It is a societal question; by investing in the environment we show that we value it, that it is important for us. We show that [our clients] are important human beings.” CARE STAFF, INT.38

Nevertheless, although easy wayfinding and a sense of control over the environment are generally considered beneficial, supporting the users, the wayfinding systems should not dominate the interiors, according to ADI. Moreover, there is no need to over-simplify the environment. Over-accentuated and dominating entrances, reception desks and signage systems make the care environment institutional, whereas the aims of care environments in general should be to make the ambience less institutional and more homelike (st.14 -3, st.30 +3). At the same time, signs regulating what to do and where to go in specific spaces, are felt as

patronising and as limiting the use of the spaces. Architectural elements such as natural lighting and views from windows, spatial layout, surface materials and movable stuff provide means to make the environment legible by appealing to all our senses, without over-simplifying it.

“Reception desks and signage system is something that we never have. It’s important – it’s part of the idea of patients taking authority over space. In a hospital environment there’s signs everywhere telling you what to do; wash your hands, be quiet, don’t talk to the nurses, go and talk to the nurse... it’s part of a doctor-patient relationship where the doctors are the experts telling you what to do and you receive the information passively. At [our centres] there isn’t any signage because we want the patients to use the space as they want to rather than to walk in to a receptionist. The design of the environment can mediate these values.” ARCHITECT, INT.32

“We try to create domestic space... the antithesis of a large hospital. We don’t use any signage – there’s no male-female signage, no arrows, no reception desks, there’s nothing.” ADMIN, INT.33

“We don’t need any signage, letters or colours to help people find their way. People use all their senses in wayfinding. We wanted to create an ambience that resembles the homes of the residents and in your home you don’t have any ‘here’s the toilet’ labels.” ADMIN, INT.18

“I believe there should be different types of spaces and that the spaces should be recognizable... have some kind of clues that aid in the perception of the space... like a work of art or something that gives it a label. Then it is a question of learning what the symbols mean.” CARE STAFF, INT.38

The attitude of consideration and respect for the users is reflected in how the connections between the building and its surroundings are conceived. The views enable the users to stay connected to the world outside the care environment in a deeper sense, enhancing awareness of time and context. The surroundings not only animate the interior spaces, but they evoke a sense of the passing of time; the sun rising in the morning or setting in the evening, indicating the qualities of different seasons, of different weather conditions and of nature. These are valued. Hence, the windows should be positioned so that everybody has views outside, including bedridden patients and staff (st.29 +5, st.42 +5, st.40 +3). For maximum comfort, the spaces should have the right amount of natural light as well as soft and indirect artificial lighting. Here again, soft and indirect lighting is associated with creating a homely ambience that is found supportive for the patients, clients and residents (st.27 +3, st.3 +4).

“I could have said that about the right passing of time and the sun rising and the seasons and the use of landscape to initiate discussions. I think it’s really so important. It’s so moving to talk to patients there, saying; ‘I’m waiting for the crocuses. I’m gonna hang on and fight and keep fighting, and I’m gonna get the crocuses in the spring. And that’s what’s gonna keep me going through this bloody long winter.’ It kind of marks the progression and people see that as a way to see time moving in a nice way.” ARCHITECT, INT.32

“Surprising things in a building that take you outside of yourself for a minute and stop you just being the cancer patient and suddenly you think oh, what’s that? Or that’s interesting. The garden can also do that; it lets your mind wonder. It’s a very meditative place to reflect on things. Even looking at the landscapes, it allows your eye to wander, and as you do that, your mind wanders. It gives you a little bit of space for reflection.” ARCHITECT, INT.32

“The staff might think that a brightly lit space is a better working environment, however, too strong lighting causes stress for the patients. I think that an indirect lighting creates a homey environment which is good for the patient. Then you can have a spotlight for reading without over lighting the entire space.”

ADMIN, INT.8

The right to privacy is a central part of patients’, clients’ and residents’ integrity and a lack thereof is viewed as intolerable. For adherents of Aesthetic Discourse I, a single patient room or residence is the cornerstone of privacy. The patient or resident does not want to share their personal sphere or sleep in the same room with others, nor have their integrity breached by the sounds and the smells of co-patients or co-residents. Here, the size of the room is less important; it is the content of the personal sphere that counts (st.34 -5, st.25 +1). The private sphere allows the user not only to be and sleep alone, but also to do things with others: invite guests, have family members visit, do physical training, and so on. In the layout of spaces, the transition from private to public should not be too abrupt. The spaces should have different degrees of privacy – a gradation of space – ranging from the most private patient/resident room to the public common spaces. This enables the patients and residents to choose the amount of social contacts or seclusion they wish to have, instead of imposing the social dimension upon them through a spatial layout that does not respect privacy (st.33 +4). The use of televisions in the common spaces could be seen as an example of a disturbing element that breaches the integrity of the users as it dominates the space and prevents other forms of interaction (st.9 +4). The idea of the building being designed so that staff can easily supervise and control patients and residents is not in line with Discourse I (st.22 -3).

“Before arriving here, I lay four days in another department, and the difference is huge. For me, the environment is very important, the feeling of the patient room, to be able to go outdoors, to have an own entrance... [In the other building] we were four in the same room. I mean, a four-person room – it cannot be salutary. I lay there with two elderly gentlemen and one who had a difficult pulmonary disease... you wake up ten times a night, and then you try to sleep, and then the staff is coming and going... so for me that environment was quite stressing and created an inner anxiety. Yes, it creates an inner anxiety; at the bottom, I think it is fear. Also stress over being sick and not being able to sleep and being woken up all the time. Here [in this department] you can go to the common day room if you want to, or you can sit here [by the window table in the patient room] or in the armchair – there are different places.” PATIENT, INT.31

“[The patient wards] are divided into small care groups of 6 persons sharing one unit. Two small units share one living room... the scale is homelike... the patients can choose between many situations; if they want to stay by themselves they can stay in their private rooms, if they want to talk to and get to know other patients they can go to the living room. The family visits increased explosively compared to another hospital run by the same corporation, where patients stay in 4-person rooms. One reason is the restaurant, where they can eat together, but even more important is the private room. The family can wait there while the patient is having rehabilitation. The family has a place to be.” ARCHITECT, INT.7

“The residence should have two rooms, even if they are small ones; a separate bedroom and room for inviting guests.” ADMIN, INT.18

“The notion of room size is relative and personal; even a small room can feel spacious depending on how you furnish it, the surface materials and so on. Spaciousness as a feeling is important, but it is not only about the physical size of the room.” ARCHITECT, INT.7

“We know that a person [with autism] needs space because space equals time for him/her – time to foresee, time to observe. It is not only about discerning the shape of a room ... it is about having time to adjust to a situation.” CARE STAFF, INT.38

“I just hate televisions, so it’s partly a personal reason. I don’t think it lets people unwind. The whole point of [our centre] is to let people come to terms with an incredibly difficult situation, to sort of facilitate this reflection and

comprehension [of the illness], and I think the last thing you want to have is some things on the telly. I think television is just really dominating and intrusive and I think this whole centre is about not being intrusive on other people.”

VISITOR, INT.35

Discourse I is opposed to rationality and pragmatic concerns that stem from the staff point of view. Space efficiency, flexibility and functionality do not define good care environments *per se* and these should be subordinate to the experiential aspects and the care methods viewed from a client/patient/resident perspective. In the layout of spaces, the spaces could be scattered over a larger area even if it entails longer walking distances for the staff, *if* it makes the environment richer and more varied from a client/patient/resident point of view. This principle was adapted in the Yuraku Nursing Home, where courtyards between the residential units animate the spaces and provide outdoor access directly from the rooms of the residents. Along these lines, the residents of Käpylä Autism Centre attend rehabilitation elsewhere in the community, although the easiest solution when dimensioning staff input would be for them to take a few steps to the day activity centre. There, the idea of separating home from work is prioritised above efficiency thinking. Furthermore, purely functional aspects such as making the distance from bed to toilet as short as possible are not relevant, at least not when all patient rooms are single rooms. On the contrary, the toilet, as the most private of all spaces, should be set back from the living area. As one participant put it, “*you don’t want to have the toilet by your pillow*” (st.36 -4, st.37 -3, st.26 +2, st.46 o).

In general, a barrier-free care environment is considered self-evident. However, in a physical rehabilitation hospital, barriers or situations where patients need to make an effort to manage could also be seen as rehabilitation opportunities. In Senri Rehabilitation Hospital, environmental challenges such as using the staircase and uneven floor materials, putting screw-top bottles or umbrellas in the patient room, prompt the patients recovering from strokes or accidents to test how well they manage in normal life situations. Furthermore, the amount of high-tech medical equipment or technical aids is not, as such, a sign of good care or the latest treatment methods. Equipment and machines tend to make people feel ill at ease. However, when needed, the equipment should be made available. The patient/resident room is viewed as a place to live in, where the homely or hotel-like ambience should overrule practical issues of aid equipment, maintenance and staff working conditions (st.12 -5, st.30 +3, st.6 -1).

“The challenge was really to keep the balance between a hotel-like comfortable environment and then the functional side of a hospital. I tried to avoid a hospital-like atmosphere by avoiding furniture or elements that makes it look like a hospital...I chose the furniture and the lighting without looking in hospital catalogues.” ADMIN, INT.8



“I think a rehabilitation hospital differs from a normal hospital, where a barrier-free environment is important. In rehabilitation it is important to make the patient and the staff aware of the patient’s limitations. If you create an environment without barriers, they don’t realize these limitations. We created a lot of chances, which could be seen as barriers, but which actually are chances for the patient and the staff to be aware of what they cannot do.” ADMIN, INT.8

“Making everything extremely functional doesn’t always help... what is really nice ... is when you walk in, there is a lot of circulation space. In terms of a normal design, people might say that’s sort of wasted space which doesn’t have function, but I think as a visitor coming in, as a patient using the building you need that space to be able to sort of understand what [the place] is about, what’s going on. And I actually think the space is incredibly important. If it just came down to efficiency, it probably wouldn’t have had that space.”

VISITOR, INT.35

“The medical equipment and technical aids make me feel safe and protected - that’s just something that I disagree with, I find them quite intimidating, and I think it’s really nice that a space can be there to support you in a medical custom, but not have a direct association with the treatment that’s going on.”

VISITOR, INT.34

“I tend to have more faith in the staff and the people there, rather than in the equipment. Equipment doesn’t really make you feel better, because you don’t understand how it works, so if anything, it makes you worry more.”

VISITOR, INT.35

Aspects of maintenance, safety and hygiene are subordinate to the sensory experiences of patients and residents when choosing materials and should not dictate the aesthetic choices. For example, wooden floors or tatami-mats need not be avoided because they get easily scratched or soiled; instead these can be repaired or renewed if needed. If a white wall gets dirty it can easily be repainted. However, this does not imply that the environment does not need regular cleaning. On the contrary, it is important that the environment is clean and smells good because this affects users’ feelings of comfort. The idea that rough surfaces or hard materials should be avoided in the care environment because they supposedly alienate the users is a cliché without foundation in the discourse. Hard materials such as concrete or metal need not be viewed as hostile or cold; they can as well be considered beautiful and symbolic of durability. Adherents to Discourse I acknowledge that the manner in which the light hits the surface of a roughly plastered wall, creating a three dimensional and vivid surface, can be

more important than the fact that patients or residents could hurt themselves if they accidentally hit the surface (st.23 -5, st.24 -4, st.II -2).

“We are always struggling between on one hand following the strict governmental guidelines on safety and hygiene, and on other hand respecting the living environment of the residents. Too strictly adopted guidelines destroy the living space.” ADMIN, INT.18

“Bacterial fear and hygiene is a lower priority... because it is much more about creating a home. [The centre] is a hybrid between house and healthcare.”

ARCHITECT, INT.32

“It’s pure imagination to think that our [autistic] clients don’t learn – of course they learn. You might once scratch yourself [on the rough surface of a wall], but you learn immediately that it’s not worthwhile. It’s overprotection. I agree that safety is important, but people do learn.” CARE STAFF, INT.38

“I understand some people feel concrete and metal are cold, and that these surfaces can alienate us, but I don’t feel that that’s absolutely true. I do think that natural materials are important, but that doesn’t mean that all concrete or all metal are bad. It depends a lot on how it is finished, what it’s used for, where it is in the room, what other materials there are in the room.[Here] the floor is concrete and the ceiling is concrete with wood in it – a juxtaposition of wood and concrete.” ARCHITECT, INT.32

Table 8 Distinguishing statements for Aesthetic Discourse I

Statement		factor loadings	ADI	(II) (III) (IV) (V)
20.	High quality materials and carefully designed details make the place unique and special. It makes the users feel valuable – that they are important beings – and it makes the care staff give better care.		+5	(+2) (-1) (-1) (+1)
35.	Spaces should be different so that it's easier to recognize where one is! A striking piece of furniture, art work or a view through a window act as landmarks that help people orientate inside the building. Not to get lost gives a sense of control and reduces stress.		+4	(+1) (-4) (-3) (+3)
14.	The entrance of the building should be clearly articulated, have a reception desk or a legible and clear signing system to show the way to the different spaces. Doors should be clearly discernible from the walls, by the use of a different colour or material.		-3	(+4) (-1) (0) (+5)
34.	The private room is not important at all and I don't mind that the toilet is accessed by the corridor. In fact, it feels safe and good to sleep in the same room with others.		-5	(-5) (-4) (-5) (-5)

33.	Spaces should have different degrees of privacy. The resident/ patient room is the most private and its entrance should be set apart from the more public common spaces/lobbies so that you do not stumble directly from private to public.	+4	(0) (+3) (-2) (-5)
23.	Easy maintenance is essential; I can't stand it when it's dirty! Surfaces should be easy to clean and not too sensitive. The colour white for example gets easily dirty and a wooden floor or tatami-mat scratched or soiled. These should be avoided.	-5	(+2) (-3) (-4) (+3)
24.	Safety is the key issue when choosing materials. Surfaces should not be rough so that users hurt themselves, nor slippery so that they fall. The way the light is reflected on shiny floor, can make it difficult to walk on it.	-4	(+5) (+3) (+5) (0)
36.	Space efficiency and functionality is everything – the building should be compact! The scattering of spaces on a large area and long distances between the spaces prevent staff from doing their job and force patients/ residents and visitors to walk too much.	-4	(+2) (-1) (0) (+2)
12.	The medical equipment/technical aids make me feel safe and protected. A high-tech environment attracts me and instils confidence in the facility's ability to provide the latest care and treatments.	-5	(0) (-2) (-2) (-1)

5.2.2 AESTHETIC DISCOURSE II: *The Nightingale discourse*

The six participants who formed Aesthetic Discourse II (ADII) were all users of *acute* care environments. Yet their roles as users were quite different: three were care staff representatives, two were patients and one was a member of the facility administration; none were architects, visitors or family members. However, the administrative staff member had previously worked as a physician in the organisation and one of the patients was a former care worker, making the staff perspective here strong. Half of the participants were men and half women. The care environments that were reacted to were Katta General Hospital in Japan and Marne-la-Vallée Hospital Centre and Malmö Infectious Diseases Unit in Europe. The factor loadings of this discourse explain 10% of the variance among the results. Two respondents, who had significant loadings on the discourse, were excluded from the analysis since they also had competing loadings on other factors, which might interfere with the discourse analysis.

The defining point of Aesthetic Discourse II is the high priority put on safety and hygiene matters, much in line with the influential advances of Florence Nightingale some centuries ago. Materials and surfaces should primarily be safe to use or walk upon, and safety issues should overrule ambient and sensory features such as the softness of carpets or the use of natural materials such as wood, since these are nothing but a home for germs. Hygiene is an essential part of the safety thinking and a hygiene doctrine that aims at preventing the spread of bacteria and diseases is at the core of Discourse II. Materials should be hygienic; washbasins,

fixtures and equipment are there to maintain hygiene. The role of the private patient room in preventing the spread of diseases cannot be underestimated, as has been suggested in prior EBD research. While ADI put priority on single patient rooms based on notions of patient integrity and the social dimension, ADII rests on hygienic considerations. The spread of diseases could in fact be prevented by minimizing social contacts and this in turn can be facilitated by single patient rooms. Patient integrity comes second also with regard to staff control over patients. To ensure the safety of patients, the layout of spaces should enhance the surveillance of patients and residents by the staff (st.17 -4, st.22 +2, st.11 +4, st.34 -5).

“You have to decide is this going to be a hospital or not; textile carpets are simply not hygienic... when someone has wet the textile carpet, peed or defecated on it, how do you manage to clean it and do you get the feeling that it is clean afterward? We argue that you should be able to wipe all surfaces.”

ADMIN, INT.28,

“The wooden flooring of this building is coming off at some places. It is dangerous for the patients; they might stumble on the uneven spots. The safety of patients is the most important thing.” CARE STAFF, INT.4

“As a patient you don’t go to a hospital to meet other people, trust me, that is the trend in future hospitals. The more resistant the bacteria, the less people will want to meet others in the hospital. The single rooms entail that you do not need to.” ADMIN, INT.28

“The notion of the staff surveying the patients is a bit unpleasant, yet it is important that the staff can see into the isolation rooms in an easy manner. On the other hand the patient can choose to close the blinds [of the corridor window] to prevent lookers in. There is small button on the outside, by which the staff can for safety reasons open the blinds and look into the patient room, and then close it afterwards.” ADMIN, INT.28

“I do not mind that the staff peeks in [though the corridor window] during day time, if they could keep the blinds closed in the evening. Anyways, you don’t see so well through the blinds when they are askew. Yesterday evening I saw when my daughter arrived, she was walking from that direction, yet, she said she could not see me sitting here.” PATIENT, INT.30

Aesthetic Discourse II stresses that the main functional and utilitarian task of the care environment is to *cure* a person. The care environment is definitely not a home, and therefore contextual features, such as the personification of the patient/resident room with personal items or furniture is uncalled for. A certain number

of personal objects might be justifiable as part of the care measures, for example, patients suffering from dementia need familiar objects. However, these are subordinate to the hygiene demands of the hospital environment. Furthermore, topical trends such as family participation or extracurricular functions of the building to engage the users in activities, are not in line with the primary mission of the facility. Family participation, although it is supported as a part of the care process, should not interfere with the running of the care environment (st.4 -5, st.30 -3, st.38 -4, st.47 -3).

“The people who arrive here are aware that this is a care environment – they do not expect a home. Most [patients] do not stay here for a long time. But then again some patients, who stay here for longer periods of time and are due to dementia or other dysfunctions dependent on familiar objects, for them it might be nice to be able to bring personal objects or hang up some pictures on the walls. However, I do not think that this is something that needs to be prioritised; every room should not be personalized nor should it resemble a home. [The care environment] has to be efficient, it has to be hygienic, it has to be easy to wash clean.” CARE STAFF, INT.29

“The question about the personal objects makes me tick. This is a care facility; it is not a place to live in, the lengths of stay are very short. And I think this is how it should be. [The hospital] is a place of transition; it is a place that you ‘borrow’; the patient room should resemble a hotel room. It would be very different if this would be a nursing home for the elderly or a place where people live. I am a psychiatrist and although it may seem cruel to say so, but in psychiatric care we pay much attention to the damaging effects of hospitalisation on the patient, making them dependent on the hospital. It may seem paradoxical, but people become dependent and then they are not able to leave. In a sense, it is about not becoming attached to the environment and to have an environment that is functional – which does not mean that it is unpleasant – but a pleasant and functional environment that at the same time is impersonal. When you go to a hotel you don’t bring your lamp with you...” CARE STAFF, INT.24

“I don’t see the point in bringing personal objects. There are enough things to do in the hospital so you don’t need your personal stuff. It would be a bit self-centred, focusing on personal possessions.” PATIENT, INT.26

“The importance of family participation depends on the nature of the care services. I’m in the psychiatric department; I couldn’t imagine myself sleeping next to my mother. For me it is better to be separated [from my family] in order to make progress on my own before getting back to normal relations.” PATIENT, INT.26

“I have commissioned an infectious diseases unit – I do not think that there should be sofa-beds to sleep on or that [family members] should have the right to alter the interior design of the patient room. It is important to activate the family to participate in the care process and the care environment; one of the goals when building this building was to facilitate family presence here... but sofa-beds do not fit in in a rational care environment; the level of hygiene is high in an emergency hospital.” ADMIN, INT.28

By contrast, functional features of the care environment, such as the distance between bed and toilet and the size of the patient/resident room, top the scores. Here, the distance from bed to toilet is seen primarily as a safety issue, relying on research findings which show that accidents happen when a patient moves from the bed to the toilet. The ambient disadvantages of having the toilet near the bed, as prioritised in ADI, are in ADII considered less important than the potential safety impact. The importance of the room size lies in the fact that a sufficiently spacious room gives the staff better means to care for the patient, for example, bringing diagnostic or treatment equipment into the room. As a consequence, the patient need not be moved in order to carry out these diagnostic procedures or treatments, again improving patient safety since the transfer of patients is viewed as a risk factor. An efficient and compact layout of spaces and keeping distances short inside the building makes the care work more efficient because the staff has thus more time to spend with the patients. The layout of spaces affects walking distances for the staff as well as the possibilities for the staff to survey the patients in the patient rooms. Technical innovations such as pneumatic tube systems or the robotising of different delivery functions also has the potential of rendering the work more effective (st.37 +5, st.25 +5, st.36 +2).

“The building should be compact. Earlier we were in a facility that was quite different from this one; a pavilion hospital compound scattered on a large area, the situation had become very difficult... The care staff in the old building had to walk a lot between the buildings, especially for all that is blood samples and pharmaceuticals... Patients being transferred were moved on stretchers first to ambulances, then with the ambulance from one building to another and then again with the stretchers... Whereas here, all departments have a pneumatic tube system that facilitates the logistics considerably. When you take a blood sample, you put it in the tube and it is immediately sent to the laboratory... the care staff moves very little inside the building. Patients, who are hospitalised and need an intervention treatment, use the elevators connecting the departments... Those who move the most are the maintenance personnel and the paramedics who transfer patients.” CARE STAFF, INT.24



“The patient ward is divided into one, two, three blocs [with courtyards in between]. The courtyards are really good from the point of view of healing and medical treatment, but if we think about this region, there are many elderly patients that we need to keep an eye on constantly. I cannot do that if the nurse station is too far away. The most important is the safety of patients. The nurse station faces the elevators so we can watch who is coming, but we cannot see the patient rooms. Due to this, the patients that we need to keep an eye on are brought in front of the nurse station. We have camera surveillance in the corridors and also in some limited patient rooms.” CARE STAFF, INT.4

The role of the medical equipment and technical aids is indeed to cure and aid people, hence there is no need whatsoever to hide them, neither are they intimidating nor frightening. Medical equipment is a natural part of the hospital environment. In the function-focused way of relating to the care environment, a clear signage system and a clear articulation of the entrances and the different uses of the spaces is supported. A lack of coherence in the signage, the way colours are applied or the way the spaces are used might on the contrary confuse both staff and patient users (st.6 -4, st.14+4). The Malmö Infectious Diseases Unit can be seen as an example of an incoherent use of colours. There, the colours in the corridors confused the staff in their daily work as the colour codes do not refer to any specific function or content of the rooms.

“If you need medical equipment, it’s good that it’s there. It’s not disturbing at all.” PATIENT, INT.26

“When I went to the x-ray department, I noticed that it is quite difficult to find one’s way. There is no waiting hall; you have to wait in the corridor. This is quite stressful when there is something wrong with you and you are surrounded by all this restlessness.” PATIENT, INT.26

“The colours in this building are quite strong. Everybody got completely confused by them, trying to find a pattern. There is no pattern, nobody can find their way... we started to use the room numbers instead to orientate, by connecting the room number to the function inside, for example the kitchen, the meeting room... The colours do not mean anything to me. It looks nice from the outside though and when we look out from the inside, but I couldn’t say they help us in our daily work. I simply don’t understand the idea behind the colours.” CARE STAFF, INT.29

However, Aesthetic Discourse II is not oblivious to sensory qualities altogether, as long as these are in line with the main task of curing. Views from windows, as well as access to nature and outdoor air are highly ranked, as they

are in the case of ADI, but not for the cognitive reasons of staying aware and being connected to the outside world. Fresh air is salubrious in a Nightingale spirit and views to the outside animate the spaces and thus empower patients. Nature on the other hand is considered a healing and important agent in the curing process. Special attention should be paid to the quality and amount of natural and artificial lighting because these affect the wellbeing of the users (st.29 +4, st.39 +3, st.40 +4, st.3 +3, st.27 +3, st.42 +3).

“The way the interventional departments are designed in this building is very innovative and has changed the lives of the surgeons. The surgeons operate in front of large windows overlooking nature, which is not the normal case in hospitals. Traditionally the operating theatres are located on the ground floor, in the centre of the building or in the basement – without windows. Here the surgeons love it! It’s something totally different; it creates a nice feeling of an enormous space.” CARE STAFF, INT.24

The strong focus on hygiene, safety and functionality can partly be explained by the respondents belonging to the high-tech hospital settings of *acute* care environments. In this sense, the Discourse represents a building-type-specific aesthetic conception. In large hospital buildings where the patients are ambulatory passers-by and the goal is to make the length of stay as short and as safe as possible, there is no need for softness, personalised spaces or social contacts, at least not from the perspective of care staff and administrators. They are strictly in the curing business, less than in the caring.

Table 9 Distinguishing statements for Aesthetic Discourse II

Statement	ADII	(I) (III) (IV) (V)
24. Safety is the key issue when choosing materials. Surfaces should not be rough so that users hurt themselves, nor slippery so that they fall. The way the light is reflected on shiny floor, can make it difficult to walk on it.	+5	(-4) (+3) (+5) (0)
37. The distance from the bed to the toilet should be as short as possible. It gives a feeling of safety when the toilet is near and you can use it as independently as possible.	+5	(-3) (0) (0) (-4)
11. Materials should foremost be hygienic and the placement and design of fixtures, such as washbasins and disinfectants, should encourage people to wash their hands. It's really a question of bacteria and the spreading of diseases.	+4	(-2) (0) (-4) (-2)
17. I like the feeling of textile carpets under my feet: they are soft to walk on and suppress hard noises. This creates a nice atmosphere. Too much noise is a big problem in the care environment.	-4	(+1) (-5) (+2) (-4)

4.	It's of prime importance to have personal familiar objects in the resident/patient room, e.g. a lamp from home, photographs, decorations. These objects evoke memories – a sense of personal history – and make you feel attached to the place.	-5	(0) (+4) (+3) (-2)
30.	The patient/resident room is foremost a place to live in; it symbolizes the home. A homey ambience weighs more than practical issues of aid equipment, maintenance or staff working conditions. Put the patients first!	-3	(+3) (+1) (+5) (-1)
7.	Family participation is vital! The rooms should have couches for family members to sleep on and the family should be able to influence the interior decoration. This activates them to participate in the care and in creating a good care environment.	-3	(0) (+1) (-2) (+2)
38.	An important function of the building is to activate the users; to get them to be interested in things and to move. In that sense long walking distances inside the building are good because they make the users exercise.	-4	(-1) (0) (+3) (0)
22.	The staff should be able to see all spaces. A clear layout of spaces and the use of transparent walls, such as wooden grids, glass or other material, make it possible to supervise the users. Too complex spaces should be avoided because they prevent control and visibility.	+2	(-3) (-4) (-5) (-2)
6.	It's good that there is nearly no visible medical equipment or technical aids in the rooms. These intimidate people and remind them of the fact that they are frail/sick and in need of help.	-4	(-1) (+1) (-4) (+4)

5.2.3 AESTHETIC DISCOURSE III:

Nature – wellbeing – personalisation

Aesthetic Discourse III is defined by five participants of various user statuses from both *acute* and *chronic* care environments. Three of the users and stakeholders come from the same European nursing home for the elderly, Haus Steinfeld. They all belong to different user groups, one a member of the administration, one a care worker and one a resident. The fourth participant is a member of the administration at Baum Haus in Japan. The profile of the fifth participant differs from the above as she belongs to the category of family member of a patient at a Japanese *acute* care environment. However, this participant has one thing in common with the others: she is the relative of a long-term elderly person who received palliative care at the hospital, which could explain the priority put on wellbeing, nature and a supportive environment in the final stages of life. None of the participants are architects. The gender distribution of the participants is mixed; three women and two men. Aesthetic Discourse III corresponds to 11% of the variance among the *Q* sorts. However, it should be noted that eight participants had significant loadings on the discourse, although they also had significant loadings on other factors, namely ADI. Aesthetic Discourse III seems to have much in common with ADI in that they both depart from a patient/resident centred perspective.

An all-pervasive theme of Aesthetic Discourse III is a strong emphasis on the supportive role of the care environment, as viewed from a resident/patient/client perspective. The supportive role is seen to encompass physical wellbeing, generated through multisensory experiences of the environment and feelings of comfort. Privacy and personal objects are supportive on a contextual level by making users connect and feel attached to a place. On the other hand, social wellbeing is supported by engaging in different activities in the care environment and by interacting with the surrounding community. Design features that promote safety, accessibility and the easy and independent use of the care building, all support the aims above.

Nature, with all that it entails in terms of natural light, fresh air and opportunities for social contacts and various activities, is viewed as a prime medium for inducing wellbeing because it activates all our senses, makes us relax and gives us energy. Nature and the built surroundings animate the interior spaces and provide views to contemplate on, events to keep track on, all of which in turn diverts us and makes us feel connected to the outside world. Therefore, windows should be placed so that all users have access to them. Bringing nature inside the building through interior courtyards or views from windows, and having an easy access to the outdoors from various parts of the building, such as balconies and terraces, is highly valued and should be prioritised. A direct connection to nature from the patient/resident room is preferable. However, as opposed to ADII, the primary role of nature is not to cure, but to make the users feel comfortable and good (st.39 +5, st.40 +5, st.42 +5, st.29 +4).

“I think that the architect managed to bring nature inside this building. Even if the residents do not use the winter garden [in the interior courtyard] they still enjoy and value the fact that they can look out onto nature when walking past it upstairs. They mention it a lot.” CARE STAFF, INT.43

“We are very blessed here with this environment. I think a person, who enters the hospital for terminal treatment, would want to see the scenery they grew up watching; the mountains right in front of their eyes. You can see the scenery from the windows of any of the rooms. And you can go out to the inner garden from your room. To have this kind of environment is indeed a pleasant thing. Even the visitors say that our hospital has a really good location; it looks like a highland... eating o-bento [lunch box] outside and so on. [My grandfather] spent the first month and a half in a 4-person-room, well, in there he could not see without opening the curtains [dividing the room]. The last two weeks, when he was getting closer to the end, he spent in a single room and could then see out of the windows.” FAMILY MEMBER, INT.5

At the same time, the surroundings have the supportive role, on a social and cultural level, of providing a platform for making and maintaining social relationships. The residents and patients may have a bond towards and a personal history with the surrounding natural and built environment and the people living there. The care environment should provide different places to pass the time and opportunities to meet people and participate in different activities. The building should be open towards the community and easily approachable by people from the outside. It is important that it and its inhabitants are made a part of the surrounding neighbourhood, which for many may also be their familiar home environment. This can be achieved not only with an adequate location of the building near other services and/or by inviting the local community to participate in and to arrange events at the care facility and on its grounds, but it can also be achieved by architectural means. The spaces of the building might attract people through their scale and layout, ambience, lighting or surfaces qualities. No walls – physical or mental – are needed (st.44 +4, st.45 +4, st.41 +2).

“In my opinion, the terrace on the first floor with the view to the lake is a beautiful place. The residents like to be there, it’s owing to the view onto nature... There’s also a connection to the outside, a connection to the elementary school. The residents can hear when the school is out and the children come out. You can see that there’s a connection to the community and I think that’s beautiful. It’s one of the most beautiful places and I like to go there.” CARE STAFF, INT.43

“No walls or fences around the building site... yes, that is absolutely positive, because no one is locked up here. Furthermore it facilitates a connection to the outside when there is no border.” CARE STAFF, INT.43

“The residents are mostly from the Trautal (this valley) and they want to stay in their home environment also when living at a care facility. That is why it is so important that there are facilities for the elderly in the valleys. The Trautal isn’t very big and when visitors come to see one resident then they will also know other residents; it is different than in a city.” CARE STAFF, INT.43

In line with this supportive narrative, the building and its surroundings should be designed with respect for the user’s restricted abilities to move in and perceive their environment. The surroundings should also be easily accessible without the help of staff and family members and it should, first and foremost, be safe. A safe environment encourages an active and independent use of the interior and exterior spaces. Safety is a key issue when choosing materials and hence carpets and other uneven surfaces that the user could trip over should be avoided. Note that the use of carpets is not a question of hygiene as in ADII, but is to do with the

safety of patients and residents. To support the independent use of the building, the space layout should be kept simple and easily understandable. Too complex spatial solutions might confuse the residents and patients. These functional aspects of accessibility, safety and layout all fall within the duties of the architect and affect the aesthetic features of the building (st.48 +3, st.24 +3, st.17 -5, st.26 -5).

“There’s a lot going on here – the building lives – I call it the highway! It gives [the residents] a feeling of independence to be able to walk around. They can do this on their own. They don’t go into the city; that is too exhausting. But walking around the house that is something a person can do alone.” ADMIN, INT.42

“I think the way the rooms are arranged in this building, strictly aligned [around the rectangular interior courtyard] is good for the residents. If the building is too complex, it is bad for the sense of orientation.” CARE STAFF, INT.43

“Personally I agree that textile carpets feel nice under the feet... But in a care facility a textile carpet is no good. First of all because of the hygiene, and then there is the issue of walking aids. If someone has a walking frame, it is very impractical... carpets are dangerous; you get stuck and caught up in them. We do not have carpets anywhere.” ADMIN, INT.42

However, safety issues do not overrule the right to privacy of residents, patients and clients. According to Discourse III, the staff is not allowed to intrude in the private realm of residents and patients, even if the lack of surveillance might in some cases cause headaches for the staff. Spaces should have different degrees of privacy and public quality. The single resident/patient room is the most private of the spaces and the transition to the more public common spaces should be graded in order to avoid unwanted breaches of privacy. Furthermore, the personalisation of the private room with familiar objects has a major supportive impact on patients and residents. Personal stuff evokes a sense of personal history and identity that is supportive, especially in the case of persons with dementia or persons otherwise in a confused state of mind. Personal objects induce feelings of attachment to a place. As far as this is concerned, the architect may not have enough knowledge of the users’ backgrounds and limitations and is therefore not the most suitable party to choose furniture for the facility. Instead, this should be done in cooperation between the architect, the care staff and the residents and their families. Works of art are viewed as something distanced from the personal and intimate sphere of the users and thus are not seen as a valuable or supportive element in the care environment (st.34 -4, st.22 -4, st.33 +3, st.4 +4, st.5 -5, st.1 -4).

“[For the staff] to be able see everything at all times, that is surveillance of the residents. I don’t like that, we are not a prison! When you enter a room like Mrs. X’s, you cannot see her sitting there around the corner; you see the entrance corridor ... you wouldn’t see her if she was lying in bed. That is very important.” ADMIN, INT.42

“[The abused] children who have been living under the eyes of their parents, their father’s and mother’s eyes have always reached them, for them the private room is a space where they can live without the gaze of an adult. We are giving them a living space they haven’t experienced before and I suppose it’s quite good. It’s good for the children. The children feel a sense of liberation which could be viewed as a positive aspect of the staff not being able to see everywhere.” ADMIN, INT.13

“It is important that there are personal objects in the rooms of the residents... Let’s take Mrs. X as an example; for her the personal things are incredibly important... pictures of the family, the dolls... they are little things with huge importance... We must never forget why we [as care workers] are here, why we all have a job. The old person is in the focus of our work... the elderly person is here because he or she needs the care. Personal belongings are important because the elderly person is in the focus. It is important that our elderly person feels good.” ADMIN, INT.42

“In my case, both my grandfather and mother were hospitalized here. My grandfather has passed away. Umm, it was autumn, and when we understood that he would not come home anymore, that he would pass away in the hospital, we wanted to bring some things from home, like photographs, or the pillow he had used at home. We asked if that was okay, and the hospital let us. The thing was that we wanted to bring something that had been used by our family, that he was really familiar with, just to cheer him up a little bit... Our family made an effort to make the ambience of the room nicer, bringing photographs and flowers. I felt that it would have been better if the interior had a little bit of warmth to it.” FAMILY MEMBER, INT.5

Aesthetic Discourse III is opposed to the more pragmatic views regarding ease of maintenance and the flexible and efficient use of spaces that are prioritized in ADII, because these are practical matters related to staff working conditions or facility cost efficiency and have little to do with the wellbeing and support of the main users of care environments, namely the residents, patients and clients. One could say that the fact that spaces are *not* flexible, that is, that the use of a space is fixed and continuous, can create an identity and a continuity

to the environment that is supportive for the users. A resident in a nursing home might feel comforted by the fact that the living room is indeed a living room every day of the week and not a multipurpose space (st.46 -3, 23. -3, st.36 -1).

Table 10 Distinguishing statements for Aesthetic Discourse III

Statement	ADIII	(I) (II) (IV) (V)
39. All resident/patient rooms should have direct access out on a terrace or balcony, or, nature should be brought inside the building in courtyards or through plants. Nature is an important source of well-being; it activates all our senses, makes us positive and relaxed and think of less stressful things.	+5	(+2) (+3) (+1) (+1)
40. The views outside animates the spaces and makes being in the building a real experience. I really love to just sit and contemplate the scenery. It gives me energy to go on; it gives me power.	+5	(+3) (+4) (+4) (+5)
42. The surroundings enable us to feel the passing of time and the different seasons; the sun rising in the morning or setting in the evening, the heat of summer or the typical smell of autumn. This scenery initiates discussion in a natural way.	+5	(+5) (+3) (+1) (0)
44. There should be many places to spend time in outside; in the courtyards surrounded by trees or in the open places; in the shadow or in the sun. I feel that it's easier to meet people and chat outdoors, because it's a neutral place to talk in.	+4	(+3) (-1) (+1) (2)
45. It's good that there are no walls or fences around the building site. That way you can look at what's going on in the neighbourhood and the building feels part of the surroundings. The building should also be used by people from outside, from the community.	+4	(-2) (-2) (-1) (-3)
4. It's of prime importance to have personal familiar objects in the resident/patient room, e.g. a lamp from home, photographs, decorations. These objects evoke memories – a sense of personal history – and make you feel attached to the place.	+4	(0) (-5) (+3) (-2)
1. There should be works of art in the care environment. When I see paintings or handicraft work, they get my attention and make my sensitivity active – they give me power! They also initiate conversation in a natural way.	-4	(+1) (0) (+1) (+4)
46. The flexibility of a space is the key issue! The spaces should foremost be designed so that it's possible to use them in many different ways, and adopt them to the needs of different users and their way of life. The users define the spaces.	-3	(0) (+1) (+3) (+3)
26. I prefer it when spaces are placed in random, not strictly aligned. A certain complexity makes the spaces rich and more varied – the building should be like a toy to be discovered. It's so boring when rooms are aligned along a strait corridor.	-5	(+2) (-3) (+3) (-3)

5.2.4 AESTHETIC DISCOURSE IV: *'My home is my castle'*

Aesthetic Discourse IV is formed by three participants from two different *chronic* care environments. One of the participants was a patient at the Senri Rehabilitation Hospital in Japan. The two others were users of the Käpylä Autism Centre in Finland; one a resident at the group home and the other a member of the administration. The Q-sorting experiment of the group home resident was conducted as a group interview, which was participated in and facilitated by the next of kin and two care staff members who were in charge of her everyday care routines. Three other respondents had significant loadings on the discourse, but they also had considerable, if not significant, loadings on other factors and were thus excluded from the factor interpretation. The factor loadings of ADIV explain 7% of the variance among the results. There were both male and female respondents.

Aesthetic Discourse IV is distinguished from the other discourses by its emphasis on a homelike environment. Here, the care environment primarily symbolises a *home* and a primary role of the care environment is to provide a setting that supports the residents and patients in coping with their everyday life issues at home. Emblematic of a home and therefore also of a homelike care environment is that people there have some personal space that they administer, furnish and decorate as they please, as well as privacy. The residents' and patients' rooms need to be spacious enough to house this private sphere and enable everyday life chores and personal rehabilitation. As different users may have different needs that affect the physical environment, the environment should be flexible enough to adapt to these diverse needs.

Furthermore, in a home, people tend to have an abundance of personal objects, and not only the essential things that you need to get by, and this feature should be embraced. The care environment does not have to be either plain nor stylish. On the contrary, it may be filled with all the things that the users want to be surrounded by. Through our objects and furniture, we give character to and personalise our homes. Moreover, especially when considering that users with disabilities have not had or still do not always have the chance and the right to make decisions concerning their physical environment, the empowerment of the users vis-à-vis their environment becomes a moral-aesthetic notion. The residents and patients have a right to a home and to privacy and these rights should also be respected with regard to staff presence and working routines (st.30 +5, st.25 +4, st.4 +3, st.16 -4, st.5 -3).

"The resident's room and the entire building should symbolise a home. It is an important notion. The staff is present, but the care work has to be done in a manner that respects the basic notion of home. In the flats, the personal dimension emerges through the residents' personal belongings, their personal objects and their memories. This is the glue that makes the home meaningful for the residents" ADMIN, INT.37

“I’m not so into simple and restrained environments – I think a person’s taste, fondness for things and shapes should be visible in the environment. The users should be given the opportunity to make individual choices concerning their environment.” ADMIN, INT.37

“[She] needs a lot of stuff. The ‘keppulit’ as she calls them are important objects for her [round objects made of plastic]. They go with her here [in her own flat] and at our [family] home. I think personal objects are important for all people, not necessarily by evoking memories, but as a part of a person’s identity. Some autistic persons do not think about the past at all; they are focused on the future.” RESIDENT, INT.39

The concept of home is not limited to the building alone. The immediate surroundings, the neighbourhood, as well as the larger city area are part of the extended living environment.

“The care home is more than a building on a building site; it is a part of the surrounding neighbourhood. The exterior surroundings affect the living environment. The outside should relate to the inside of the building. What I like in this building is how the colour of the façade continues on the interior walls... The large windows bring nature and the neighbourhood near to us.” ADMIN, INT.37

In a homelike environment, aspects of hygiene are not a priority; neither are there obstacles to the use of textile carpets or other design elements that make the ambience tactile, soft and homelike. Furthermore, aspects of maintenance are not essential when a home is the issue and they should not dictate aesthetic choices. Normal materials used in normal homes are also fine in the care environment (st.11 -4, st.17 +2, st.23 -4). In line with the discourse, a homely ambience should weigh more than these practical issues of hygiene, maintenance or staff working conditions. Even though their work would be easier if the staff could see all the spaces and users at any time, in a home, staff surveillance is not acceptable as it breaches the privacy of the residents and patients. It is important that the staff need not see all the spaces and privacy is valued. Here, as in ADIII, the line is fine between the need to supervise the residents for reasons of safety and the right to privacy for all. (st.22 -5, st.34 -5)

“We are a homelike environment. A normal homelike level of hygiene is enough. There is no need for hospital hygiene.” RESIDENT, INT.39

“I think the question on surveillance and visibility is contradictory. Those who want to be by themselves, stay in their rooms and close the door; then, there is no need for the staff to be there with them. Yet the floors are quite different; on some floors it would be good to have visual contact to the residents’ rooms

as well in order to avoid certain situations, prevent accidents from happening and so forth, but on the other hand I do support privacy. It would be against human rights to have all doors open. Everybody has the right to privacy.”

RESIDENT, INT.39

However, since the facility is still a care environment where the users may have reduced capabilities to cope, such as to move and to control their bodies, it needs to be safe enough so that nobody gets hurt. Here again, in line with ADIII and as opposed to ADI, the ambient features of the environment should be subordinate to safety. Hard materials and rough surfaces that users can hurt themselves on should be avoided (st.24 +5, st.15 +4).

“With respect to our clients, the safety aspects are essential when choosing materials. This is an issue that we paid attention to and discussed during the design process of the building, such as the roughness of the wall surfaces and the like.” ADMIN, INT.37

According to Discourse IV, the building should be flexible in the sense that it adapts to the changing needs, care and rehabilitation methods of the main users, that is, the patients, clients and residents. In this point, the notion of flexibility distinguishes ADIV from ADIII. In ADIII, continuity is stressed over flexibility. Flexible spaces make it possible to adapt the space to the needs of the users and not the reverse, that is, a situation where the spaces dictate the rehabilitation activities. In the rehabilitation of the disabled, especially persons with autism, the individual needs and methods vary greatly, depending on the client’s disorder and capacity to cope in the environment. A certain variety and complexity of the building and its spaces provide opportunities to vary the activities accordingly. For example, in the Käpylä Autism Centre some of the spaces open up to the courtyard through large windows covering the whole façade, while others have smaller windows. The amount of visual contact outwards, giving a different ambience to the spaces, could here be considered in the rehabilitation in view of the autistic users’ potential sensitivity to sensory stimuli (st.46 +3, st.26 +3).

“In this building, especially on the day activity side, the flexible use of the spaces has been well considered. The spaces have been used over ten years, yet there has been little need to change the layout of the spaces or the positioning of the walls. We have very well been able to adapt the existing spaces to the changing activities and needs of the clients although the clients’ profile has changed along the years.” ADMIN, INT.37

Through its design features and spatial layout, a building can and should activate the users and engage them in the rehabilitation. The care environment is part of the rehabilitation process. Käpylä Autism Centre activates the users

on a social level. In the group homes, the residents are more or less obliged to encounter social situations in the common spaces. While social interaction is a major challenge for most persons with autism, the residents train their social abilities on an everyday basis. At the same time, the prevalent issue of loneliness is addressed as the residents have the group home unit as a community. In Senri Rehabilitation Hospital on the other hand, the building activates the users on a physical level as the main staircase and the main lobbies are actively used for the rehabilitation of the patients (st.38 +3, st.46 +3).

Flexibility and the notion of a building that activates the users are both tied to the function of rehabilitation. When the users stay at the facility for longer periods of time, facilitated by the rehabilitation methods and by the supporting features of the building, their capacity to cope and use the environment evolve, which again makes new demands of the building. This evolvement is embedded in the goals of rehabilitation.

“I am now in the final stage of my recovery, so I can move quite well. I would really need some space for exercising, especially on rainy days. That is why I think the building should activate users and give them the opportunity to move... I think it is good for the actual everyday life of the patients to have rehabilitation in the corridors, walking up the stairs and such. Additionally there could be a rehabilitation space.” PATIENT, INT.II

“I like the single room because I need space for self-training. It is a Japanese-style room. I prefer the Japanese room for reasons of rehabilitation; I want to lie down on the floor for exercises and in a tatami room you always take off your shoes before entering. In Western-style rooms you wear indoor shoes so it is not the same thing.” PATIENT, INT.II

Table 11 Distinguishing statements for Aesthetic Discourse IV

Statement		ADIV	(I) (II) (III) (V)
30.	The patient/resident room is foremost a place to live in; it symbolizes the home. A homey ambience weighs more than practical issues of aid equipment, maintenance or staff working conditions. Put the patients first!	+5	(+3) (-3) (+1) (-1)
4.	It's of prime importance to have personal familiar objects in the resident/patient room, e.g. a lamp from home, photographs, decorations. These objects evoke memories – a sense of personal history – and make you feel attached to the place.	+3	(0) (-5) (+4) (-2)
25.	The resident/patient rooms shouldn't be too small, otherwise you feel cramped. The size of the room is important.	+4	(+1) (+5) (+2) (0)



22.	The staff should be able to see all spaces. A clear layout of spaces and the use of transparent walls, such as wooden grids, glass or other material, make it possible to supervise the users. Too complex spaces should be avoided because they prevent control and visibility.	-5	(-3) (+2) (-4) (-2)
11.	Materials should foremost be hygienic and the placement and design of fixtures, such as washbasins and disinfectants, should encourage people to wash their hands. It's really a question of bacteria and the spreading of diseases.	-4	(-2) (+4) (0) (-2)
16.	I like it when there's only the essential; when the materials, surfaces and details are restrained and simple. It's reposing and calm.	-4	(-2) (+1) (0) (+3)
38.	An important function of the building is to activate the users; to get them to be interested in things and to move. In that sense long walking distances inside the building are good because they make the users exercise.	+3	(-1) (-4) (0) (0)
24.	Safety is the key issue when choosing materials. Surfaces should not be rough so that users hurt themselves, nor slippery so that they fall. The way the light is reflected on shiny floor, can make it difficult to walk on it.	+5	(-4) (+5) (+3) (0)
15.	Surfaces made of hard materials, such as concrete or metal, are cold and hostile. These cold surfaces alienate us and really should be avoided in the care environment.	+4	(-4) (-2) (+2) (-3)

5.2.5 AESTHETIC DISCOURSE V: *The rational wayfinding system*

Aesthetic Discourse V represents a narrow perspective in the spectrum of opinions, being backed by only two respondents, explaining 5% of the variance among the Q sorts. Nevertheless, I decided to include it in the analysis as it differs from the other discourses through its systematic and rational approach to the care environment. The participants both react to the same case study building, a large European *acute* hospital environment, the Marne-la-Vallée Hospital Centre. However, their user statuses are completely different; one is an architect and the other a patient. One is a man, the other a woman. The discourse has much in common with ADII, both stressing rationality and both focusing on features of *acute* environments.

What distinguishes Aesthetic Discourse V is the striving for a rational, systematic and flexible care environment, which in turn is reflected in the architectural solutions and the aesthetic features of the environment. It could be said that these perceivable features stem from *functional* aesthetic dimensions, as discussed in Chapter 2. The complex logistics and functional demands of care environments should be tackled by a clear and simple layout of spaces. This supports an efficient use of spaces and an efficient use of staff resources. However, since future

development in the medical field is hard to predict, along with the long time lapse in the design and building process of new hospitals, the building needs to be flexible enough to bend to potential future uses. Here, flexibility is not viewed as the adaptability of an individual space to the individual needs of a patient or resident as in ADIV, but on a larger scale, offering the possibility of altering the layout of spaces, wards, or services in the building or the technical solutions, in response to organisational or technical development in the medical field (st.46 +3, st.26 -3, st.36 +2).

“The main challenge when designing a hospital is the notion of time. In other words, from day one of designing a hospital it will take from 8 to 10 years for the first patients to arrive. The main challenge is how to design spaces that are efficient and modern eight years later. The spaces need to be flexible and evolving. The hospital needs to be able to adapt to the evolving technologies, medical progress and social development – all features of a developing society.”

ARCHITECT, INT.22

Within this systematic approach wayfinding is one more system. The care building is viewed as a wayfinding *machine* guiding visitors through the care experience. Spaces should therefore be articulated so that they are easy to recognize and the layout of spaces are kept simple and easy to discern. Artworks, colours, the use of different materials or special furniture are landmarks that help the users orientate inside the building. A clear signage system guides the visitors. The entrance should be clearly articulated so that patients and visitors can easily find it. Thus, the building itself functions as a part of the wayfinding system (st.14 +5, st.35 +3, st.26 -3, st.36 +2).

“To have a clearly articulated entrance, signs that clearly show you the way and to work with colours are things I find extremely important – and I think these are successfully applied here. There is a big entrance downstairs. Then there are the colours, the large letters indicating the different services. For me, I knew it was elevator F... it is very clear. I really like it when you use colours, which is exactly what they have done here. I use colours in my own work [as a teacher], I find it very logical. The colours help you to memorize. For example, I had consultations on the maternity ward and I knew that the maternity ward has yellow chairs. If you tell people ‘it’s by the yellow chairs’ you can’t miss it...”

PATIENT, INT.25

“Landmarks are important, especially in an environment that you do not know well and where you do not feel comfortable. If you can reduce the stress [of patients and visitors] by the use of landmarks and signage, they are important.”

PATIENT, INT.25



Although Discourse V embraces privacy and finds the importance of the single room axiomatic, there is no need for fuzzy gradations of spaces on the private-public axis or intimate get-together lobbies outside the patient room with small groups of chairs. As the patients stay in single rooms, they can meet their family and friends in the privacy of the patient rooms. The role of the staff in supervising the patients is closely linked to the notion of patient privacy. While a direct visual contact for the staff into the patient room can be considered offensive from a patient point of view, the staff needs and should have other means for monitoring the patients. The staff are responsible for patient wellbeing during the hospital stay (st.33 -5, st.34 -5, st.8 -4, st.28 -4, st.22 -2).

“As a patient you do not want to be supervised through a glass wall. However, supervision is needed, but not necessarily directly nor visually. In other words, if the staff wants to tell you something or needs to make a medical treatment, they enter the patient room. It is normal; that is what they are there for. We are happy they are there! But to be constantly watched – no way.” PATIENT, INT.25

In line with ADII, the care environment is not a home and therefore there is no need for personal objects. Nor is the care environment a recreational centre with the aim of amusing its users and thus there is no need for auxiliary functions such as gardening or different places to spend time outdoors. The prime function of the care environment is to provide a setting for curing the patients and, at best, help in the cure process. The patients stay in the hospital for as short a period of time as possible and hence do not need homelike attributes or recreation (st.47 -3, st.4 -2, st.30 -1).

“The patient room does not symbolise a home. You are not at home in a hospital – you are passing by, the quickest possible. Yet the short time you are there, you need a room with a view... The care environment should be pleasant, but it is not your own room and you should not stay for a long time” ARCHITECT, INT.22

In fact, Discourse V prefers it when there is only the minimum, that is, when the materials, surfaces and details are restrained and simple. It is good to hide medical and technical equipment when possible because they tend to intimidate and frighten people. When the surroundings are calm and simple, the views from windows as well as the works of art can fully be appreciated. Works of art play an important role in the care environment as they attract the attention of patients and visitors and activate the senses. The access to natural light, the views and the scenery, on the other hand, give you energy to continue and therefore it is important that windows are placed so that people really can see outside, also when lying in bed. The short time spent in the hospital should be made a pleasant experience (st.16 +3, st.40 +5, st.27 +4, st.29 +5, st.1 +4).

“What I find important is the relation to the exterior; large windows, a lot of natural light, a view onto a landscape. The views outside both when standing up and lying down, to the right and to the left... [T]here are two types of rooms; one overlooking the vast landscape, the other with views onto the courtyards. The windows of the courtyard rooms are smaller to prevent unwanted peeping in, while the windows of the landscape rooms are very big. There is a choice, although the patient does not get to choose, but there exist rooms with two different ambiances. For me, if I had to select only one type of hospital room, it would be a room with a view and big windows.” ARCHITECT, INT.22

“The views outside and the access to natural light are connected. I find the natural light extremely important. Here, it seems luck was on my side, they told me this is the biggest room and the room with the most of natural light... The artificial lightening can be disturbing, especially in the maternity ward. During night time I close the blinds, but it does not get totally dark. As the room faces the entrance, you can see the ambulances passing. I do not mind them though. To have a corner room, with the view to two directions, is really nice.” PATIENT, INT.25

Pragmatic concerns, such as easy maintenance and high hygiene standards, are very much a part of the rationality thinking connected to Aesthetic Discourse V. In that sense, this discourse has common grounds with ADII. The hospital should be easy to maintain and clean, and, in a hospital environment, high standards of hygiene need to be followed. Therefore, surfaces, such as carpets, that might endanger hygiene cannot be allowed (st.23 +3, st.17 -4).

Table 12. Distinguishing statements for Aesthetic Discourse V

Statement		ADV	(I) (II) (III) (IV)
1.	There should be works of art in the care environment. When I see paintings or handicraft work, they get my attention and make my sensitivity active – they give me power! They also initiate conversation in a natural way.	+4	(+1) (0) (-4) (+1)
14.	The entrance of the building should be clearly articulated, have a reception desk or a legible and clear signing system to show the way to the different spaces. Doors should be clearly discernible from the walls, by the use of a different colour or material.	+5	(-3) (+4) (-1) (0)
35.	Spaces should be different so that it's easier to recognize where one is! A striking piece of furniture, art work or a view through a window act as landmarks that help people orientate inside the building. Not to get lost gives a sense of control and reduces stress.	+3	(+4) (+1) (-4) (-3)

46.	The flexibility of a space is the key issue! The spaces should foremost be designed so that it's possible to use them in many different ways, and adopt them to the needs of different users and their way of life. The users define the spaces.	+3	(0) (+1) (-3) (+3)
6.	It's good that there is nearly no visible medical equipment or technical aids in the rooms. These intimidate people and remind them of the fact that they are frail/sick and in need of help.	+4	(-1) (-4) (+1) (-4)
16.	I like it when there's only the essential; when the materials, surfaces and details are restrained and simple. It's reposing and calm.	+3	(-2) (+1) (0) (-4)
23.	Easy maintenance is essential; I can't stand it when it's dirty! Surfaces should be easy to clean and not too sensitive. The colour white for example gets easily dirty and a wooden floor or tatami-mat scratched or soiled. These should be avoided.	+3	(-5) (+2) (-3) (-4)
33.	Spaces should have different degrees of privacy. The resident/patient room is the most private and its entrance should be set apart from the more public common spaces/lobbies so that you do not stumble directly from private to public.	-5	(+4) (0) (+3) (-2)
8.	There should be many small groups of chairs and tables in the common spaces/lobbies, so that people can choose their favourite place to sit in and choose with whom they socialize. It's easier to talk with people in smaller groups. That's real empowerment!	-4	(+2) (+1) (+2) (+1)
28.	The common spaces/lobbies should be divided into smaller intimate spaces. Big spaces are institutional and intimidating, while small spaces have a human scale and make you feel at home.	-4	(+1) (0) (-1) (-2)

5.3 CORRELATION BETWEEN DISCOURSES: DIVIDING OPINIONS

With the discourses described above, a picture has been drawn of five different ways of relating to the aesthetic dimensions and features of the care environment. In ADI, the integrity of and respect for patients and residents are put first on all design levels. Pragmatic concerns of space efficiency, distances inside the building, safety and maintenance are subordinate to notions of privacy, sensory and ambient qualities when making aesthetic choices. High quality materials, attention to details and uniqueness are seen to mediate good care quality and the sense that patients and residents are unique and valuable. The Nightingale discourse, ADII, stresses functionality, safety and hygiene standards and regards the environment from a staff perspective. The prime utilitarian task of the care environment is to cure patients and stop the spread of diseases, and thus there is no need for extracurricular functions or features such as personal objects in patient rooms, family participation or engaging users in different activities in

and outside the building. The starting point for ADIII is the supportive role of the environment in the care and rehabilitation of patients and residents both on a physical, social and cultural level. Nature is viewed as a prime medium for inducing wellbeing and thus bringing nature inside and having outdoor access are top priorities. Nature provides natural light, fresh air and opportunities for social contact and diverse activities. The personalisation of spaces with personal objects and furniture and active interaction with the surrounding community make residents and patients feel attached to the place and give them a meaning that goes beyond care processes. Aesthetic Discourse IV builds upon a conception of the care environment as a symbol for the home. A homelike and flexible environment provides the means for a personalised rehabilitation in which the individual needs of patients, clients and residents are answered to and constantly developed, based on the changing needs of the users. Independency and empowerment of patients and residents vis-à-vis the physical environment is possible when the care environment is both flexible and safe enough so that users can rehabilitate everyday life issues independently and without injury. ADV is founded on rationality and a systematic approach to the care environment. Since the future is hard to predict, functionality means flexibility in spatial layout, logistics and technical equipment. The building is a structure that is ready to be remodelled in response to ever-changing care processes. Wayfinding is a key to guiding the users swiftly through the care experience. Clearly articulated entrances, signage systems, art work and a systematic use of colours and materials are endorsed.

Turning now to methodological issues, the statistical relationship between the discourses is illustrated by the correlation values shown in Table 13. The higher the positive correlation the more the discourses have in common, and, correspondingly, the lower the correlation the less compatible they are. The results indicate that there is relatively little correlation between each of the discourses. This suggests that the discourses are genuinely different, that is, they represent coherent, well-defined and distinct overall aesthetic stances on the care environment.

Table 13. Correlation between the aesthetic discourses

	ADI	ADII	ADIII	ADIV	ADV
ADI	1.00	0.13	0.30	0.38	0.25
ADII	-	1.00	0.33	0.18	0.47
ADIII	-	-	1.00	0.36	0.23
ADIV	-	-	-	1.00	0.13
ADV	-	-	-	-	1.00

The discourses that are closest to each other, although still with a relatively low positive association are the *Nightingale discourse* (ADII) and the *rational way-finding system* (ADV). In both discourses, the participants reacted to buildings in the category of *acute* care environments and, among these, to the largescale hospitals and specialised clinics. Both discourses share the view that the care environment is a place where the patient users are temporary passers-by and therefore the environment need not symbolise a home. Homely features should not overrule issues of maintenance, staff working conditions and medical equipment, nor is the personification of spaces needed (st.30, st.4). In both discourses, features connected to large hospital environments are stressed, such as clear layout of spaces and signage systems (st.26, st.14), and the use of hygienic materials that are easy to clean and maintain (st.23, st.17). The dividing lines between the two concern positions regarding art in the care environment (st.1), family participation (st.7), room size and layout (st.25, st.37, st.6) as well as the degree of privacy in different spaces (st.33, st.28, st.8). Whereas ADII sees no interest in family input, works of art or, for example, making the ambience of the patient room less technical by hiding medical equipment, ADV supports these efforts. ADII puts weight on the size and layout of the patient room from a safety perspective, for example, stressing the need for spacious rooms with short distances from bed to toilet, whilst ADV find these less significant and is content with all patients simply having single rooms equipped with toilets. According to ADV, there is no need for different degrees of privacy, nor smaller get-together spaces in lobbies; privacy is ensured by the single room.

The positive association between the three other discourses, *'putting patients first'* (ADI), *nature – wellbeing – personalisation* (ADIII) and *'my home is my castle'* (ADIV), can partly be explained by their emphasis on the care environment being there primarily for the patients, clients and residents. This patient/resident-centred approach is translated into similar negative reactions to statements such as the right of staff to supervise patients and residents or the role of maintenance when selecting materials and colours (st.22, st.23, st.11). Dividing lines relate to the value assigned to safety and sensory surface qualities (st.24, st.15, st.17), personal belongings (st.4), television (st.9), and spatial complexity and flexibility (st.26, st.46). ADIV values flexibility in terms of the adaptability of spaces according to the personal needs of users, whereas participants of ADIII resist the idea of constant change, appreciating continuity per se, owing to its supportive functions for the users. ADIII and ADIV stress the importance of safety aspects in the choice of materials and surfaces, whilst ADI finds the sensuous qualities more important than safety issues. As part of a supportive narrative, ADIII values a clear and simple layout of spaces as this may support the independent use of the building. ADI and ADIV on the other hand promote complexity, arguing that a diverse and varied environment is spatially richer, provides places of different scale and

with various degrees of privacy. Adherents to ADI find the presence of television in common spaces intrusive, whilst ADIII and ADIV feel ambivalent about it.

When looking for similarities and dividing lines, an interesting issue is the relation between, on the one hand, the aesthetic discourses and the different building types associated with the discourses, and, on the other hand, the participants' user/stakeholder statuses with respect to both building type and discourse. These connections are illustrated in Tables 14 and 15 below. The users and stakeholders of ADII and ADV all belonged to the category of *acute* care environments, while those of ADIV originate solely from *chronic* environments. In ADI and ADIII both *acute* and *chronic* environments are represented. It is worth noting that although the case study buildings are quite different in terms of size, services provided and the needs of the users, all the case study buildings found their way to one discourse or another.

The user/stakeholder diagram reveals that no specific user or stakeholder group solely defines any of the aesthetic discourse. However, some groups are more strongly represented in some of the discourses, whilst others are missing. For example, the architects adhere either to ADI or to ADV, whereas no care staff members participate in the forming of ADIV and ADV. Architects and administrative staff are strongly represented in ADI, while the care staff perspective dominates ADII. All groups are nevertheless represented among the results. Moreover, either residents or patients are present in all of the discourses, indicating that there is no clear division between the so-called end-users and the other user/stakeholder groups. The conclusions and implications of the building types and user/stakeholder backgrounds will be discussed further in Chapter 6.

Table 14. Building type distribution by aesthetic discourse

	ADI	ADII	ADIII	ADIV	ADV
acute	4.2.2 Katsura Ladies Clinic 4.2.7 Malmö Infectious Diseases Unit	4.2.1 Katta General Hospital 4.2.6 Marne-la-Vallée Hospital Centre 4.2.7 Malmö Infectious Diseases Unit	4.2.1 Katta General Hospital		4.2.6 Marne-la-Vallée Hospital Centre
chronic	4.2.3 Senri Rehab Hospital 4.2.5 Yuraku Nursing Home 4.2.8 Maggie's Glasgow 4.2.9 Käpylä Autism Centre		4.2.4 Baum Haus 4.2.10 Haus Steinfeld	4.2.3 Senri Rehab Hospital 4.2.9 Käpylä Autism Centre	

Table 15. Participants’ user status according to building type and aesthetic discourse

	ADI	ADII	ADIII	ADIV	ADV
acute	architect patient	administration care staff patient	family member		architect patient
chronic	architect administration visitor care staff		administration care staff resident	administration patient resident	

5.4 SHARED AESTHETIC CONCEPTIONS

The consensus statements cover some of the positive associations between the discourses discussed in the previous section and presented in Table 13. Consensus statements are statements that are equally valued in all of the discourses. The fact that the participants of various backgrounds and of all discourses agree on something suggests that these are common values that are shared more generally by the users and stakeholders of care environments. With regards to the whole spectrum of different care buildings that are represented in the study, these values can be seen to overrule building-specific considerations. On a normative level, the implication of consensus statements is that the dimensions and features of the aesthetics expressed should be taken into consideration in the design of any care environment if we want to design an environment that responds to the very elementary needs and expectations of the users and stakeholders. This will be discussed further in Chapter 6.

The consensus statements touch upon the notions of: the privacy of patients, clients and residents; the views from windows and the role of the surrounding environment; natural and artificial lighting as well as rules on what is and what is not acceptable behaviour. Many of these features are at the core of the healthcare architectural debate of today, albeit the motivations and underlying reasoning might differ. Furthermore, the underlying reasons may differ from one aesthetic discourse to another even though the statements are equally ranked.

The importance of the single room (st.34) has, in previous EBD research as well as in ADII, been motivated by the aim of limiting the spread of diseases and ameliorating sleep quality. However, others see the need for privacy as a more fundamental part of being in the world. The psychological need to be alone and not continuously in the company of strangers, especially when frail or sick, emerged strongly in the interviews, especially by the adherents of ADI. It was argued that it was difficult to relax in the company of strangers. It was experienced as disturbing, on the one hand, to be forced to share in the intimate and private

matters of room-mates, and, on the other hand, to have the feeling that you yourself disturb others with such matters. In the quotation below, from a patient in an acute care environment, a supporter of discourse ADV, these feelings are elaborated. The single room was further seen to facilitate rehabilitation because it could be conducted in privacy and at any time. For long-term patients and residents, the interior design of the private room could be adapted to the individual needs of the inhabitant, in line with the aims of ADIV. The single room enabled social contacts with persons of preference and at a time of preference. In other words, the support in favour of privacy accumulates from adherents of all five aesthetic discourses, although founded in different points of departure.

“To say that the private room is not important at all - that is rubbish. People, no matter how much we want them to be sociable and interact with people... always need some time on their own - even if it's just that chair in the corner, which is slightly away from the main kitchen table.” ADMINISTRATION STAFF OF CHRONIC CARE ENVIRONMENT. INT.33

“I believe that the fact of having a single room really changed my hospital experience compared to the previous time when I gave birth to our daughter. Then, it was so distressing to have someone else in the same room. It is not necessarily a question of the person her/himself. It is just the fact of someone else being there. When you have visitors it is awkward. I think I disturbed her [the other person] as well. It is normal that babies cry, but you feel guilty anyhow. So although it is normal, you feel stressed to be in the same room with someone you do not know. Especially in the maternity ward, I find it important to have calm, to be able to do what you want, to have visitors when you want.” PATIENT OF ACUTE CARE ENVIRONMENT, INT.25

The role of the window, as a fundamental architectural element, letting in natural light as well as offering a view to the outside, was highly valued in all discourses (st.29, st.40). The windows should be placed so that patient, residents and the staff really can see outside, also when lying in bed or working. In Marne-la-Vallée Hospital Centre, where even the operating theatres have large panorama windows, they were especially praised by the staff. The views play an important role in animating the spaces, giving energy and thus affecting our experience of being in the building. The right amount of natural light induces feelings of comfort; light is sensuous and can be perceived by many of our senses. This is in line with the theoretical advances discussed in Section 2.1.4 on the bodily and sensuous ways of experiencing the surrounding environment. Furthermore, there is a need for soft and indirect artificial lighting as opposed to too bright and glaring (st.3, st.27). Here again, a soft and indirect artificial lighting make the users feel comfortable.

“I find it extremely important that people get natural light; that they get to experience the light, not only to see it with your eyes, but to feel the warmth of the light and the physical feelings this evokes. To feel the sunlight on your body gives you a warm and soft feeling inside, which is meaningful.” INT.37

There was also a consensus on users’ obligations vis-à-vis the environment. To wilfully destroy the environment can under no circumstances be considered acceptable. The act of breaking furniture was proposed in Statement 10 as being therapeutic and thus permissible in a rehabilitation context. This was clearly rejected by nearly all the participants. On the contrary, many commented that the users have an obligation to respect and maintain their care environment.



Figure 34. A view from the single patient room that the family member found meaningful

5.5 SIGNIFICANT SPOTS OF USERS AND STAKEHOLDERS

After the Q-sorting interviews, the participants were asked to indicate places and features in the building they found especially important and explain why. These were then photographed. When the interviews took place elsewhere, the participants either handed over photos they had taken themselves or selected a photo I had taken earlier. Thirty-eight interviewees participated in the task, resulting in a set of 98 photos. The indicated spots are arranged according to user/stakeholder groups in Figs. 35-39.

Different themes emerged when arranging the photos according to user/stakeholder groups. The architects and administrators look at and comment on the environment both analytically and holistically. For example, the architects reflect on the relationship between the building and its surrounding rural or city context (Figs. 35.1, 35.2, 35.6 and 35.7) and on the connections, both visual and functional, between different spaces and between the interior and the exterior of the building (Figs. 35.4, 35.5 and 35.7). On the other hand, and this is closely linked to the '*putting patients first*' discourse, the ambiances of different spaces and the message these convey are especially emphasised, as they are thought to be experienced by the end-users. For example, the spot in Fig. 35.3 illustrates how the hospital environment of Senri does not resemble a hospital, which in turn is thought to be something the patients appreciate.

The places selected by the members of the administration illustrate an analytical approach of a different nature. The respondents of Marne-la-Vallée reflect on the symbolic nature of the coloured courtyards of the hospital (Fig. 36.1), while the representative of Malmö select a spot showing how the unit is functionally connected to the rest of the hospital compound and to the ambulance courtyard (Fig. 36.2). Other administrative staff rate the importance of different places in relation to their therapeutic impact, for example, the therapy room at Baum Haus, the crying corner at Maggie's and the atrium garden of Steinfeld (Figs. 36.4, 36.5 and 36.7), or in relation to their recreational and cultural value, for example, the tea ceremony room at Yuraku or the rooftop sauna at Käpylä (Figs. 36.6 and 36.8).

Patients and residents, in contrast, approach the care environment in a very hands on way, reflecting on how the care environment and its features affect them personally. Aspects akin to the social dimension, privacy and personification of spaces emerge strongly in both the *chronic* and the *acute* environments. Patients at Marne-la-Vallée and Malmö value the warm ambience of the common dining room or the smoking courtyard, where they could chat with fellow patients (Fig. 38.2 and 38.3). The resident at Steinfeld loved meeting up with her friend in the large dining hall (Fig. 38.5). On the other hand, the comfort, the views and the

privacy of the patient room were stressed (Fig. 38.1). In the chronic environments, the possibility of furnishing the room with personal belongings was found especially important, with the residents fully utilising this possibility (Fig. 38.7 and 38.8). These notions are in line with aesthetic discourses ADIII and ADIV.

The care staff and the visitors seem to position themselves between the analytical and the pragmatic. Aspects related to therapeutic praxis are stressed, such as the possibilities for the children to enjoy the pony at Baum Haus (Fig. 37.1) and the elderly residents of Haus Steinfeld to see and hear the children from the neighbouring elementary school. Rehabilitation taking place in the homely living room of the care units at Senri was found valuable (Fig. 37.3). Enjoying the scenic views from the balconies of Haus Steinfeld (Fig. 37.7) as well as the garden view from the patient room at Katta were considered important to the patients and residents (Fig. 39.3).

The social dimension is emphasized by both care staff and visitors, for example, in the communality offered by the common dining room in Yuraku (Fig. 37.5), the restaurant at Senri (Fig. 39.7) or the kitchen in Maggie's (Fig. 39.5). The family member at Yuraku stresses features that enhance communication, such as chatting while looking at the carp in the pond (Fig. 39.1). However, embedded in the responses of the care staff are also pragmatic aspects related to working conditions, such as the mobile staff station at Malmö and being able to look out of a panorama window during surgery in the operating theatre of Marne-la-Vallée (Figs. 37.8 and 37.2).

The results concerning user/stakeholder groups with regards to the aesthetic discourses will be interpreted and discussed further in the Chapter 6.

Figure 35.
Photos of
significance to
the architect
respondents



1. Building in relation to traditional rural landscape / Steinfeld



2. Access to nature mediated by courtyard garden / Maggie's



3. 'Non-hospital-like' ambience of the spaces / Senri



4. Views through courtyard / Malmö



5. Visual connection dining hall – entrance / Katsura



6. City view and outdoor access directly from patient room / Malmö



7. Views in two directions from resident's flat / Käpylä

Figure 36.
Photos of
significance to
the administra-
tion staff
respondents



1. Coloured courtyards as symbols of hospital / Marne-la-Vallée



2. Functional connection of unit /Malmö



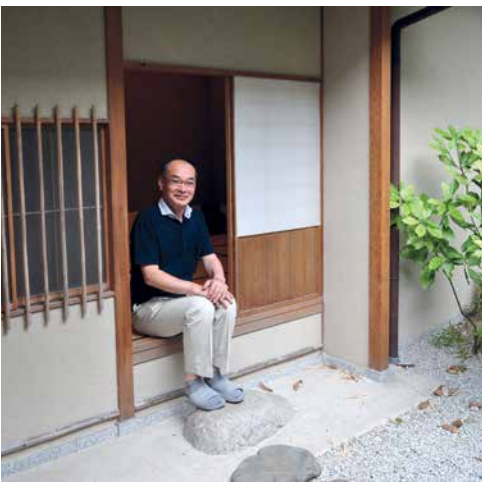
3. Landscape view from office space / Katta



4. Therapy room – an important space / BaumHaus



5. The crying corner / Maggie's



6. Traditional tea ceremony space / Yuraku



7. The interior garden / Steinfeld



8. Rooftop sauna with city views / Käpylä

Figure 37.
Photos of
significance to
the care staff
respondents



1. The joy of having a pony in the green fields /
Baum Haus



2. Operating theatre with a panorama window /
Marne-la-Vallée



3. Rehabilitation in the living room of
care unit / Senri



4. Main entrance lobby /
Käpylä



5. Communality of the home unit dining room
/ Yuraku



6. The cosy terraces /
Yuraku



7. Landscape views from balcony / Steinfeld



8. Mobile staff station / Malmö

Figure 38.
Photos of
significance to
patients and
residents



1. Patient room with nice views /
Marne



2. Courtyard for smoking and socialising



3. Ambience of ward's dining room /
Malmö



4. Safe place near staff room /
BaumHaus



5. Meeting friends in dining hall
/ Steinfeld



6. Garden therapy in courtyard /
Senri



7. Positive ambience of own room /
Steinfeld



8. Personal stuff in resident's flat /
Käpylä

Figure 39.
Photos of
significance to
family members
and visitors



1. Spending time in the
courtyards, watching carps
in pond / Yuraku



2. View from unit entrance /
Yuraku



3. View from patient room towards roof
garden / Katta



4. Warm ambience of the counselling room / Maggie's



5. The kitchen, an informal place to gather / Maggie's



6.-7. View from patient room on roof garden and ambience of the restaurant / Senri



5.6 CONCLUDING REMARKS

In the Qmethodological analysis five coherent, well-defined and clearly distinct overall aesthetic statements on the care environment emerged. These aesthetic discourses comprised the *'putting patients first'* (ADI), the *Nightingale* (ADII), the *nature – wellbeing – personalisation* (ADIII), the *'my home is my castle'* (ADIV) and the *rational wayfinding system* (ADV) discourses. These aesthetic discourses echo the current themes of healthcare architectural design and research, as could be anticipated considering that many of the Q statements were retrieved from the literature.

Yet it is crucial to note that the purpose of factor analysis is not to replicate or verify the results of previous research. The aim rather is to identify new ways of relating to the aesthetics of the care environment. This involves the use of viewpoints originating from prior empirical research and also, in this case, viewpoints taken from prior stakeholder interviews used as raw material for forming the statements of Qmethodological research, which may then be rearranged and recontextualised in the Q-sorting exercises performed by the participants. The discourses that emerge portray overall aesthetic postures on the care environment. They may contain perspectives from a multitude of prior research studies, but as a rule they are not manifestations of any particular research disciplines, or results, or replications as such. Qmethodology in general, with its factor analysis technique, and especially when judgemental rotation is applied, is predominantly a method of discovery. In the next chapter, I will discuss the results in relation to previous research and existing design trends.

The discourses reveal the reasoning underpinning the different reactions, thereby deepening our understanding of care environment aesthetics. They are anchored in the personal experiences of users and stakeholders in relation to specific care environments. These personal viewpoints and preferences are, furthermore, expressed through the favourite spots indicated by the users and stakeholders, and photographed on-site.

Finally, what can the architect, the constructor or the users gain from the results? It is clear that users and stakeholders relate to and value their environment in different ways. An evident conclusion is that there is no single way of designing either acute or chronic care environments. On the contrary, there are choices to be made on all design levels! However, could there be room for reconciliation between the discourses? Could we find solutions with which all the engaged can concur? The next chapter will discuss the implications of the findings for design and building praxis as well as the role of the case studies in developing potential future best-practises.



DISCUSSION

In the previous chapter, the results derived from the Q methodological experiments and the subsequent user and stakeholder interviews were statistically analysed and interpreted, identifying five aesthetic discourses. These aesthetic discourses comprised the *'putting patients first'* (ADI), the *Nightingale discourse* (ADII), *nature – wellbeing – personalisation* (ADIII), *'my home is my castle'* (ADIV) and the *rational wayfinding system* (ADV). The content of the discourses was defined by looking at how the participants had valued the statements describing the care environment in their Q sorts. I then compared and analysed the backgrounds and user statuses of the adherents, looked at which buildings they had reacted to, and studied how they had justified their positions on the emerging viewpoints in the interviews. The combination of letting the participants react to the aesthetic statements in the Q sorts, as well as explaining why they had reacted in that way, shed light on the underpinnings of the five aesthetic discourses. The similarities and dissimilarities between the discourses were statistically measured and analysed. The consensus statements identified some values common to all discourses, which could be interpreted as shared aesthetic values transcending the case study building types, the statuses of users and stakeholders and the cultural contexts. The favourite spots of the participants in the care environment were reported according to user/stakeholder groups.

In this discussion chapter, I will summarise these findings and mirror them with the initial research questions. The results are contrasted with the different types of care environments represented in the study (6.1), the geographical locations and cultural contexts of the case study buildings (6.2), and with the different user and stakeholder groups participating in the study (6.3). The results are then viewed in relation to previous research and the current healthcare architectural debate that was discussed in the first chapters of the thesis (6.4). Did the Q experiments yield something new, or are the results mere echoes of the existing theoretical and empirical stances, which were the very points of departure in modelling the universe of statements, that is, the theoretical model of aesthetics and architecture? In other words, do the results go *beyond* the theoretical model?

One of the research questions at the outset of the study, which emerged as a by-product of the case study selection criteria, concerns the extent to which the case study buildings can be treated as models for future design, including

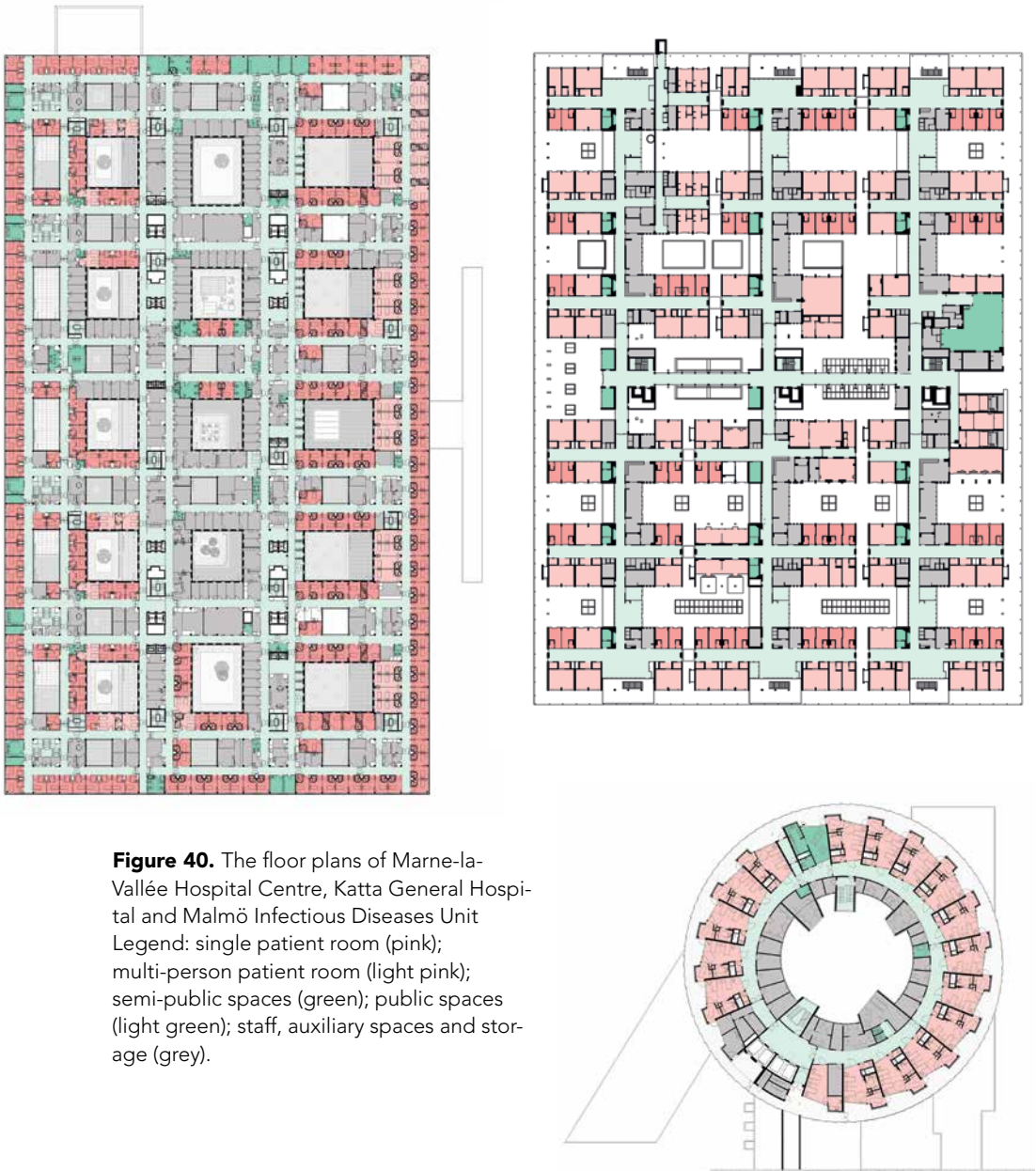
the first-hand user/stakeholder experiences of the buildings. The buildings were selected from acknowledged and celebrated buildings, arguing that they would therefore represent high aesthetic quality. However, when promoting architecture and rewarding buildings, the selection criteria are frequently defined by the professional community, and are intended for other professionals, with little weight put on user experiences or care praxis. To address these issues, the users' and stakeholders' evaluations of the case study buildings are discussed, dealing with the role of the case studies as future best-practices (6.5). Based on these evaluations, a set of best-practice features is identified and proposed as practical implications or lessons to be learned from the case study buildings (6.6).

Broadly speaking, the user and stakeholder perceptions of the case study buildings touch upon multifarious issues such as the *healing* role of the care environment, here interpreted as a question of whether the environment induces wellbeing and ameliorates the quality of life of the patients and residents as viewed by them and which, as such, could be considered to contribute to the caring and curing processes. One generic notion within the Q findings is that the aesthetic qualities of the buildings are seen to be components of care quality in *all* of the discourses, yet the means and type of aesthetic solutions varies, depending on who is looking and in what kind of an environment.

In the last section, the adaptability of Q methodology to the investigation of care environments is assessed (6.7).

6.1 AESTHETIC DISCOURSES IN RELATION TO TYPE OF CARE ENVIRONMENT

Theoretical advances on the role of function in architecture found as a general notion that the *use* of a building is inherent in the essence of architecture. Function – although it may be constantly changing and evolving – defines the overall design task of the architect. The fact that a building is going to be used shapes the building, as it does our aesthetic interest in the building (see Section 2.1.7). Similarly, the methodological hypothesis at the outset of the study was that the emerging aesthetic discourses would mirror the building types, in this case so that users and stakeholders would value different aspects of the environment in *acute* vs. *chronic* environments. In the research design, this was referred to as theoretical replication, in line with Yin's (2009) methodological stances (see Section 3.3.1). I anticipated that the results from the high-tech and highly-specialized hospital environments, where the demand for hygiene standards is high and where the goal is to keep the length of stay as short as possible, would stress aesthetic features enhancing hygiene, maintenance and the efficiency of care processes and use of spaces. Chronic care environments, on the other hand, where patients and



residents stay for longer periods of time, feature a more long-lasting relationship with the care staff and use low-tech equipment with the spread of diseases not being a top priority, would favour homelike attributes and the personification of spaces. In order to obtain comparable data on this point, one of the case study selection criteria was to have an equal number of Japanese and European buildings in both of these general functional categories.

The results partly support this hypothesis as the discourses ADII, ADIV and ADV are strongly associated with building type specific considerations, (see

Section 5.3 on the correlation and dividing lines between the factors). The adherents of the *Nightingale discourse* (ADII) and the *rational wayfinding system* (ADV) all relate to the category of large-scale *acute* hospital environments and specialised clinics. The buildings the participants react to are either Katta General Hospital and Marne-la-Vallée Hospital Centre, which are large hospitals with several hundreds of in-patient beds and a wide range of medical specialties, high-tech diagnostic equipment and treatment facilities, or the Malmö Infectious Diseases Unit, designated for a smaller number of patients contaminated with infectious diseases and cared for in an environment among the most advanced technically possible.

Apart from the hygiene doctrines at the core of these two discourses, common to the buildings is their large size; the buildings have total floor areas ranging from 24 000 to 72 000 sq.m, which exceeds by far that of the other case study buildings.⁴⁸ It could be argued that the users and stakeholders of these buildings struggle with issues related to large buildings, for example, how to find one's way inside the building; how to organise the flow of patients and the movement of care staff; how to organise the logistics of supplies and waste disposal, and how to distribute the huge number of technical connections needed to ensure proper air, power and data standards, while at the same time having patient and medical procedure rooms equipped with natural light and a view.

The complexity and huge size of these buildings affect the aesthetic priorities and solutions, hence the emphasis is on wayfinding and a clear and rational layout of spaces that both guide the users through the care building and provide systematic routes for the technical installations. In the Malmö Infectious Diseases Unit the main architectural concept is based on a circular building, where the flow of infected patients and staff is separated from the clean circulation of staff and supplies onto either an outdoor balcony or an inner corridor. A central courtyard brings light to the staff facilities, while the brightly coloured walls of the corridors create a rhythm structuring the spaces. In Marne-la-Vallée a network of double corridors runs through the building in two directions, providing access to all rooms inside the massive building volume as well as a flexible division of the wards. Here again, a set of closed courtyards brings natural light inside the building and the different colours of the courtyards aim at facilitating wayfinding. Katta General Hospital starts from a different disposition. The architectural strategy there is based on scattering the patient wards amidst rooftop gardens on the top floor, connected to each other by a main corridor equipped with vertical connections to the ground floor. Wayfinding in this simple spatial layout is solved by unique and tailor-made graphics and a system of printed textile signs, see Figs. 40–43.

Another feature connected to the *acute* nature of the buildings is the impersonal and temporary relationship between the patient/visitor and the environment. According to ADII and ADV, the goal is to cure or care for the patients



Figure 41. Balcony entrance to patient room



Figure 42. Landmark courtyard, blue



Figure 43. Specially designed signage and lighting

as efficiently and swiftly as possible, therefore there is no need for homelike or personal attributes relating the patients to the environment. On the contrary, the aim is to shorten the length of stay at the hospital, not to lure the patient to move in. The environment as well as the care staff remains at a distance from the prime users.

In the *'My home is my castle'* discourse (ADIV), all participants react to buildings belonging to the category of *chronic* care environments, namely the Senri Rehabilitation Hospital and the Käpylä Autism Centre. The intended uses of the buildings are quite different; Senri rehabilitates victims of accidents and strokes, the lengths of stay spanning some months, while the Käpylä Centre aims at more long-lasting psychiatric rehabilitation of adults with autism, some living at the centre for a lifetime, others visiting daily for work training and rehabilitation. However, the overall architectural concepts are very similar (Fig.44). Both buildings start from the idea of, on a symbolic level, separating *home* from *work*. In Senri the patient wards, which are divided into home units of twelve patients and have a homelike interior design, are located in a separate building from the main rehabilitation spaces. The more public rehabilitation spaces are accessed by outdoor balconies. In Käpylä, the layout of spaces and activities is divided into two separate building volumes; a two-storey wooden day activity part and a higher residential part made of brick.

Both environments share a strong emphasis on rehabilitation and, moreover, a rehabilitation in which the building itself plays an important role. In Senri most of the physical rehabilitation exercises take place publicly, either in the lobby areas and the main staircase, or, more privately, in the home units that constitute the patient wards (see Fig. 45, 46). In the home units, the patients practise abilities of daily life in a homelike setting. In the Käpylä Centre as well the home in



Figure 44. The floor plans of Senri Rehabilitation Hospital and Käpylä Autism Centre
 Legend: single patient/resident room (pink); common space of ward/group home (light pink); semi-public spaces (green); public spaces (light green); staff, auxiliary spaces and storage (grey)

itself is a central rehabilitation setting as the autistic residents have challenges in coping independently with everyday life tasks, such as eating, cooking or taking care of their personal hygiene (see Fig. 47). In the day activity centre, the spaces of different size and openness structure the different rehabilitation forms, which are divided into either tasks that require a more calm and closed space or open get-together spaces for practising social abilities.

In accordance with the discourse, it is crucial for these special user groups to be able to flexibly adapt the care environment to the individual needs of the users because the needs vary greatly depending on the person, the diagnosis and on the success of the rehabilitation. In Senri and Käpylä, the notion of a home-like care environment is not only a symbol of *home* that encourages the users to feel attachment to the place, it is also a very tangible answer to the challenges of coping independently with domestic chores. The rehabilitation of everyday life abilities benefits from a domestic setting where they can be tested in real situations. In line with this idea, Senri rehabilitation principles aim at making the patients face the difficult everyday situations they will encounter on returning home after the rehabilitation, such as using stairs equipped with a hand-rail on only one side of the staircase, using an umbrella when it rains or opening a screw-top bottle independently.



Figure 45. Physical training on staircase



Figure 46. Training ADL in home unit



Figure 47. Group home kitchen with space for cooking

However, the results of this study indicate that although the building types might mirror some of the reactions vis-à-vis the environment, the picture is more complex. In two of the discourses, *'putting patients first'* (ADI) and *nature – wellbeing – personalisation* (ADIII), both *acute* and *chronic* environments are represented. This implies the existence of generic aesthetic conceptions and features going beyond the intended uses of the buildings. ADI puts primacy on the patient/resident perspective in all aesthetic choices and solutions, and is the most comprehensive of the discourses, comprising respondents of the Katsura Ladies Clinic, Malmö Infectious Diseases Unit, Senri Rehabilitation Hospital, Yuraku Nursing Home, Maggie's Glasgow and Käpylä Autism Centre.

In ADI, the stress is on the importance of uniqueness and efforts put into carefully designed details and high-quality materials offering the users positive sensuous experiences. The notion of architecture being a *gesamtkunstwerk*, where quality in the sense of craftsmanship matters, is seen to symbolise the value and uniqueness of the patients and residents. Furthermore, the respect for patient/resident privacy, which was supported by all discourses in the consensus statements, is highly ranked. These are values that can be recognised in the care environments irrespective of the building types, although they affect the case study buildings on all design levels.

When it comes to the buildings highlighted in ADI, the respect for privacy of the individual patient is at the core of the architectural concepts and layout of spaces. In the Katsura Ladies Clinic, the patient rooms are articulated as separate

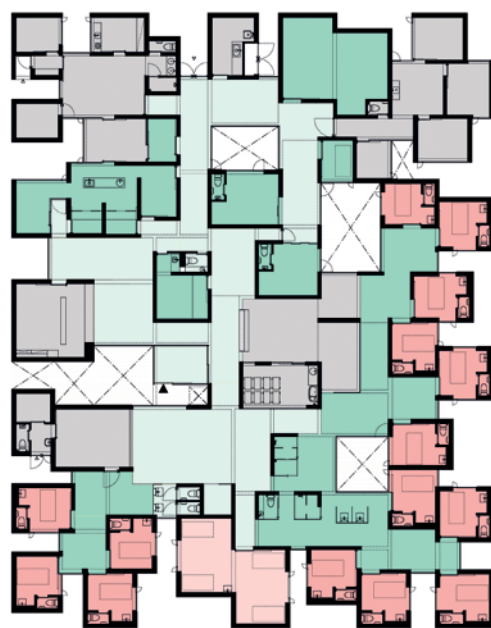


Figure 48. The floor plans of Maggie's Glasgow, Katsura Ladies Clinic and Yuraku Nursing Home.

Legend: private space/single patient/resident room (pink); semi-private space/multi-person patient room/ common space of group home (light pink); semi-public spaces (green); public spaces (light green); staff, auxiliary spaces and storage (grey)

concrete boxes on the outside, with a wooden interior finish on the inside (see Fig. 49). Every detail is designed and the materials selected in order to make the mother who has given birth feel comfortable. Each room has a skylight bringing indirect natural light to the space and a separate window with a view. With respect to the anonymity of the mothers, even the nametags in the corridors are covered with soft textile covers. In Maggie's Glasgow as well, every piece of furniture, artwork and item of the interior design is carefully selected to create a calm and soothing ambience. The finishing of the surface materials, the way



Figure 49. Wooden interior surfaces



Figure 50. Carefully selected furniture and artwork



Figure 51. The crying room

the different materials meet and are joined together, and the way the technical appliances are hidden behind the surfaces show true craftsmanship and effort on the parts of the architect, the Centre's art coordinator and the constructors. One might argue that in the case of Maggie's Glasgow, which is located in the grounds of a large, 1970s NHS hospital compound and yet provides a unique and highly refined architectural experience, the respondents are reacting not only to the building itself, but also in stark contrast with the neighbouring hospital of poor quality. By comparison, the notion of uniqueness and the high-quality materials and details is emphasised in Maggie's. The visitors find privacy in the many corners and niches of the building, the enclosed *crying* room, and in the gardens of the premises (see Figs. 50, 51).

In Yuraku Nursing Home the privacy and small-scale home environment of the elderly is secured by scattering the home units over a larger area, separated from each other by courtyards and gardens. Here again, the respect for the residents' integrity is preferred to shortening staff walking distances by making a more compact layout of spaces. The entrances of the individual home units have unique detailing, which is intended to help the residents remember which is their entrance (see Figs. 52, 53). In the Käpylä Autism Centre, the individual flats are located at the outer corners of the residential building to ensure the maximum privacy for the residents. The group home can be divided into two smaller homes with a shared kitchen, if the need for privacy is greater. Every flat is equipped with windows in two directions, which not only makes the room feel spacious, but also permits the resident to close off unwanted light or views in either direction. The shared balconies of the four-person group home are articulated as individual wooden boxes extruding from the façade (see Fig. 54).



Figure 52. Pocket garden between home units



Figure 53. Unique detailing of entrance door to unit



Figure 54. Individual balconies for homes



Figure 55. Facades of glass lamellas



Figure 56. Private patient living room



Figure 57. Soft lighting in the common spaces of patient ward

The same points of departure are prevalent in Malmö Infectious Diseases Unit and Senri Rehabilitation Hospital, that is, on the one hand stressing privacy and integrity and on the other hand paying attention to details and aesthetic solutions while taking the patients into consideration. In Malmö, the single patient rooms are on the outer perimeter of the circular building. Through the large glazed façades the patients can look out on the city, while the glass lamellas of the balconies give an impression of shelter even though the façade is transparent (see Fig. 55). The notion of freedom and empowerment that goes with patients being able to exit directly from their rooms and stroll on the balconies at any time, was especially praised in the Q interviews. In Senri, as in Yuraku,

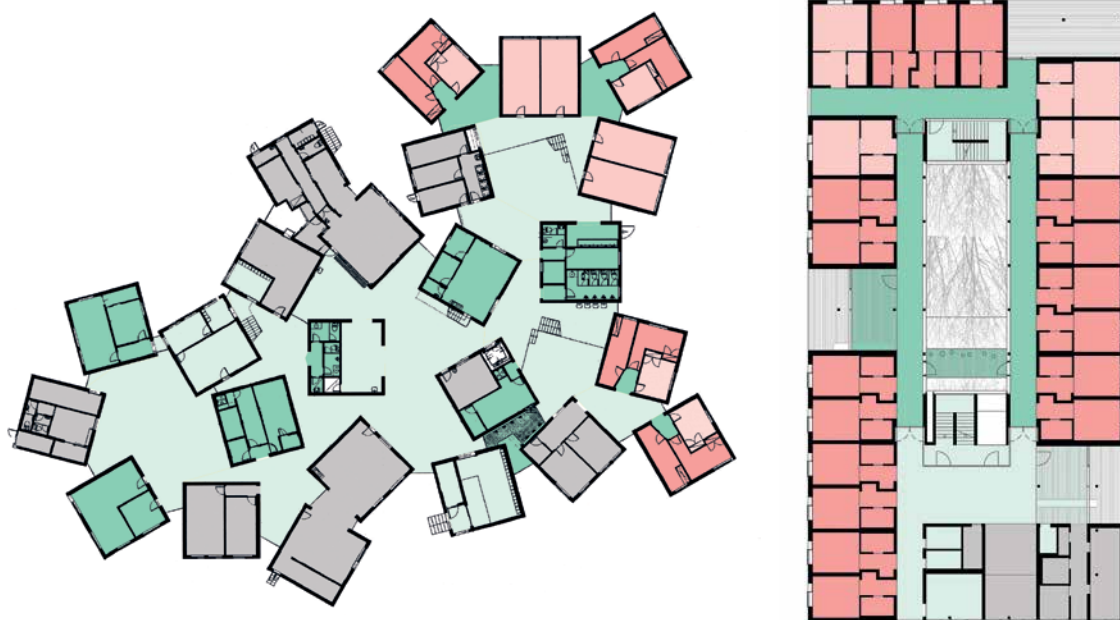


Figure 58. Floor plans of Baum Haus and Haus Steinfeld

Legend: single patient/resident room (pink); multi-person patient/resident room (light pink); semi-public spaces (green); public spaces (light green); staff, auxiliary spaces and storage (grey)

the surface materials and lighting were designed to be tactile and sensuous. In the Japanese-style home units rehabilitation takes place on raised tatami mats, natural light enters the room through *shōji* screens and the artificial lighting is soft (see Fig. 57). In the Western-style rooms, wood and textile carpets are used (see Fig. 56). Here again, privacy is ensured not only by the single rooms, but also by a division of the patient rooms into home units, with a gradation of spaces into different degrees of privacy.

The *nature, wellbeing and personalisation* discourse (ADIII) brings together functionally opposite types of care buildings; at one extremity, the large and *acute* environment of Katta General Hospital, and on the other, the *chronic* environments of Haus Steinfeld and Baum Haus. The idea of nature being a prime source of wellbeing unites these buildings. The architectural concepts are based on bringing nature near the patients and residents either through well-selected views from windows, as in Baum Haus (see Fig. 61), or more concretely as in the rooftop gardens of Katta General Hospital (Fig. 59) and the atrium garden of Haus Steinfeld (Fig. 60). In Haus Steinfeld, the residents can enjoy the views onto the atrium when walking along the corridors or fully enjoy the garden with all their senses on the balconies crossing the atrium. In Katta Hospital, the patient rooms have direct access onto rooftop gardens. The patients can leave the door open to the gardens or stroll around outdoors on the entire top floor and look out over the surrounding mountains. These ways of enjoying nature were truly valued by the users and stakeholders of all three buildings and experienced as healing.



Figure 59. Patients access to rooftop gardens



Figure 60. The botanical garden in the atrium



Figure 61. View to the sea from the onsen

It could be argued that categorising the case buildings into either *acute* or *chronic* environments, as is done in this study, oversimplifies the discussion because the diversity of buildings within one category is significant, for example, when including the small Katsura Ladies Clinic with the large *acute* hospital buildings, or when considering the wide range of clients and different services produced by the six chronic buildings. Maggie's Centre could be said to have little to do with the housing solutions of the other *chronic* buildings, while the Senri Rehabilitation Hospital lies almost at the borderline between *acute* and *chronic* as it provides high-tech diagnostic equipment in the evaluation ward. However, although the uses of the buildings differ, it is interesting to speculate how the buildings would function if they switched users. With small modifications, Senri and Käpylä or Baum Haus and Haus Steinfeld would probably function nearly as well, while the residents of any of the chronic buildings would be difficult to fit into, for example, Marne-la-Vallée Hospital Centre. In that sense, the overall division of care environments into *chronic* vs. *acute* environments seems meaningful because the nature of the activities within the two categories are predominantly quite similar.

However, if we look at these diverse building types in parallel, potential new solutions and ways of producing services and designing future care environments can be identified. There might be particular features of the buildings belonging to one building category that could be adapted to the care environments of the other building category. For example the home units of Senri could be envisioned in larger *acute* hospital environments, the box-like layout of spaces of Katsura Ladies Clinic in *chronic* environments, and so forth. This idea will be taken up as a point of departure in Section 6.6, when I evaluate the practical implications of the case study buildings.

There is an evident twofold conclusion to the initial research question of whether the aesthetic definitions and solutions are generic or whether they are tied to the particular building that the participants react to. While specific building types might guide some of the aesthetic preferences and conceptions, they are not decisive on *all* clusters of opinions. The Q findings strongly indicate the existence of generic aesthetic discourses that override the specific. Furthermore, there is no one way of designing either *acute* or *chronic* care environments. The results of this study feature several aspects that affect the aesthetics of acute care environments: two different overall aesthetic concepts that concentrate solely on the acute environments, ADII and ADV, and two discourses that highlight features affecting both acute and chronic environments, ADI and ADIII. The same goes for the dimensions and priorities that relate more specifically to the chronic environments: the results include three mutually-different relevant overall aesthetic statements connected to this group of buildings, ADI, ADIII and ADIV. There are choices to be made!

6.2 THE RESULTS ACCORDING TO CULTURAL CONTEXT

A methodological strategy in the research design was that five of the case studies would be Japanese and five located in different countries in Europe. The European cases were not selected based on the country and its healthcare system or other societal features, but primacy was put on obtaining an equal number of *chronic* and *acute* buildings that fulfilled the defined architectural quality criteria. The buildings and the way users and stakeholders experience them is in prime focus. The cultural differences between Japan – or the larger North-East Asian area – and Europe as a wide region, or the individual differences between the selected European countries of Finland, Sweden, the UK, France and Austria, were not, as such, under scrutiny. However, the objective of having both Japanese and European case studies was to investigate potential differences in aesthetic and architectural approaches between the geographically distant locations. Here, it is important to distinguish between two different aspects. Firstly, we have potential differences between Japanese and European care environments in the architectural solutions of the case study buildings, and secondly, we have potential differences in the ways the users and stakeholders react to the aesthetic and architectural features of these buildings.

The results of the Q analysis show, however, that the location of the case studies, that is Japan versus the five European countries, does not determine the aesthetic discourses. Each discourse, in which the users and stakeholders reacted to more than one building, has a mixed composition of both Japanese

and European participants, and hence, care environments. In the *'putting patients first'* discourse, the three associated buildings are Japanese and three European, while the *nature, wellbeing and personalisation* discourse refers to two Japanese and one European building. The *Nightingale discourse* features two European and one Japanese hospital, while *'My home is my castle'* comprises a Japanese and a European chronic care environment. The *rational wayfinding system* was the only discourse focusing on only one building, the Marne-la-Vallée Hospital Centre. This all suggests that on the level of the discourses, the aesthetic definitions and preferences are not bound to geographical and cultural boundaries.

The attitudes of the respondents towards questions related explicitly to cultural or contextual features of spaces, materials and colours, and how the buildings relate to the surrounding neighbourhood, was tested in several of the Q statements (st.19, st.31, st.41, st.43, st.45). In Statements 19 and 41, it was claimed that the use of local materials and colours would give an identity to a place, a sense of connection to local culture and history, while Statement 43 approached the issue from the opposite direction in proposing that the building could well stand out from the surroundings and need not blend in, arguing that traditions as well as the environment are evolving and the care environment could be part of this evolution. In Statement 31, the importance of having spaces tied to cultural practices, such as a tea room or sauna, was stressed. The findings indicate that on average⁴⁹ the respondents felt somewhat neutral or ambivalent towards these statements, rank-ordering them in the zones between -2 and +2, (for idealized Q scores see Table 7, Chapter 5). Other dimensions of the environment were judged to be more important and these emerged in the aesthetic discourses. One exception was Statement 45 that addressed the interaction between the care environment and the surrounding community, without specifically mentioning traditional architectural features or local culture, but indirectly implying that by participating in activities in the community, we are part of the local culture. Here, Aesthetic Discourse III related strongly positively vis-à-vis integration with the community in line with the overall stance of the discourse, while the *rational wayfinding system* (ADV) ranked this issue negatively because this type of extracurricular activity are seen to go beyond the mission of the *acute* care environment.

Nevertheless, the role of traditional design elements and cultural references aroused considerable discussion during the Q interviews. When analysing the underlying reasons behind the low rankings attached to traditional and cultural features in the Q sorts, several viewpoints emerged. One interviewee explained the lack of reaction towards cultural identity by saying that the experience of colours, materials and the use of spaces do not need to be attached to a cultural awareness, although the practices themselves might be culture specific. They can as well be simply personal ways of experiencing things.⁵⁰ This was proposed by the next of kin of a resident with autism who has a strong personal preference

for round, plastic objects in different colours. According to her spokesperson, this preference is deeply personal and seemingly without cultural or situational bonds. For this resident, the repetition of routines is important and part of the weekly routine is going to the Finnish sauna. For her, the sauna is a recurrent social event accompanied with physical pleasure, rather than being a symbol of Finnish culture and traditions. But, of course, the fact that the care environment is in Finland has influenced the presence of a sauna and the fact that the resident is Finnish also explains why she is accustomed to the sauna bathing tradition.

In the European context in particular, many interviewees questioned the significance of traditions and culture in architecture in multicultural cities such as Malmö, Glasgow or Paris. When the users and stakeholders are of diverse cultural backgrounds, the question arises as to which cultural context and to which traditions the building should refer to. At the same time, the care environment as a public institution and symbol of the welfare state needs to be representative of the entire population. As a general stance, this could be seen as a judgement on contemporary architecture, namely, that it fails to convey the cultural identity of today in a manner that would make it meaningful and comprehensible to everybody, and thus something to be prioritised in the Q sort.

“How to make a space that reflects cultural identity in Malmö, where we have a multi-cultural society? In Malmö there are people from all nationalities. What is the Swedish identity; is it small working class rooms from the 1920s or 1940s modernist villas?” CARE STAFF OF A EUROPEAN ACUTE ENVIRONMENT, INT.29

“I don’t think materials should express traditional values – this isn’t a traditional building, it is very modern, made very comfortable. I don’t think a building has to be traditional to be comfortable at all, and Maggie’s is a perfect example of it.” ADMIN STAFF OF A EUROPEAN CHRONIC ENVIRONMENT, INT.33

If we turn now to the case buildings, one way of approaching the question of potential differences between the Japanese and European environments scrutinised in this study would be to look at the building solutions and the architectural strategies applied. In the pilot study on Japanese care environments (Ståhlberg-Aalto 2013), one finding concerned how the role of traditional architectural elements in Japan was part of the current debate and was an issue faced by the architects and the commissioners of care environments. In Japanese buildings in general, the interiors are often categorised as being either *Japanese* or *Western* style, the difference of which the Japanese seem to automatically comprehend. In the care context, the use of traditional interiors is argued to be supportive especially in the care of the elderly as it may be a style that they are familiar with and hence

an environment easy to bond with, (in line with the discussion on associations related to aesthetic features in Section 2.1.5). Others claim that new care buildings need not be traditionally designed any longer since the future users, who are the young of today, have not had the opportunity to live in traditional environments. In other words, this is a question of a generational shift.

On a general level, the question of traditional interiors might affect the building design in different ways in Japan and the participant European countries. A traditional Japanese interior requires structural measures, such as the dimensioning of the room to fit the tatami standard size, the raised floor levels of the tatami area and the surface and structure of wall partitions (see Fig. 63). In many parts of Europe on the other hand, in the care environment context, a traditional interior could be seen more as a question of *stuff*, in other words the movable furniture, the paintings on the walls or the tapestry, features the residents of chronic care environments commonly can decide on personally (Fig. 62). In contemporary European architecture more generally, the link to old, culturally-bound design traditions is predominantly less evident. There, the architectural solutions are more influenced by the surrounding urban or regional contexts than by traditional architectural styles. For example, the exterior colour scheme of Käpylä Autism Centre draws from the neighbouring residential areas of the 1920s and 1940s, while the façades of Marne-la-Vallée Hospital Centre make reference to the famous artist, Henri Cartier-Bresson, who came from the area.

In two of the Japanese *chronic* buildings, Yuraku Nursing Home and Senri Rehabilitation Hospital, the patients and residents could choose between Japanese and Western styles for their rooms. In the Japanese rooms, the users can sleep on futon mattresses if they wish, the floors are composed of tatami mats,



Figure 62. Living room furnished with old-style Austrian furniture



Figure 63. Entrance niche to resident's room.



Figure 64. Western-style patient room



Figure 65. Japanese-style room



Figure 66. Traditional façade materials

the wall finishing is in traditional plaster with wooden details and the windows are equipped with *shoji* screens. In these rooms, the users would need to move without a wheelchair or rollator due to the traditional differences in floor levels. In the Western-style rooms, the users sleep in beds, the floors are either wooden or covered with textile carpets and the walls are painted (see Figs. 64, 65). In Yuraku, the reference to traditional Japanese architecture is explicitly part of the architectural concept. The otherwise large building volume is split into a village of smaller houses, aiming at resembling traditional residential areas. Traditional building materials are used in the façades and the roof tiling, as well as in the interior design (Fig. 66). In the tearoom, visitors and residents can enjoy a traditional tea ceremony. In Senri, the reference to traditional architecture is limited to the Japanese-style home units in parts of the wards, whilst the architectural expression is otherwise contemporary. In the three other Japanese case studies, Katta General Hospital, Katsura Ladies Clinic and Baum Haus, the architectural expression is distinctly contemporary Japanese.

All five Japanese buildings bear features commonly associated with Japanese architecture. The experience of the care environment through all the senses transcends all design levels. The connections between indoor and outdoor spaces and the incorporation of nature into the care environment through interior courtyards and gardens or well-framed views towards the surrounding landscape, as in the traditional ‘borrowed scenery’ design techniques, are prevalent in the case buildings. In Katta General Hospital, the patient rooms open up towards rooftop gardens while light and nature is brought down to the ground floor lobby area through interior gardens and skylights (Fig. 67). In Katsura Ladies Clinic and Yuraku Nursing Home as well, the borders between inside and outside are diffuse and pocket gardens animate the lobby areas and corridors. The Baum Haus archi-



Figure 67. Meditative sculpture garden in wood



Figure 68. In-outdoor connections between boxes

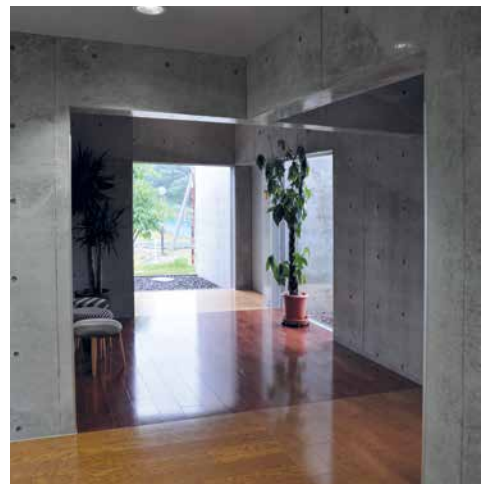


Figure 69. Concrete and wooden surfaces

tectural concept is based on opening up well-framed views in different directions towards the surrounding landscape and bringing in natural light through the glazed façades between the white building volumes (Fig. 68). Another feature associated with Japanese architecture – both contemporary and traditional – and identifiable in the case buildings is the use of simple and tactile materials that bring out the structure of the material itself, such as wood, concrete or plaster, in combination with a restrained colour palette, which emphasises light and soft colours. This use of materials links up with the aesthetic principle of respecting the inherent characteristics of natural materials discussed in Section 2.1.5.

One example of the use of materials could be the extensive use of wooden floors. In Katta General Hospital the whole patient ward is wooden, including corridors and patient rooms; in Katsura Ladies Clinic the floor is composed of a collage of different wood species (Fig. 69), even the floor of the delivery room being wood; in Senri Rehabilitation Hospital and Yuraku Nursing Home wood is used in the floors of lobbies, corridors and patient rooms in combination with tatami mats and textile carpets; in Baum Haus the wooden floors of the common spaces reinforce the impression of a continuous freely-flowing space. Furthermore, a typical Japanese feature would be the overall layout of spaces based on a spatial development moving from parts towards a whole rather than having a predefined general structure directing the building design, (as discussed in Section 2.1.8). Among the case buildings, Katsura Ladies Clinic, Baum Haus and Yuraku Nursing Home, in particular, are founded on a seemingly random composition of building volumes and the flow of common spaces created between them.

Turning to the European context, there is a clear difference in the use of materials and colours among the selected case study buildings compared to the Japanese counterparts. Overall, the selected European care environments ap-



Figure 70. Rhythm of colours in the corridors



Figure 71. Colours and materials code façade



Figure 72. Graded colour scheme in courtyards

plied a brighter colour palette, both in the interiors and the exteriors. In Malmö Infectious Diseases Unit, the three bright colours of warm yellow, apple green and red create a rhythm both in the circular interior corridor and on the outer façade (Fig. 70). The same colours were applied in patient rooms and in fixed furniture. In Käpylä Autism Centre the colours of the floors in the rehabilitation spaces were coded in four different colour zones (yellow, green, blue and red) with the aim of making the users subconsciously recognize where they were in the building. The residential building part was further visually separated from the day activity part by the use of different materials, wood or plastered brick, and different colours in the façades, orange or dark brown (Fig. 71). In Marne-la-Vallée Hospital Centre, colours play an important role in the overall architectural concept that is based on a series of interior courtyards that function as landmarks and points of reference in the building. The shifting and glowing metallic colours of the courtyard façades span shades of red, green, blue and grey, paying tribute to the French cineaste, Henri Cartier-Bresson, who came from the Marne-la-Vallée area (Fig. 72). Furthermore, the signage system codes the corridors of the floors into bright yellow, green or blue zones. In Steinfeld, the tranquil wooden surfaces are contrasted by the use of terracotta orange on the floors and wall surfaces of the ground floor common spaces. Among the selected European case study buildings, Maggie's Centre is the most sparsely coloured, choosing to emphasise the natural materials used, such as concrete, wood and neutrally-plastered walls.

The extent to which wood was used in the case buildings could be considered to reflect a cultural difference in the design praxis between Japan and the participant European countries. Although wood is a traditional material in many of the European countries, such as Finland, Sweden and Austria, it was only used in Haus Steinfeld in a comprehensive manner. There, the archetype of the traditional

Carinthian house was given a modern interpretation by using wooden materials and bearing structures on the first floor and upwards, while constructing the ground floor in concrete and glass, symbolising the natural stone plinths of the past. On the upper floors, wood is applied to floors, walls and ceilings of common spaces, doors and railings, as well as fixed and moveable furniture (Fig. 73). However, wood is completely banned from the European *acute* care environments, that is, Marne-la-Vallée Hospital Centre and Malmö Infectious Diseases Unit. In line with ADII and ADV, the stakeholder argument was that wood, textile carpets and other soft materials are not compatible with the hygiene requirements of hospitals as they are not washable or disinfectable in the same way as, for example, vinyl flooring. No such guidelines were applied in the Japanese acute environments, where even the delivery rooms of Katsura Ladies Clinic were in wood. Comparing Figs. 74 and 75 below, the differences in the use of materials between the selected European and Japanese acute buildings are quite obvious.

In the European *chronic* care environments, there were no hygiene doctrines directing the aesthetic choices. Nevertheless, in Käpylä Autism Centre, the wooden floors, although they were originally part of the design, were left out due to claims by stakeholders that the autistic users would destroy the flooring. Here again, it is more a question of the prevailing pragmatic attitude and care culture vis-à-vis the environment than respect for the residents'/patients' enjoyment of the surface qualities of the care environment.

During the Q and expert interviews, some users and stakeholders suggested that the notion of privacy and communality is perceived differently in Japan and the European countries represented in the study. A common opinion seemed to be that in Japan, where extended families are more prevalent than in Europe⁵¹ and people live more densely, the patients and residents need less space and less privacy.⁵² One way of approaching the topic could be to compare the amount of space in general and in private use per patient and resident in the selected case study buildings. On average, the amount of space per person as a ratio of the total floor area is indeed bigger in the selected European case study environments than in the Japanese (see Appendix III for a comparison of the case study buildings). For example, if we compare buildings with similar functions and services, the Katta General Hospital comprises 84 sq.m. per bed, while the equivalent in Marne-la-Vallée Hospital Centre is 123 sq.m. per patient bed, that is, a difference of 39 sq.m. per bed.

A wide range of features might affect the total floor area, such as the general architectural concept and layout of spaces, the number of patients per room and the content of the design brief. Nevertheless, a close-up of the spatial layout reveals that in Katta, the single patient room spans 10 sq.m. with a 1.8 sq.m. toilet, while in Marne-la-Vallée the room is 12.5 sq.m. plus a toilet of 2.5 sq.m. Correspondingly, a four-person room in Katta measures 26 sq.m, while a



Figure 73. Wooden surfaces and furniture, Steinfeld



Figure 74. Interior corridor, Europe

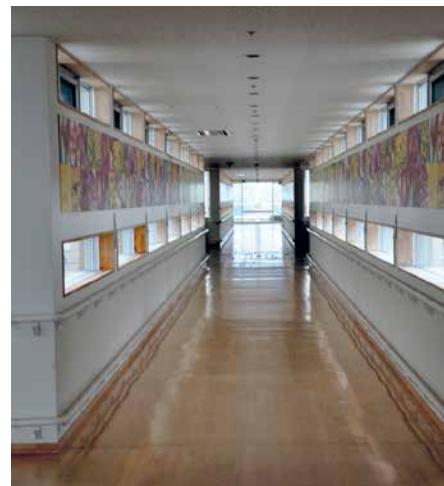


Figure 75. Interior corridor, Japan

two-person room in Marne-la-Vallée spans almost the same area, 21.5 sq. m. The same goes for Katsura Ladies Clinic, with a single room of on average 11 sq.m., including a toilet, compared to Malmö Infectious Diseases Unit where the patient room, excluding toilet, equals 31.5 sq.m. In other words, among the *acute* case buildings, the amount of space per person is considerably less in Japan than in the selected European counterparts, both when considering the total floor area and the size of the private area in the single or the multi-person rooms. In addition, the multi-person rooms tend to be four-person rooms in Japan, while they are more often two-person rooms in the participant European countries.

The difference between Japan and the European case study environments is smaller in the overall spatial dimensioning of the *chronic* case buildings. For example, the Yuraku Nursing Home for the Elderly comprises a total floor area of 66 sq.m per resident, while the equivalent in Haus Steinfeld is 73 sq.m. However, when comparing the size of the private realm, the difference is considerable; in Yuraku, the resident's private room is 13.5 sq.m, with a toilet of a further 1.6 sq.m., whereas, in Haus Steinfeld, the single resident room is 19.4 sq.m. plus a 4.5 sq.m. personal bathroom. This adds up to a difference of 9 sq.m per person. The dimensioning of the private flats of the group homes in the Käpylä Autism Centre is similar to that of Haus Steinfeld, the flat including room and bathroom measuring 23.5 sq.m. The overall floor areas of the rest of the case buildings are not compatible as their uses and the reported number of residents, patients and clients varies greatly in the different parts of the buildings. Government regulations and building subsidies most certainly influence the dimensioning of the spaces both in Japan and the European countries⁵³. As such, of course, these regulations and financial support mechanisms can be considered the consequences of cultural and societal priorities. Issues of privacy and room configuration will be discussed further in Section 6.4.

These findings, on the one hand indicating a lack of culturally- or geographically-bound reactions in the Q sorts and on the other hand identifying differences in the architectural solutions of the case buildings, give us reason to assume that the aesthetic approaches, preferences and aims retrieved from the Q methodological experiments may well represent more generic ways of relating to the care environment. The expectations and values of the users and stakeholders vis-à-vis the environment are *shared*, although there might be differences between the European case study environments and the Japanese in the applied architectural solutions. A tentative explanation could be that the ways of taking care of the sick and frail in our society – which could mean any of the case study societies – and which are reflected in how we relate to the quality of the care environment in which residents and patients in need of help are forced to spend their time, is in itself a fundamental question of how we as humans value, care for and respect others, transcending geographical and cultural differences. The aesthetic discourses, whether it means putting primacy on the patient/resident perspective and integrity (ADI), or on a supportive environment incorporating nature and interaction with the surrounding community (ADIII), or on the flexible adaptation of the home for the needs of special users (ADIV), or focusing on hygiene, safety and utilitarian aspects (ADII) of a rational and systematic care environment (ADV), override potential cultural differences. On the basis of these case studies, it would seem possible to suggest that the aesthetic and architectural qualities of the care environment are issues that unite users and stakeholders.

At the same time, the domains of research and healthcare architecture are global – as have been many architectural trends throughout history.⁵⁴ Researchers and architects read international journals, compare findings and solutions, follow international prizes and awards, and travel abroad to visit the buildings. This international exchange is also active when it comes to the stakeholders and service producers. Taking the buildings of this study alone, the director of Senri Rehabilitation Hospital had visited facilities in Europe and the architects of Katta General Hospital had taken inspiration from Le Corbusier's plans for Venice Hospital in their design. Baum Haus and other buildings by the architect Sou Fujimoto (2008) have been published in numerous journals and websites, and hence are well known throughout Europe. The head of Malmö Infectious Diseases Unit is the co-author of research articles scrutinising the choices made during the design process of the Hospital (Holmdahl & Lanbeck 2013). The design process of Käpylä Autism Centre included a report on design recommendations for adults with autism (Ståhlberg 2001). The design concept of Marne-la-Vallée Hospital Centre has been discussed in a publication (Blin 2013) and in lectures, while the Maggie's Centres represent a globally-renowned institution and design philosophy (Jencks 2010), (see References for a full list of publications

directly related to the case buildings). This international exchange in combination with the dissemination of design solutions and research findings contributes to the spread of the architectural trends and concepts of today.

To summarize this section, I propose that there exist shared reactions on the aesthetic dimensions of the care environment, here translated into the five aesthetic discourses. These discourses are not determined by cultural boundaries. However, although the design processes include an international exchange of ideas and research findings, the building designs may still be culture and/or country specific. The Japanese identity – what Yuriko Saito (2007) might refer to as Japanese aesthetic sensitivity – is strong enough to transcend into the selected case study buildings and their aesthetic and architectural features. In the European context, it is more challenging to identify country specific features and architectural solutions traversing the case study environments. Europe is genuinely a mix of cultures, architectural and aesthetic influences. The need for more space per person, both in the private sphere and in the overall care environment, along with the use of colours and surface materials, was found to be a cultural difference between the selected European and Japanese case study environments. The use of natural materials, in particular, reflects a difference in attitudes of care and administrative staff vis-à-vis the needs of patients and residents. In the European cases, the pragmatic concerns of the staff tended to surpass the sensuous experiences of the end-users, whereas, in the Japanese cases, the focus is on the ambient features of the environment taken from a patient/resident perspective.

6.3 THE RESULTS ACCORDING TO USER/ STAKEHOLDER GROUPS

One of the initial research questions addressed the issue of whether the user/stakeholder statuses affect the ways of relating to the aesthetic features of the care environment. One of the aims of the study, namely, to give a voice to diverse viewpoints and interpretations of the *aesthetic*, defined the selection of respondents to include five different user/stakeholder groups for each of the ten case studies: the architect, a member of the administration, a care staff representative, a resident or patient and a family member or a visitor. The goal was nearly attained in that the 45 respondents were quite evenly distributed on the user/stakeholder spectrum both in the Japanese and in the European case studies (see Table 4, Section 3.5.3 and Table 6, Section 5.1). Furthermore, the respondents were a heterogeneous group in terms of age, professional background and length of stay at the facility, whereas there were no significant differences in age and gender distribution between the Japanese and the European care environments. In that sense the quest for diversity was fulfilled.

The reactions vis-à-vis the care environment according to user/stakeholder groups can, on the one hand, be approached through the Q methodological results, and, on the other hand, by analysing the places and features considered significant by the participants and photographed on site, (see Figs. 35-39 in Section 5.5 for the spots indicated, arranged according to user/stakeholder groups). The results of the Q analysis show that the role of some user/stakeholder groups has strongly influenced some of the aesthetic discourses. The group identity and the professional background clearly guide some of the aesthetic approaches, preferences and aims, but not all. None of the groups solely define any of the individual discourses. Yet all groups are represented and all of the discourses have at least one resident or patient participant (see Table 15, Section 5.3).

The *'putting patients first'* discourse is the most comprehensive, including participants from nearly all the groups. However, a strong emphasis is on the architects as well as on the administrative staff. Adherents of the *Nightingale discourse* are members of the administration, care staff or patients in acute care environments. However, this particular member of the administration had a long history as a practising physician and one of the patients was a former care staff worker, making the care staff perspective predominant. The supporters of the *nature – wellbeing – personalisation* discourse are either members of the administration, care staff, residents or family members, while *'My home is my castle'* comprises patients, residents and the administration of chronic care environments. The *rational wayfinding system* includes an architect and a patient of an acute building. The fact that the different user/stakeholder groups are scattered across the identified discourses supports the general argument proposed in the previous section, namely, that the results retrieved from the Q experiments transcend potential user/stakeholder group identities.

However, the way the users and stakeholders cluster under the different discourses is coherent with the content of the aesthetic approaches. One observation is that the architects either adhere to *'putting patients first'* (ADI) or the *rational wayfinding system* (ADV). What these two discourses have in common and which could appeal to architects in general, are moral-aesthetic considerations with a normative twist. ADI distances itself from pragmatic concerns and promotes more abstract moral values to guide the design work, such as the respect for patients and residents, thereby resulting in spaces with different degrees of privacy, and the use of high quality materials crafted with unique details. ADV, although it flags a systematic and extremely flexible layout of spaces and technical solutions, still finds the ambient features of the environment valuable, for example, the attention put on wayfinding by the use of art works, colours and materials. That architects find unique designs and fine materials valuable is not surprising because it justifies their own input in the

design and building process as well as exemplifying a work ethic well-embedded in the architectural profession.

The normative aims of creating built environments that induce wellbeing and give the users positive sensuous experiences, hence making the world a slightly better place, is built in to the architect's endeavour, much as the task of the physician is to preserve life and cure the patients. These aims are also reflected in the favourite spots selected by the architects, as seen in Section 5.5. Ambient or contextual features are emphasised, such as the non-hospital-like lobby of Senri Rehabilitation Hospital or the garden of Maggie's Glasgow. A parallel could be drawn to the theoretical stances of Taylor (2000) and Saito (2007) and principles associated with Japanese aesthetic sensibility, according to which the care and effort put on designing and manufacturing a building equals the value attached to the users actually experiencing the buildings (see discussion, Section 2.1.5). Here the notion of architecture as craftsmanship is endorsed.

A tentative explanation for the absence of architects in the discourses ADII-IV could be that these approached the aesthetic in a pragmatic manner that is either against the above-mentioned ethical quests or goes beyond the expertise of the architect. The *Nightingale discourse* (ADII), emphasising functionality, safety and hygiene standards from a staff perspective, hence mostly supported by staff representatives, stands for quite opposite values compared to the *'putting patients first'* discourse supported by the architects. For ADII, the care environment is part of a 'technical' solution of providing cure for patients, without prioritising wellbeing or emotional conditions, as seen in the example of the favourite spot of an adherent of ADII being the service courtyard of Malmö Infectious Diseases Unit, showing the functional connections of the hospital (see Fig. 36.2).

On the other hand, the *nature – wellbeing – personalisation* discourse (ADIII), which stresses an environment supporting the patient/resident on physical, social and cultural levels, demands a knowledge base of what makes users feel good, something that architects might lack. In the same way, the *'my home is my castle'* discourse (ADIV), which focuses on the concept of home and its adaptability to the changing needs of the users, might stray away from the architect's sphere of reference. These two discourses approach the usability of the buildings from a resident/patient perspective and see the building as a pragmatic tool in making the users feel good. This may be through the social dimension, by having a multitude of places to meet up with people in and outside the building, or by prompting the users to feel attached to the care environment and make it feel like their own home. In this vein, views of the common get-together spaces of the care environment and the private rooms filled with personal belongings were selected as favourite spots by adherents of ADIII and ADIV (Figs. 38.5, 38.7 and 38.8). The patients and residents of ADIII and ADIV stem specifically from chronic care environments, where these social and cultural contexts are seen to be building blocks of wellbeing, enhancing

feelings of belonging and attachment. In prior research, feelings of belonging have been found to be an important feature of homeliness among residents of care homes for the elderly (Fleming & Kydd 2018). By contrast, among the adherents of the '*putting patients first*' discourse, regardless of its name, there is only one patient who originated from an acute care building.

Similarly, the administrative staff who had participated in the design and building process of care facilities for the elderly in Japan, found most challenging the lack of understanding of the values and priorities of the elderly users by the designers (Ståhlberg-Aalto 2013). In other words, although patients and residents might be 'put first' as a general aim, the architects do not know what to put first in order to best serve these end-users. The distribution of user/stakeholder statuses in the Q findings supports this argument in that there seems to be a gap in the aesthetic preferences between the architects and the patients and residents of chronic care environments. This observation is reinforced when comparing the important places and features indicated by the respondents, as shown in Figs. 35 and 38. The architects have selected views that, on a theoretical level, relate to design solutions (e.g., to position the building in a specific landscape; to have views inside and out in a certain manner), while the residents and patients valued more concrete features, such as their personal belongings or possibilities to socialise with friends.

The gap between the professional designers and the so-called laymen echoes findings in prior studies (discussed in Section 1.2.4), according to which the professional training and familiarity with architectural content and values affected the judgements of the architects. However, prior findings that distinguished between, on the one hand, the perceptions of residents and, on the other hand, those of care staff and relatives on features of care homes for the elderly (Fleming & Kydd 2018) are not supported in this study. Instead, family members, the care and administrative staff share viewpoints with the residents in ADIII and ADIV. Furthermore, some of the patients of acute care environments supported the same discourses as the care staff (ADI and ADII), which contradicts findings on patient room preferences of prior studies (Van Oel et al. 2019)

One way of comparing the reactions of the different user/stakeholder groups would be to look at the individual statements and how they were ranked in the Q sorts. Once again returning to the role of the architect, Statement 5 proposes that the architect, in lieu of the patient or resident, is the best person to select the furniture for a care facility. The statement was met with strong negative reactions (scores from -5 to -3) in almost all discourses. Several interviewees stressed that, when possible, the residents of chronic care environments should be actively involved in the selection of furniture and other stuff of the interior design in the private spaces, while the more public common spaces should be furnished in cooperation between architects, care staff members and the patients/residents.

A common perception was that the architects lacked sufficient knowledge of patients' and residents' needs to adequately furnish the care environment. This is in line with the aforementioned gap between stakeholder/user groups in the aesthetic discourses.

Another difference in user/stakeholder reactions is demonstrated in the ratings of Statement 18, which addresses the importance of using natural materials in the care environment. Interestingly, although natural materials and especially an awareness of their sensuous aspects are seen to be a typically Japanese feature, the Japanese participants did not rate the statement higher than their European peers. The statement was ranked low in all aesthetic discourses, receiving average scores between -1 and +2. However, looking at how the different user groups had valued the statement, the architects come up with more positive scores (+3 or higher) than the other user groups; more than half of the fifteen highest scores are by architects. One explanation could be the fundamentally empathic role of the architect in his/her professional duty to reflect on how future users will experience the different materials in a building. Thus, the agreeable and sensuous feel of natural materials is considered important by the architects.

A notion to consider, before making too bold interpretations on the user/stakeholder groups, is that the boundaries of the groups are diffuse. Firstly, especially in a small organisation, the role of the administrative staff and the care staff might mix. Secondly, in their professional life, people might have expertise in many different fields. The members of the administration may also very well have been care staff members in earlier careers. Patients, residents and family members have various professional backgrounds. Two of the interviewed patients were nurses, albeit they had not worked in the care environment in which they were hospitalized. One of the family members had been so closely involved with the care of a relative living in the facility that she had become a part time aid. Another family member worked as a secretary at the facility her relatives were in. Most people have personal experiences of care environments and these experiences affect how we react to the aesthetic features of the surrounding environment. This cumulation of life experience, personal background and professional expertise affect our aesthetic preferences, as they would influence any decision-making.

6.4 THE RESULTS IN RELATION TO PREVIOUS RESEARCH

Previous research related to healthcare architecture and environmental psychology was reviewed in Chapter 1, with an emphasis on aesthetic dimensions and features. I then compiled the statements the participants reacted to in the Q experiments based on this body of research as well as on viewpoints expressed

during the stakeholder interviews of the pilot study. Thus, by rank-ordering the statements in the Q sorts, the participants reacted to topical issues of healthcare architectural research and debate. The question arises how well this debate touches issues that the actual users and stakeholders of care environments face and whether the findings of this study support prior findings. I will now return to questions prevalent in previous research in light of the Q methodological findings, with an eye on which issues were highly rated by the users/stakeholders.

SINGLE ROOM VS. MULTI-PERSON ROOMS

In previous evidence-based research, single patient rooms have been attributed with positive effects on patients' wellbeing through the increase of privacy and confidentiality, lower levels of noise and better sleep quality, the reduction of infection rates and the spread of diseases, decrease in medical errors, as well as an empowerment of the patients through a better control of the ambient features of the room and of social situations (Ulrich et al. 2004, 2008, Chaudhury et al. 2005). However, there is a lack of controlled clinical trials proving the effects of single vs. multi-occupancy rooms on these patient health outcomes and on wellbeing (Dijkstra et al. 2006, van de Glind et al. 2007). Studies on patients' room preferences have shown mixed results either in favour of single or multi-person rooms (Janssen et al. 2000, Kirk 2002, Pease & Finlay 2002, Barlas et al. 2001). In the long-term care context, the positive effects and impact of the single room and the personalisation of spaces with personal items that the single room facilitates, both on the behaviour and the wellbeing of the patients and residents, seem more undisputable (Morgan & Stewart 1998, Koga et al. 2002, Fleming & Kydd 2018).

The room occupancy praxis in new care buildings is varied. In the case study buildings, the number of persons in the patient and resident rooms varied, in terms of both the planned use of the rooms and the actual use. Among the *acute* care environments, Marne-la-Vallée Hospital Centre was predominantly based on single patient rooms (85% single vs. 15% double rooms), while the Katsura Ladies Clinic had 15 single and one four-person room. The design of Malmö Infectious Diseases Unit was founded on dimensioning the single room so spaciouly that it could be used as a double room in case of emergency or seasonal outbreaks. However, due to shortage of space, the rooms are used also as double rooms in normal non-urgent situations (Holmdahl & Lanbeck 2013). In the Katta General Hospital, 30% of the patient rooms were single and the rest multi-occupancy rooms with two or four patients per room.⁵⁵ The *chronic* care environments comprised solely single resident/patient rooms in Senri Rehabilitation Hospital, Käpylä Autism Centre and Yuraku Nursing Home for the Elderly. In

Haus Steinfeld 34 out of 42 rooms were single, leaving 8 double rooms intended for elderly couples. The Baum Haus main building accommodated the child patients in single, double or four-person rooms. At the time of the case visit to Baum Haus, only 3/4 of the beds were occupied, allowing for a smaller room occupancy density. The different levels of privacy and the room occupancies of the case studies are illustrated by colours in the floor plans, (see Section 6.1 Figs. 40, 44, 48, 58); the single patient/resident rooms are in pink and the multi-person patient/resident rooms in lighter pink. For a comparison of case study room data, see Appendix III.

The results of the Q experiments indicate that there is a widespread consensus in favour of the single room and its positive impact on privacy and wellbeing of patients and residents, (see also Section 5.4). All the aesthetic discourses, including representatives from all user/stakeholder groups, rated the lack of privacy in the patient/resident room on the extreme negative side of the scale. Based on these findings, both future *acute* and *chronic* care environments should be founded on single room solutions, from the point of user/stakeholder preference. Viewpoints of prior research in favour of multi-person rooms on the grounds of loneliness and avoiding isolation (Pease & Finlay 2002) found little support in this study. On the contrary, in the Q interviews, several of the participants suggested that the need to socialise with other patients and residents should be attended to in the common spaces of the care environment and not by the use of multi-person patient/resident rooms. The single room was seen to enable patients and residents to spend time alone or in privacy with visitors and friends without disturbing co-patients or co-residents. This is in line with what has been proposed in previous research (Kirk 2002).

Among the administrators and architects of the case study buildings, the evidence-based design notions related to single vs. multi-person rooms were well known. In some cases, such as in Marne-la-Vallée Hospital Centre, the architects felt they could not influence the room configuration of the design brief. In Senri Rehabilitation Hospital, Käpylä Autism Centre and Yuruku Nursing Home for the Elderly, the all single room solution was the result of a conscious aim by the commissioning parties and the architects, supported by trends in design policies and building subsidies.⁵⁶ In Katsura Ladies Clinic and Haus Steinfeld, where patients and residents could choose between single vs. multi-person rooms, the single rooms were highly prioritised and the multi-person rooms were filled as a last resort. This supports the guideline proposed above for founding future *acute* and *chronic* care environments on all single rooms.

If previous research on patient preferences has been divided, here, the results are clearly in favour of single rooms. Looking at how the twelve participating patients and residents valued privacy, all except one found the single room extremely important. The one exception was a patient in Baum Haus, the children's

psychiatric rehabilitation centre, who liked sharing the room with another child.⁵⁷ Several of the residents and patients who, at the time of the interviews, were staying in single rooms had previously been cared for in multi-occupancy rooms and could therefore compare the two experiences. The motivations supporting single rooms and privacy echo many of the results from previous research (Kirk 2002, Janssen et al. 2000, Morgan & Stewart 1998) and included better sleep quality, quietness, not upsetting others with one's symptoms or sounds, as well as not feeling embarrassed or disturbed by the symptoms and sounds of the other patients. In multi-occupancy rooms, the participants of the Q interviews had felt anxiety related to not being able to sleep properly and being distressed by the sounds and movements of other patients and of staff attending to the needs of others.

In line with previous research, having better control of social situations and activities was emphasized in the Q interviews, for example, having the possibility to have visitors at any time and being able to talk to visitors in privacy. Another valued feature was having the freedom to use the private room as one pleased, for example, to care for a baby or to do personal rehabilitation exercises in the room. The room occupancy was thought to affect how relaxed the patients and residents felt. In addition to the points in prior research, here too, the notion of privacy as being a kind of universal need of patients/residents was stressed. People were seen to have the psychological need of being alone as a fundamental part of being in the world.

“I was in the hospital a while ago... there I was in a room with other patients; one wanted this, the other wanted that, the third didn't come out of the bathroom for a looong time... I was very relieved when I could come back [home] and could be alone in my room.” EUROPEAN RESIDENT, INT.44.

“The use of multi-person rooms cannot be motivated by the need for social contacts of the patients. There are a private rooms and there are places to gather – the patient chooses where he/she wants to be.” JAPANESE ARCHITECT, INT.7

GRADATION OF SPACES AND THE ISSUE OF LONELINESS

In previous research, the gradation of spaces on a public-private axis, enabling users to choose between rooms of different degrees of social stimulation and privacy, has been claimed and found to ameliorate life-quality, increase activity and enhance wellbeing (Lawton 2001, Barnes 2006). In the pilot study of this thesis, the unit care principles adapted in care facilities for the elderly and the disabled in Japan were found to be based on a spatial gradation dividing the care environment into private, semi-private, semi-public and public spaces (Ståhlberg-



Aalto 2013). The sense of community provided by the care unit was thought to be supportive, especially considering the fact that many elderly in Japan were used to the togetherness and cohesion of extended families. Loneliness on the other hand has, in previous research, both been found to affect health and wellbeing negatively (Miller 2011, Holt-Lundstad et al. 2010, Eloranta et al. 2015, Rönkä 2017) and to be prevalent even within care facilities (Finne-Soveri 2012).

To illustrate how the different levels of privacy and room occupancies were implemented in the case study buildings, I applied the same method for analysing the buildings as in the pilot study. The floor plans are coloured on a private – public axis (see Section 6.1, Figs. 40, 44, 48, 58). As can be seen in the drawings, there are differences in the gradation of spaces. The case studies could be divided into two categories that interestingly do not follow the general distinction between *acute* and *chronic* environments. In the first category, the step from the private or semi-private patient room happens abruptly into a public or semi-public area. In the large acute hospital environments, the transition is from the patient room into a corridor in the ward, accessed by the staff, other patients and any visitor who happens to visit the hospitalised patients. The get-together spaces and lounges intended for patients and visitors of the ward are of a public nature. The main circulation routes, corridors, lobbies, reception areas and open common spaces for all users are the most public areas of the buildings. Marne-la-Vallée Hospital Centre, Katta General Hospital and Malmö Infectious Diseases Unit are examples of this spatial gradation. The same direct transition between private and public can be found, albeit in a smaller scale, in the ‘one-ward’ or ‘dormitory-like’ *chronic* buildings, such as Katsura Ladies Clinic, Baum Haus and Haus Steinfeld, and to some extent Maggie’s Glasgow. The transition from the private resident/patient room or treatment room is onto a semi-public or public area, accessed by the users of that ‘ward’, that is, 25 patient or residents, their visitors and the staff. The common spaces are of an impersonal or institutional nature because they are intended for large groups of people and the accessibility of the spaces is not clearly limited. The level of privacy of the semi-public areas might differ in the niches and corners of the building, yet they still remain public domain.

The second category of spatial gradation is the *group home* or *care unit* layout, where the small single person flats, including patient/resident room, toilet, bathroom and kitchenette, are arranged around semi-private spaces, thus forming closed care or home units. The semi-private area is available only for the small number of residents or patients living or receiving care in that unit and thus the scale of the spaces remain small and homelike. Senri Rehabilitation Hospital, Käpylä Autism Centre and Yuraku Nursing Home for the Elderly are examples of a spatial gradation into care units and group homes. In these buildings, the solution was motivated by the aim of promoting the intimacy of homelike spaces

and the social dimension of the care unit. In the case of Yuraku, the home unit model aims at providing a family cohesion that the elderly were familiar with in the extended family homes many had lived in previously. In Käpylä Autism Centre on the other hand, the social contacts the residents inevitably encounter in the group home's common spaces serve as rehabilitation opportunities to train social abilities that are especially challenging for persons with autism. At the same time, the group home may offer family cohesion and friendships.

This addresses another topical issue in the healthcare debate of today, namely loneliness, which was discussed in Section 1.3.1. Loneliness and the need for social contacts can be seen as the other side of the coin of privacy and the right to one's own home. The group home or care unit models could be seen as one way of resolving the problem of loneliness, yet still offering patients and residents the privacy of the personal flat. Furthermore, a rich gradation of spaces on the public-private axis could enhance different ways and degrees of participating in the social activities of the care environment. However, as, for example, in the Finnish context, the policy trends especially concerning the care environments for the disabled, are turning towards privacy and having more personal and isolated spaces at the cost of community and shared spaces. The question emerged in the Q interviews as a concern for the wellbeing of the autistic users, many of whom have tendencies of becoming isolated when left on their own.

“If you isolate a person and force him/her to be alone all the time, they will go insane. You need external impulses in order to be a whole human being. Of course you need privacy, that is basics, but the function of the spaces is not to isolate a person. Spaces should try to build bridges and facilitate interactions. When thinking of our [autistic] clients, a common feature of all of them, almost without exception, is that they have very few human relationships other than a sister, a brother, a mother or the like. Shouldn't the space support the come about of natural friendships?” CARE STAFF. INT.38

In the Q interviews, the theme of spatial gradation was approached through Q statements highlighting both the general principle and the possibility to meet people and socialise in smaller groups (st.8, st.33). Gradation of space was positively valued in two of the aesthetic discourses; *'putting patients first'* and *nature – wellbeing – personalisation*. This is in line with the inclination of the discourses to put primacy on the patients' and residents' perspective and how their feelings of wellbeing might be best addressed. The approach correlates with the design strategies and the attention paid to obtaining a rich palette of spatial gradation in the case buildings associated with these discourses, such as the Senri Rehabilitation Hospital, Yuraku Nursing Home, Käpylä Autism Centre, Maggie's Glasgow, Haus Steinfeld and Katsura Ladies Clinic. At the opposite end are the viewpoints of the *rational wayfinding system*, which empha-

sises a straightforward and rational spatial layout where no gradation of private or public spaces is needed. This, in turn, is in line with both the spatial layout of Marne-la-Vallée Hospital Centre and the essence of the discourse to cure patients swiftly and efficiently.

FAMILY PARTICIPATION

The single room makes family involvement in the care possible in a more comprehensive manner than in multi-occupancy rooms both in *acute* and *chronic* care environments (Janssen et al. 2000, McCuskey Shepley et al. 2008, Morgan & Stewart 1998). This has inspired designers and experts of current design trends to divide the patient room into zones designating areas for family members, the patient and the care-giver (Kjisik 2009). A current design theme in new hospital buildings is to provide family members the possibility to stay overnight or to work in the patient room, as exemplified in the Adopt-a-Room prototype mentioned in Chapter 1 (Verderber 2010).

The question of family participation was tested in the Q experiments (st.7), yet did not emerge as a particularly important theme in any of the aesthetic discourses, the statement receiving average rankings between -3 to +2. Interestingly, regarding how the individual participants rated and commented on family involvement during the Q interviews, the response was twofold. On the one hand, and on a general level, it was found positive that family members were involved in the care processes, visited the patients and residents and participated, for example, in the furnishing of the residents' rooms. In some case buildings, such as Baum Haus, a small flat was provided in a separate dormitory building, where the family members could stay or spend time with the child patients. In Yuraku as well, relatives of residents in the final stages of life could stay overnight in the tea ceremony quarter. At Senri Rehabilitation Hospital, the administration had noted an increase in family participation at the facility as compared to another facility run by the same organisation. This change was attributed to the single rooms, which provided a place where the visiting family members could stay during the rehabilitation treatments, as well as to other available services such as the restaurant. Family participation was there deemed supportive considering the challenges the patients would most certainly have on returning home post-hospitalisation.

However, the staying overnight of family members in the patient/resident rooms, in particular, received negative responses from many users and stakeholders during the Q interviews and nobody mentioned working opportunities in the rooms. The motivations for rejecting this more intimate mode of family participation were diverse: two male patients in their thirties and forties at two

different European *acute* care environments felt strongly that they did not feel like sleeping in the same rooms as their mothers or fathers; patients in the psychiatric rehabilitation centre for children were often recovering from abuse by their families, hence the staff representative felt as a starting point that the family should not be present in the care environment. A resident at the European nursing home for the elderly would have liked more visitors, but felt no need to lodge them in her flat. Concerning the adults at the autistic rehabilitation centre, the care staff member argued that the family is often the only social contact – the only friend – of the residents; to have them sleep over would simply be too much. On the contrary, the families of these users had spent decades of lobbying for and arranging a proper independent living environment for their adult children, with all the special services needed.

These user and stakeholder reactions tentatively indicate that there seems to be a gap between the current design trend promoting family participation as a general spatial solution affecting the layout of the patient/resident room and the user needs and aspirations. Along the same lines, a retrospective study on patients' perspectives attributed only little value to family participation (Devlin et al. 2016). In many of the situations revealed in the Q interviews, whether it be adults in the middle of non-urgent care processes in hospital environments, vulnerable children in difficult social situations, adults with disabilities enjoying independent living in their own homes or elderly residents living in care facilities, the need for very extensive family involvement in the form of lodging family members is not perceived of as necessary, at least not in the type of care buildings represented in this study. However, this by no means undermines the importance of family participation on a less intimate level, nor the findings of previous research in favour of active family involvement connected to other care contexts, such as children's hospitals, neonatal intensive care units or maternity hospitals (Janssen et al. 2000, McCuskey Shepley et al. 2008). Palliative care environments could also reasonably be seen as another context where the need for intensive family participation is well-founded.

ART IN THE CARE ENVIRONMENT

Although art has received much attention both in the public debate and in the field of evidence-based research, there was no consensus on art in the Q findings. Issues debated in the field of evidence-based research (Ulrich & Giplin 2003, Nanda et al. 2011), such as whether the content of the art work should be landscape motifs or whether abstract contemporary art is suitable in the care environment, was not directly addressed in the Q statements nor did it emerge in the interviews. Art was mentioned in two of the Q statements (st.1, st.35); the

first emphasising art and the positive effects of engaging in art work, the second listing art among other features that may help the users orientate inside the building and distinguish between the different spaces. Among the discourses, the *rational wayfinding system* rated both highly, whereas the *'putting patients first'* discourse only associated art with wayfinding and the differentiation of spaces with art work. These two discourses were the ones supported primarily by architects, whom one could assume were familiar, both with the benefits of art in general and also with the features of the specific art works of the case studies they had participated in designing.

However, during the Q interviews, different aspects related to the role of art in the care environment emerged, which echo findings from previous research (Bishop 2012). The power of diversion was attributed to works of art regardless of its content. Different art forms, as well as architecture, can create an element of surprise that can distract the patients and thus helps them to think about things other than their disease. Furthermore, art initiates discussion, and this feature was used in some of the case study buildings as a way for the staff to approach the clients. At Käpylä Autism Centre, art therapy was a part of the rehabilitation scheme. The staff members argued in their interviews that art can be used as an alternative way of communicating, especially for persons who otherwise have difficulties in expressing themselves or are cognitively impaired. Through art therapy, other cognitive abilities are also rehabilitated, for example, the feature of an art workshop that it has a clear beginning and end can be projected to other situations of daily life and help persons who have difficulties in carrying out tasks. At the same time, something concrete is created during the art sessions, which exemplifies the causality of our actions, for example, of painting or ceramics.

"You can use the notion of surprise in art that suddenly you'll take the patient outside themselves, they'll see something and they won't just be in this kind of one track mind of having a disease. Art can be a talking point and a way in to someone, a way to relate to people." ARCHITECT, INT.32

"Works of art create a more homey atmosphere – a more domestic ambience – and it also helps with things, like when we run creative writing classes. Art helps with conversations... someone might walk in, and they won't know what to say, but they might love or hate a painting, and it could be a starting point for a conversation, so it is very important to what we do." STAFF MEMBER, INT.33

Art and graphic illustrations were present in several of the case study buildings. In some buildings, the selection of artwork had been part of the design processes, such as in Maggie's Glasgow, where art is considered an important component of the care experience and, therefore, an arts coordinator selects the



Fig. 76. Sculpture 'La Familia' by Monica Gora, Malmö



Fig. 77. Painting by Hanna Keynäs and Cris af Enehjelm, Käpylä Autism Centre

art work for all the Maggie's Cancer Caring Centres. At Maggie's, the exceptional contacts between the founders of the Centres and the art world have inspired many contemporary artists to donate works of art to the facilities. In Malmö Infectious Diseases Unit and Katta General Hospital, art was integrated into the building design, for example, in the entrance courtyards and lobbies of the buildings (Fig. 76). At Katta, the walls of the main corridors of the patient floor were coded by different coloured flowers according to the points of the compass (Fig. 14.14). The patient rooms had also been decorated with one graphic illustration above each bed, however, after a major earthquake, they had to be removed. In Käpylä Autism Centre, the works of art made by residents who had participated in art initiatives where they worked together with artists permanently adorned the walls of the facility (Fig. 77).

VOICES BEYOND THE STATEMENTS

During the Q interviews, some issues emerged that the respondents found important but which had not systematically been addressed in the Q statements and which to some extent go beyond the quest of this study. An important ambient feature of the care environment, connected to care processes, is the control of unwanted smells. The smell in a hospital is not only the smell of medicine, but also the smells of urine and body. In Senri Rehabilitation Hospital they had ap-

proached the issue by investing in hygienic everyday praxis for the patients but not, for example, by choosing materials that would be more hospital-like and easier to clean. The patients were expected to change into clean day-clothes everyday; no pyjamas during daytime allowed; underwear changed every day; taking a bath at least three times a week; brushing teeth three times a day. Furthermore, diapers were not used and a dentist visited the facility twice a week. To ensure that the air was fresh, the number of times the air is circulated through the hospital wards is more frequent than the ventilation standards would have required.

6.5 THE CASE STUDIES AS FUTURE BEST PRACTISES?

The buildings were selected from acknowledged and celebrated buildings, with the expectation that they would therefore represent a high aesthetic quality. They had at least been highly rated by award juries or by the editors of the journals they were published in, (see Appendix III for case study acknowledgements). However, the evaluation criteria of journals and architectural awards seldom measure user experiences or the quality of care praxis of the buildings. Thus, one of the research questions at the outset of this study was whether the case studies would be models for future design, so-called future best practices, also with respect to first-hand user/stakeholder experiences of the buildings. In other words, whether the experiences of users/stakeholders correlate with professional experts' evaluations of architecture.

Closely linked to these user experiences is the question of whether the care environment is *healing*. In line with the subjective inclination of this study, examining how users and stakeholders value their environment, this boils down to the question of whether the environment is *perceived* to induce wellbeing and ameliorate the quality of life of the patients and residents and thus could be considered to contribute to the care or cure processes. The assumption would be here that a care environment esteemed to induce wellbeing from a patient/resident perspective could indeed be considered *healing*, although this study does not attempt to measure such healing properties.

The users' and stakeholders' evaluations of the case study buildings emerged both during the Q-sorting tasks in the form of spontaneous comments on the care environment and in the post-Q-sort interviews through several open-ended questions, (see Appendix IX). The participants were asked to comment on different parameters of the building, such as the furniture and interior objects, surface materials and colours, the size and openness of the spaces, the amount of privacy and social contacts, and the relationship between the building and its surroundings. The participants were asked if they thought that the building and

its surroundings influenced the wellbeing of the users and whether they found the building beautiful. The task of indicating places and features found to be important or significant, as discussed in Section 5.4, gave further indications of user and stakeholder assessment and preferences, (see Figs. 35-39). As a last evaluation parameter, the participants were asked if they would choose the case study building if they were in need of care and were able to choose (for results, see Table 6, Chapter 5).

The users' and stakeholders' overall appraisal of the case study buildings was extremely positive. Nearly all found the appearances of the buildings, the ambiances of the interiors and the surroundings to be of high quality. In that sense, the experts' opinions, as witnessed in formal recognition such as prizes and awards, correlate with those of the users and stakeholders. A common conception was that the environment affected the wellbeing and quality of life of patients and residents, and that these case buildings in particular did so in a positive way. In the interviews, the quality of the care environment was found to be an important component of the care quality. Furthermore, many of the administrative and care staff participants knew the buildings were celebrated and had received architectural prizes and hence felt proud of the environments they worked in.⁵⁸

The reasons for satisfaction echo many of the points that emerged in the aesthetic discourses revealed in this study. The same positive features can be identified, as well as the important places indicated by the respondents and the motivations attached to these places, (see Figs. 35-39 and the discussion related to user/stakeholder groups in Section 5.5). The care environment was *perceived* to make patients and residents feel good and relaxed, and to make them focus on other things than their diseases or their troubles, for example, by spending time in the fireplace lobby and the library of Senri Rehabilitation Hospital (Figs. 35.3). The environments were in many ways sensuous and gave the users feelings of pleasure, such as the humid scent of flowers and plants in the atrium of Steinfeld (Fig. 36.7), the garden at Maggie's (Fig. 35.2) or the views from the patient room towards the rooftop gardens at Katta (Fig. 39.3). Materials and customs also gave physical pleasure, by bathing in the sauna or feeling the tatami-mat under your feet (Fig. 36.8). The environment also evoked feelings of connectedness through views onto familiar landscapes and neighbourhoods (Figs. 37.6, 37.7 and 35.1).

Furthermore, the environment was perceived to respect the privacy of patients and residents and the personal spaces were decorated by stuff the users valued (Figs. 38.7 and 38.8), but also provide for places to socialise with others (Figs. 37.5, 38.2, 38.3 and 38.5). The care environments inspired some patients and residents to set higher goals for their rehabilitation, resulting in a more rapid recovery than expected. This was the case for the patients at Senri, who enjoyed rehabilitation on the balconies and in the herbal garden (Figs. 38.6).

Here then, the buildings were tools that challenged the patients and thus influenced the care processes. A positive circle was created in which the patients had higher motivation, set higher goals of recovery and went on to achieve better rehabilitation results.

However, the response was not all supportive. On the question of choosing the facility if given the opportunity, 35 respondents answered affirmatively, three negatively and seven did not answer the question. Among those who answered negatively was a patient at Baum Haus, who felt unsafe in the facility and claimed he was being bullied by the other children. He argued that the building design in itself supported bullying because the care staff could not see all the niches and corners of the building. His favourite place was underneath the staircase next to the staff station, where he could be seen by as many people as possible (Fig. 38.4). A staff member of Yuraku Nursing Home was the second person who would not have chosen the facility when in need of care. His motivation was the small size of the resident's private area because he was convinced that a person needs two rooms; one for sleeping and one to receive guests in. The third person to decline was a patient at Malmö Infectious Diseases Unit who felt very negative about the environment. She said that she got lost inside, disliked the round shape and felt that the building did not fit into the surroundings.

Other features that undermine the best-practice status were related to how the buildings functioned in the everyday care praxis. From a staff perspective, some *acute* care environments had a spatial layout which made the surveillance of the patients impossible, the patient rooms being located too far away from the staff stations, such as in Katta General Hospital. This had led to the use of either video surveillance in the patient rooms or to moving the patients in need of intensive surveillance to rooms that were nearer the staff stations, both consequences that are not in line with optimal care praxis of respecting patient privacy and avoiding unnecessary moving of patients. In Malmö, the interviewed patients and staff members felt confused by the strong and random colour scheme in the corridors. When trying to keep track of the individual patients in the different rooms, the staff tried to ignore the colours and focus on the room numbers instead (Fig. 70). Furthermore, the staff experienced that the circular corridor limited their visual contact with the other staff members on duty. Thus, their social contacts were limited by the shape of the building; instead of spontaneous interaction with colleagues they had to telephone them, for example, when in need of a helping hand. In both hospitals, the staff perceived the daily walking distances as being too long.

Käpylä lacked storage space. For example, at the time of the case visit the main entrance lobby was used to store stacks of printing paper. At Senri on the other hand, there was a shortage of staff facilities; for the one hundred employees of the facility, there was one break room per floor that fitted four persons at a

time. The surface materials were criticised by some participants in several of the case studies: it was feared that the rough surface of the walls would injure the patients at Senri; the wooden flooring was so uneven there was a risk of patients stumbling, according to the staff in Katta; the flooring was too hard on the feet and the doors were so heavy the staff got backache from opening them in Malmö; and the furniture was considered unfit for hospital use in Malmö.

Based on the material collected in this study, it is premature to draw comprehensive conclusions on the functional performances of the case buildings because it would have required a different research design and a larger number of respondents per building. Nevertheless, the comments mentioned above are first-hand examples of how the participants of the study experienced the buildings. These user and stakeholder experiences, on the one hand commending some aspects of the buildings and, on the other hand, criticizing others, tentatively imply that these buildings may not be best-practices as such and on all levels. However, many of them have state-of-the-art features, spatial layouts or conceptual innovations that well could serve as future models for care environments, including from the user/stakeholder perspective.

6.6 PRACTICAL IMPLICATIONS OF THE CASE STUDY BUILDINGS

In the previous sections, the different building types have been discussed in the light of the aesthetic discourses and the cultural contexts. The evaluation of the care environment by users and stakeholders and the case studies as best-practices were reviewed. I will now summarize these features in the form of a set of practical implications and lessons to be learned from each of the case studies. These ideas could be seen as toolkits for the architects, care and project managers or commissioners of future care environments from which they could pick or combine features from the different building types.

1 – LESSONS FROM KATTA: The way the patient rooms open up towards roof top terraces and gardens on the top in-patient floor, enabling patients to have outdoor access directly from the rooms, was a feature highly valued by users and stakeholders of Katta General Hospital. The patients can take rooftop promenades around the building and contemplate the surrounding mountain scenery. The comb-like scattering of the wards brings natural light to the patient rooms and staff facilities. Light and natural elements are brought down to the airy lower floors by skylights and courtyards, and are reflected in the white interior surfaces and water ponds. The graphic signage system, utilising printed textile covers is unique.

Challenge for architects and commissioning parties: Could the use of patient gardens and outdoor accesses be adapted more widely in hospital environments?

2 – LESSONS FROM KATSURA: In Japan, small private healthcare clinics are competing for clients by the quality of the care environment. The experiences and feelings of the patients are put first, resulting in high-quality aesthetic solutions, refined to every detail. The Katsura Ladies Clinic is an example of this. The integrity of patients is respected and the sensuous ways of experiencing the building are fully thought through. All new mothers have an individual box-like space with the interior surfaces covered in tactile wooden panels, a view from a large window, indirect soft lighting entering from a skylight window, a washbasin for the baby and a private toilet. The delivery rooms have wooden finishing and large windows. The lobbies are divided by glass partitions that resemble the design of high-end hotels. Pocket gardens bring natural light to every part of the building.

Challenge for the organizers of care services: Could future best-practices see the transfer of the small maternity (or other) clinic concept, that focuses design efforts on the wellbeing and individualised services for patients, from Japan to the European countries? In other words, to aim at having many small actors competing with high-quality services in high-quality environments.

3 – LESSONS FROM SENRI: The idea of combining the two quite different concepts of home and hospital proved to be a popular aesthetic strategy at Senri Rehabilitation Hospital. In the *home units* of twelve patients, the activities of the ward and the scale of spaces are kept to an intimate level. The domestic interiors enable the rehabilitation of everyday life issues. The homelike ambience was achieved by comprehensively avoiding the stuff and surface finishes normally used in hospitals. Instead, the whole care environment is turned into a rehabilitation tool: physical training conducted on the main staircases, lobbies and balconies; motoric skills trained on the uneven surfaces of outdoor pathways; an awareness of healthy diets learnt in the restaurant where patients can order meals of their choice; olfactory senses exercised in the therapy garden. As in people's own homes, there is no need for signage systems at Senri.

Challenge for architects and commissioning parties: Integrating the home unit concept into other *acute* care environments could be a future best-practice strategy that challenges the traditional layout of hospitals.

4 – LESSONS FROM BAUM HAUS: Baum Haus offers a clear architectural concept, clustering the spaces that need to be closed-off and require privacy, such as the bedrooms, therapy rooms and offices, into two-storey white building volumes. Between the buildings a freely-undulating spatial sequence of more public

spaces is created. The many niches and corners of the building provide privacy for the patients in the common areas. Natural light enters and views are opened up between these white building blocks. The main concept relies on the idea that the patients use and adapt these neutral spaces to their activities. There is no attempt to make the environment homelike or intimate; the common areas are sparsely furnished, large two-storey high spaces, where all patients can get together.

Challenge for architects: Could this clear and spatial layout be adapted in other types of care environment and public buildings where the need for a homelike ambience is not needed?

5 – LESSONS FROM YURAKU: The *unit care* model is founded on the idea that the integrity and the individual needs of the elderly can best be respected in small groups, which offer a social network akin to family cohesion. The scale of the care environment is small enough to be homelike. These home units of 9–12 residents are articulated as small individual houses separated from each other by courtyards, narrow outdoor passages and glazed corridors. The nursing home compound forms a dense village of houses. A rich spatial gradation divides the spaces into *private*, *semi-private*, *semi-public* and *public* spaces. The most private sphere is the resident's room. The common spaces of the home unit are semi-private areas. The entrances to the residents' rooms are placed in niches, forming transitory spaces between the private and the semi-private. Between the home units, semi-public lounges provide places for residents to meet with visitors outside the home. The whole facility shares the most public spaces. All resident rooms have porches facing the courtyards or roof terraces. The design starts on all levels from the resident's perspective with the aim of inducing wellbeing and comfort through the use of sensuous materials, greenery, soft lighting and references to traditional design features.

Challenge for architects and commissioning parties: The emphasis should be put on creating *homes* for the elderly and fostering social cohesion, rather than being an institutional care facility. This attitude should be a point of departure for care environments more widely than at present.

6 – LESSONS FROM MARNE-LA-VALLÉE: The central theme of Marne-la-Vallée Hospital Centre lies in the systematic spatial and structural approach – the *monospace* – that enables a flexible and convertible layout of spaces and wards that adapts to the changing demands of care processes and technologies. The low and horizontal building volume allows the patient rooms, operating theatres and other work spaces to be aligned along the façades. The rooms, equipped with panorama windows overlooking the landscape, were highly valued by the staff and patients. The challenges of wayfinding and of bringing natural light to all parts of such a large hospital is resolved by the courtyards of different colours

systematically piercing the building volume. These landmark courtyards create places with distinct atmospheres that help in wayfinding.

Challenge for architects and commissioning parties: Marne-la-Vallée Hospital Centre shows that far-reaching spatial flexibility is not incompatible with ambient features in the environment. To create distinctive places and ambiances in the midst of large building complexes can be achieved through aesthetic means.

7 – LESSONS FROM MALMÖ: In Malmö Infectious Diseases Unit the main functional aims, namely separating the flow of infected patients, visitors and staff from the clean circulation of the care staff, is turned into the main design concept and identity of the building. The circular colourful building is a landmark in the city. The patients arrive directly in the rooms via exterior balconies, while the care workers use an interior corridor to access the patient rooms and auxiliary staff spaces. The circular courtyard in the centre of the building visually connects the staff rooms and brings natural light to the spaces. The patient rooms have glazed façades opening up views to the surrounding neighbourhood. The somewhat bold solution to enable patients to freely exit their rooms and stroll on the balconies could be thought to intrude on the privacy of other patients, but the balconies were much appreciated by the participants; the patients loved to walk outdoors in the fresh air and look at the city.

Challenge for architects: Could the same principles be adapted to other care contexts, such as rehabilitation hospitals or nursing homes for the elderly, where patients could exercise and persons with dementia could stroll around the building?

8 – LESSONS FROM MAGGIE'S: Considering the popularity of the Maggie's Centres, they have clearly responded to a demand for cancer patients to get more emotional support, rehabilitation and information about their sickness. Maggie's Glasgow responds to features considered to be important by users and stakeholders: a need for integrity (the corners and cosily furnished toilets with armchairs to have a big cry in), social contact and love (people gathering around the kitchen table or in the group meeting rooms) in an carefully designed environment that makes people feel valuable by investing in quality artwork, the craftsmanship of the building and the landscape.

Challenge for all: Could every hospital have a Maggie's Centre, or even several Maggie's Centres, as part of the hospital planning brief? Today, these centres are separate havens located in the grounds of large hospital compounds. Could future care environments see the same concept as an integral part of the building? The same goes for the workstations and libraries that empower patients to search for information about their illnesses and alternative cure paths; every hospital should have these features.

9 – LESSONS FROM KÄPYLÄ: The Käpylä Autism Centre is founded on the idea of providing both homes and rehabilitation for residents and clients in an urban context, yet in a non-institutional setting. The challenges, connected to autism, of handling social situations affected the design; the group homes house only four residents. The residents are forced to practise their social abilities in the shared semi-private spaces of the group home, leaving no room for potential feelings of loneliness and seclusion. The privacy of residents is ensured by the personal flats. Each group home covers the entire floor of the residential building, which makes it possible to open up views in all directions towards the surroundings.

Challenge for all: Could the concept of very small group homes be a future care model of communal living as a way of tackling the topical theme of loneliness?

10 – LESSONS FROM STEINFELD: The botanical garden in the atrium of Haus Steinfeld is highly valued by all users and stakeholders. The green garden animates common spaces and the corridors leading to the residents' flats encircle the garden, making the building legible and easy to use. Bridges create shortcuts across the atrium. Residents can go and take a nap on these bridges in the humid air of the atrium filled with scents of nature. The atrium defines the layout of spaces, while the nature of the garden affects all senses. The glass roof illuminates the whole of the interior. The way the different materials are selected, joined together and detailed shows true craftsmanship.

Challenge for architects and commissioning parties: The way nature and natural materials are brought to all users of the care environment is a feature worth applying in any care building.

6.7 EVALUATING CARE ENVIRONMENTS: THE APPLICABILITY OF Q METHODOLOGY IN ARCHITECTURAL RESEARCH

Q methodology, as a qualitative method for examining and systematically analysing human subjectivity, provides several advantages for the evaluation of care environments. The experience of architecture is fundamentally a subjective experience, and hence the investigation of architecture benefits from a research methodology that, like Q methodology, preserves the subjective voices of the respondents throughout the study. Moreover, given that the experience is multi-faceted, Q methodology is well placed to treat these experiences in a systematic manner while remaining reasonably sensitive to nuances.

At the outset of this study, a methodological challenge was how to get the users and stakeholders to communicate and reflect on the different aesthetic fea-

tures of the care environment and then document and analyse these experiences in a systematic manner. Q methodology proved an efficient tool for these aims. In Q methodology, complex and broad concepts and design issues can be tackled by providing users and stakeholders with a vocabulary with which to react to and define the content of these concepts and issues. This fits well into the investigation of architecture, where the respondents might otherwise feel overwhelmed by the multitude of stimuli provided by the built environment or lack the professional background for how to relate to the environment, thus making it challenging to form opinions *out of the blue*. In this case, the respondents reacted to statements describing the aesthetic features of the care environment; they weighted the importance of each stance in relation to the other viewpoints expressed in the statements, the completed Q sorts, thus forming a set of preferences and an overall aesthetic conception of the care environment. I feel confident that the Q interviews satisfactorily initiated discussion and prompted the respondents to consider aspects of the environment they would otherwise not have thought of. In the post Q sort interviews, in particular, many underlying reasons for choices emerged, deepening our understanding of care environment aesthetics.

This forming of preferences and weighting the different options expressed in the Q statements, which together form the content of the research results, summarises the essence of the Q methodological term, *operant subjectivity*. The statements describing the environment receive a value and a meaning only when they are rank-ordered by the participants. The participants are thus active parties in defining the concepts and also, in this case, the relevant design issues of care environments. Roughly put, if we consider that one of the challenges of poor architecture, that is, an architecture that fails to fulfil the expectations and preferences of its users and stakeholders, seems to be that these preferences and expectations are not familiar to the decision-makers, project managers and designers, Q methodology could here make a contribution to architectural research. The *user/stakeholder*-driven approach of Q methodology empowers subjective viewpoints. The results of Q methodological studies could also be used as a platform for identifying relevant and meaningful themes for more detailed future investigations in architectural research.

The results of this study have both theoretical and practical implications for the design of care buildings. The results include the theoretical definition of five different, yet coherent overall aesthetic approaches to the care environment. These discourses are anchored in the personal experiences of users and stakeholders in relation to the specific care environments represented in the study. Aesthetic conceptions shared by all emerged in the results. Based on the findings, a set of general best-practice features have been identified and tentatively proposed as ideas for designing care environments that would respect the different viewpoints of resident and patient users. The theoretical model of aesthetics and architecture

developed for this study, which divides the experience of care environments into, on the one hand, the *sensuous level*, consisting of different ways in which the care environment can be experienced aesthetically, and, on the other hand, the *design level*, denoting the physical features of the environment, could be applied more widely to the investigation of architecture. I found the theoretical model successful in providing a sufficient number of possible categories for the participants to react to the environment surrounding them. Missing statements were few and more often outside the theme of study.

From a researcher's point of view, Q methodology can be justified on several accounts. The method itself obliges the scholar to thoroughly investigate the field of interest in order to be able to both construct a theoretical model that is relevant for the subject of inquiry and to sample the universe of Q statements according to the model. In other words, we move beyond mere references to previous research and debate insofar as this debate in itself is systematically analysed and contextualized through the lens of the theoretical model. Furthermore, I found it utterly interesting to discuss the different aspects of the care environment with such a wide array of different users and stakeholders from different cultural contexts. Q methodology is truly a participatory method with direct contact to the actual users and stakeholders. The method enables the analyst to maintain insight into the view of each participant throughout the research process. It is easy to trace back the user/stakeholder backgrounds of each and every respondent.

Among the limitations of the study was the fact that, including in the investigation such a broad array of different care environments as I decided to do, the results inevitably remain on quite a general level. The qualitative nature of the study, limiting the number of respondents to only a few per case building, further limits the generalisability of the results with respect to the particular architectural solutions of each of the buildings. If, on the contrary, the inquiry would have been limited to only one building, the features specific to that building could have been evoked in detail in the Q statements and then reacted to by a larger proportion of its users and stakeholders. However, by narrowing the lens in that way, I would have also obtained responses only to one building type – one architectural solution – and would therefore have missed out on the comparative dimensions of the results of this study.

On a methodological level, one of the challenges of Q, especially from the point of view of evaluating buildings, is how to formulate the Q statements so that they are unambiguous and comprehensible. In this case, when addressing participants of such various backgrounds, I felt that each statement needed an explanatory part in order to be comprehensible and not too abstract. Nevertheless, when the statements described the features of the environment in a concrete manner, some respondents got confused when precisely that feature was missing in their particular building. Or, some disagreed with one of the example features

while agreeing to other parts of the statement. In other words, the statements need to be carefully limited, so as not to include conflicting opinions, yet be concrete enough to be understandable. The same goes for the use of negative exclamations in the statement. These were hard to rank-order as some participants believed that a negative opinion should be placed on the negative side of the scale while some participants agreed with the negative content and thus rank-ordered it on the positive side of the scale. However, overall and regardless of these limitations, I felt that the Q statements covered the full spectrum of possible opinions on the environment in a comprehensive manner. In Q methodological research on aesthetics and architecture in the future, the use of photographs or graphic illustrations could be considered as a way of breaching the semantic barriers of written statements.

6.8 CONCLUDING REMARKS

In the preceding pages, I have reviewed the Q methodological findings of this study by comparing them with the initial research questions. First, the aesthetic discourses were discussed in relation to the different types of care environments participating in the study, ultimately addressing the role of function in architecture. The results indicate that the uses of the buildings to some extent dictate our aesthetic priorities. However, some values and preferences surpass these functional objectives and represent more generic aesthetic values. These generic values emerge from issues such as the respect for the privacy of patients and residents, feelings of wellbeing that different materials, natural light and interaction with nature and the surrounding community might induce, as well as a sense of uniqueness and craftsmanship in the designs.

Secondly, the results were analysed with regard to the cultural contexts of the case studies, concluding that although there were differences between the architectural solutions and the design strategies in the Japanese and the European case study environments, these differences were not transferred into the aesthetic discourses. The discourses are of a more universal nature.

Thirdly, the role of the user/stakeholder groups in defining the aesthetic approaches was addressed, with the conclusion that the group identity clearly guides some of the reactions and ways of relating to the environment, although not entirely. Architects and administrators look at the care environment analytically and holistically, whereas the patients and residents tend to value features that affect them directly, such as the social dimension, privacy and the personification of spaces. The care staff and visiting family members positioned themselves in between the analytic and the pragmatic. The results were then contrasted with previous research and topical issues in the healthcare architectural debate, such as

the question of single vs. multi-person rooms, the gradation of spaces on a public-private axis, the role of family participation and art in the care environment.

There is a twofold answer to the question as to whether the case studies, selected from acknowledged buildings, also serve as models for future design with respect to the first-hand user/stakeholder experiences retrieved from this study. The results indicate, on the one hand, that the overall appraisal of the care environments was highly positive. A common conception was that the case studies at hand induced wellbeing in patients and residents in many ways. Furthermore, the values and preferences defined in the aesthetic discourses were supported by the places and features of the case buildings which the participants indicated as being important to them. On the other hand, some functional aspects that influenced the care praxis, workplace ergonomics, space dimensioning and feelings of patient safety were criticized. This suggests that the case study buildings may not be examples of best-practices on all levels. However, many of them have state-of-the-art features that could well serve as models for future care environments. Based on the user and stakeholder experiences, it is evident that lessons are to be learned from the case studies and a set of the best-practice features are proposed as practical implications.

In the next and concluding chapter, I will summarize the findings of this study and tentatively propose, as an overall conclusion, reconciliation between the discourses in order to find aesthetic values and models that respond to the needs of *all* users and stakeholders.





CONCLUSIONS: RECONCILIATION BETWEEN DISCOURSES

In the preceding chapters, I have set out to investigate the various ways the aesthetics of care environments can be defined and whether the emerging definitions and solutions are building-type specific, founded in the different cultural contexts of the Japanese and European care environments examined in this study, associated with a particular user/stakeholder group, or, if the concept of care environment aesthetics is of a more generic nature, surpassing these contextual and professional boundaries.

The theme was pursued from a user/stakeholder perspective through the case study of ten care environments in Japan and the European countries of Finland, Sweden, the UK, France and Austria. The different case studies included an equal number of *acute* and *chronic* care environments in both geographical locations. The *acute* care environments referred to high-tech hospitals and highly specialized clinics where a high level of hygiene and technical medical equipment is demanded, while *chronic* care environments are low-tech treatment and living environments of rehabilitation centres and care homes. In search of solutions that could serve as models for future design, special attention was paid to selecting buildings of high aesthetic quality. The users' and stakeholders' experiences of these ten case studies were then addressed in Q methodological experiments with 45 respondents, representative of five different user/stakeholder groups: the architect, the administration, the care staff, the residents, patients or clients and their family members or visitors.

Founded as it is in relevant debates in philosophy, especially in the fields of environmental aesthetics and architectural theory, the broad conception of the

aesthetic applied in the investigation was defined as *any reaction we form to the sensuous and/or the design qualities of the care environment*. On the *sensuous level*, four modus of experiencing the care environment aesthetically were identified: *sensory qualities*, *contextual features*, the *social dimension* and *function*. Concerning the time span and size of the architectural elements, four *design levels* were distinguished: *stuff*, *surfaces*, *space and light*, and the *surroundings*. The crosstabulation of these two levels yields a theoretical model that serves as a key component in adapting Q methodology to the investigation of architecture. The aim of this broad model was to cover a wide array of potential aesthetic experiences and qualities without predefining what could and what could not be included in the *aesthetic* realm. Based on this model and retrieved from prior healthcare architectural research and stakeholder interviews, a set of 48 statements specifically describing the care environment was compiled, to which the users and stakeholders of the case studies at hand reacted in turn in the Q interviews.

Using the qualitative and quantitative analysis techniques inherent in Q methodology, five mutually different, yet coherent aesthetic discourses were identified. These aesthetic discourses comprise the '*putting patients first*' (ADI), the *Nightingale discourse* (ADII), the *nature – wellbeing – personalisation* (ADIII), the '*my home is my castle*' (ADIV) and the *rational wayfinding system* (ADV). As could be anticipated, these aesthetic discourses echo current themes of healthcare architectural research and debate, many of the Q statements being retrieved from literature, but, rearranged into coherent discourses, previously unknown perspectives are generated. The content of the discourses is anchored in the participants' reactions vis-à-vis their care environment in the Q experiments, in line with the subjective and 'user/stakeholder-driven' disposition of Q. Thus, the discourses reveal the underlying reasoning behind the different perspectives, thereby deepening our understanding of care environment aesthetics.

The Q methodological analysis revealed some consensus statements, in other words, statements in which the aesthetic values and features are shared by *all* discourses. They could be interpreted here as aesthetic values that transcend the case study building types, the stakeholders' and users' statuses and the cultural contexts. These *shared* values comprise: respect for patients' and residents' privacy; the importance of the window as a fundamental architectural element letting in natural light and providing views; the quality of the artificial lighting; as well as the users' obligations vis-à-vis the environment. The respect for privacy was, in the care context, translated into the need for single patient/resident rooms, where the users can, on a psychological level, feel relaxed and empowered to use the space as they please without disturbing others or being disturbed by others. The role of the window, apart from letting in natural light, was to animate the spaces through views onto the surroundings. The windows connected the care environment with the world outside and should therefore be placed so that the

users – patients, clients, residents and care staff – really can see the outside, not only the sky. The artificial lighting needs to be soft and not glaring in order to be comfortable. As a countermeasure to the efforts put in designing and building a high-quality care environment, the users have themselves an obligation to take care of and respect this environment. On a normative level, the implication of these consensus statements is that, as a minimum standard, these dimensions and features should be taken into consideration in the design of *any* care environment if we want to design an environment that responds to the very elementary needs and expectations of the users and stakeholders.

Apart from finding these general *shared* features, the results were analysed by contrasting the aesthetic discourses with the different types of care environments represented in the study, as well as the geographical and cultural contexts and the user and stakeholder statuses of the respondents.

Firstly, the different case study building types involved ultimately addresses the role of function in architecture. The results indicate that the uses of the buildings to some extent dictate our aesthetic preferences and priorities. This was exemplified by the *Nightingale* discourse, the *rational wayfinding* system and the ‘*my home is my castle*’ discourses; all three start from and highlight building-type-specific considerations. These were, on the one hand related to the *acute* nature of the care environments (hygiene demands, high-tech equipment) and the large scale and complexity of the buildings (wayfinding, concepts for getting natural light and views to the spaces of the large building volumes, flow of people and stuff, flexibility towards changes in care processes or technologies), and, on the other hand, to the rehabilitation methods preferred by the facilities (homelike settings for rehabilitation of abilities needed in daily life, separating ‘home’ from ‘work’, flexibility towards changes in personal needs of patients, clients and residents). However, the comparison revealed that some values and preferences surpass these functional objectives and represent more generic aesthetic values, such as the uniqueness and sense of craftsmanship in the design, the respect for patient/resident privacy (*‘putting patients first’* discourse) mentioned above, and the feelings of wellbeing that different materials, natural light, interaction with nature and the surroundings might induce on sensuous and social levels in patients and residents in particular (*nature, wellbeing and personalisation* discourse).

Secondly, when comparing the results with the geographical and cultural contexts of the case study buildings, there were differences between the architectural solutions of the Japanese and European cases but these differences were not translated into the aesthetic discourses, that is, in the ways the users and stakeholders related to their environment. This was tentatively interpreted to mean that the aesthetics of care environments fundamentally touch upon generic issues of how we, as human beings, value, take care of and respect the frail and the sick of our societies and thus the preferences attached to the quality of the

care environment transcend culture-specific considerations. The differences in the architectural solutions of the case studies included the extent to which natural materials, especially wood, is used, as well as the colour palette and the amount of space that was allocated for the private realm of patients and residents and for the facility as a whole. The Japanese care facilities had less space both in the private sphere and in the overall care environment than the European facilities. Wood was used more in both Japanese *acute* and *chronic* care environments compared to the European counterparts, a difference I attributed to the Japanese aesthetic attitude and care ethics, in which patients' and residents' sensuous feelings mediated by the different materials override the pragmatic concerns of the staff connected to the maintenance and durability of these materials, as well as to a different conception of what is and what is not in line with the hygiene doctrines of *acute* environments. In the European case studies, the colour palette was brighter and utilised more colours, both in the exteriors and the interiors of the buildings, than in the Japanese. In the Japanese care environments, emphasis was on highlighting the structure and tactile quality of the natural materials.

Although cultural issues did not emerge strongly in the aesthetic discourses, questions related to how cultural identities should be translated into architectural features arouse discussion. In the European context, where several of the participant countries are multi-cultural societies, the aesthetic strategies of the case study buildings tended to explicitly react to their near surroundings, that is, the city structure, the neighbourhood, its colours and materials, or features of the landscape, but left out aspects of country- or culture-specific attributes. In Japan, this multi-cultural discourse is missing. The debate there touched more on the essence of *Japanese* architecture and the role of traditional architectural elements in a society where the weight has been shifting towards the contemporary.

Thirdly, the role of the user/stakeholder groups in defining the aesthetic approaches was addressed, with the conclusion that group identity clearly guides some, though not all, of the preferences and aims as retrieved from the Q methodological experiments. The fact that the findings partly transcend the group identities can be tentatively explained by the cumulation of life experience, diverse personal backgrounds and professional expertise that make our individual conceptions more multifaceted than the group identities of this study. Nevertheless, some dividing lines could be identified. Architects and, to some extent, the administrative staff were in favour of abstract *moral-aesthetic* aims that ameliorate patients' and residents' experiences of the environment, such as the respect for privacy through a gradation of spaces on a private-public axis, the importance of uniqueness and high-quality materials as a symbol of the value of patients and residents, and the use of art work, colours and materials as a means of making the environment less stressful and facilitating wayfinding. The care

staff perspective predominantly stressed issues related to either *technical-aesthetic* considerations, that is, functionality, safety and hygiene, or to pragmatic concerns, such as the wellbeing induced by nature or by interacting with people, and the adaptability of the care environment to the changing needs of rehabilitation. The patients and residents were dispersed throughout nearly all aesthetic discourses. However, an attitude towards the care environment and its features, based on personal experiences, comes across, such as in the empowering of social contacts, privacy and the personification of spaces.

The preferences and priorities of the residents of *chronic* care environments did not coincide with those of the architects. This gap between architects' and residents' perceptions of care environment aesthetics supports the general findings of the pilot study, which suggests that architects to some extent lack a knowledgebase of the mechanisms that, on a social and psychological level, would be supportive for the end-users. Harshly put, this could be one of the reasons why many *chronic* long-term care facilities of today are institutional, impersonal and display common areas that would fit better in a shopping mall or hostel corridor, rather than being small-scale and intimate, as people's own homes tend to be.

A comparison of the significant places and features of the case study buildings indicated by the participants after the Q experiment and photographed on site demonstrates further differences between the user/stakeholder groups. When arranging the photos according to the groups, the statuses of the respondents are reflected in their approaches to the care environment. Architects and administrators looked at the care environment analytically and holistically. The architects selected places that conveyed the relation of the building to the surrounding natural or built context, visual and physical connections between spaces, the interior and the exterior of the building or the ambiances of different spaces and the message that these ambiances send to the users. The administrators stressed the symbolic nature of specific architectural solutions, such as coloured courtyards as landmarks or strategic functional connection points, or the therapeutic impact of specific spaces. The patients and residents valued features that affected them directly and influenced their personal care experience, such as being able to socialise with others in common spaces, the rooms they occupied and the importance of having personal stuff, especially in *chronic* care buildings, or to be able to receive rehabilitation outdoors, in the gardens or on balconies. The care staff and visiting family members positioned themselves between the analytic and the pragmatic.

Comparing the aesthetic approaches of this study with results of previous research and the healthcare architectural debate, some issues were indeed highly rated in the Q sorts, while others were rejected. The question of patients' room preferences has, in prior research, come out either in favour of single or multi-person rooms, while the room-occupancy praxis of today seems to be in flux, as manifested in both the *acute* and *chronic* case studies. However, the results of

this study indicate that users and stakeholders strongly support single rooms in both building type categories. Evidently, there is a gap between design praxis and user/stakeholder expectations on this point. The underlying motivations for preferring single rooms emerging in the Q interviews echo many of the results of previous research, such as better sleep quality, quietness, not upsetting others with one's own symptoms or feeling disturbed by the sounds and symptoms of others. All in all, the conclusion here is that people have a psychological need of being alone and that this need is accentuated in the care environment, which is imposed on us when we are frail or sick.

Concerning other aspects of privacy, the analysis of the spatial gradation on a public-private axis of the case buildings indicated that *chronic* care environments with a 'dormitory-like' or 'one-ward' spatial layout resembled that of the hospital environments in that the transition between the private patient's or resident's sphere to the open public spaces happens abruptly. This in turn may explain the somewhat institutional nature of these facilities, for example, at Baum Haus or Haus Steinfeld. In the *group home* or *unit care* layouts, on the contrary, the transition happens slowly, passing through the semi-private common spaces of the smaller units, as manifested in Yuraku Nursing Home, Senri Rehabilitation Hospital or Käpylä Autism Centre. When addressing the topical issue of loneliness, these care models, based on small scale units, could offer one solution for successfully combining the users' need for privacy with the parallel need for social dimensions and togetherness.

The reactions to the role of family participation and the role of art – two current issues in the design of care environments – were twofold and displayed further breaches between design trends and the user/stakeholder perceptions. On the one side, family participation in the care processes was perceived of as important, but, on the other hand, it was deemed uncalled for as a general spatial solution affecting the layout of the patient/resident room. In many situations, be it adults in the middle of non-urgent care processes in hospital environments, vulnerable children in difficult social situations, adults with disabilities enjoying independent living in their own homes or elderly residents living in care facilities, there was little support for substantial family involvement, such as lodging family members. When it comes to art and art content, this issue has received considerable attention both in the public debate and in the field of evidence-based design research, but there was no consensus on art in the Q methodological findings. In the case studies with clear art agendas, the art work had nothing to do with evidence-based design guidelines. On the contrary, the art work was explicitly contemporary, and in several respects abstract and ambiguous, such as in Malmö Infectious Diseases Unit, Maggie's Glasgow and Katta General Hospital. Similarly, the paintings in Käpylä Autism Centre were the result of cooperation between the residents and professional artists.

As an overall synthesis of the results of this study, a set of best-practice features and concepts are put forward as lessons learnt from the case studies of Katta General Hospital, Katsura Ladies Clinic, Senri Rehabilitation Hospital, Baum Haus, Yuraku Nursing Home for the Elderly, Marne-la-Vallée Hospital Centre, Malmö Infectious Diseases Unit, Maggie's Glasgow, Käpylä Autism Centre and Haus Steinfeld. These ideas could be seen as a toolkit from which to pick and mix relevant ideas and case-sensitive features of the different building types depending on situational requirements. Future solutions should take into account the experience of care environment aesthetics and architecture in its full complexity. Evidently, it should not be sufficient to design care environments that only answer the needs of a small proportion of its users. We need environments that serve and meet the needs of as many as possible users and stakeholders. This could be thought of as a *reconciliation* between the aesthetic discourses defined in this study.

The principle aim of this study was to contribute to an increase in the understanding of care environment aesthetics and architecture by investigating how the users and stakeholders of different types of care buildings in different cultural contexts *experience* their environment. The evaluation of the built environment comprehensively is challenging because the surrounding environment influences us in a multitude of ways, simultaneously and personally. Care buildings, in particular, are complicated and the effects they have on the users are difficult to estimate. Although the subjective experience of architecture has been researched previously, Q methodology provides a new and systematic method for analysing and interpreting subjective viewpoints. This study has succeeded in finding five coherent, yet mutually different, overall aesthetic discourses on the care environment that are founded in the subjective experiences of the participants. The creation of future state-of-the-art care environments that would respect *all* users and stakeholders requires listening to these subjective voices. The experience of architecture is multisensory and contextual and is affected by social and functional dimensions of the environment, but it is not impossible to investigate.

In conclusion, there are four main practical implications of this study. Firstly, all user and stakeholders should be involved in the design processes, in the decision-making and in research endeavours. Architecture is about more than the architect. This study has shown that the various parties involved have valuable viewpoints that need to be respected when designing state-of-the-art care environments or conducting comprehensive research. If this is ignored, we will be missing out on important and relevant dimensions. On a methodological level, this study has provided a tool – Q Methodology – for studying architecture in such a way that the subjective voices of the users and stakeholders can be heard. Secondly, this study verifies the existence of shared conceptions of aesthetics. We need to understand and apply these shared conceptions in order to design

excellent care environments that answer to the needs and expectations of all the users. Thirdly, even best-practices show both positive and negative features when they are evaluated by the users and stakeholders. Therefore, we need systematic research that would investigate the content and implication of these evaluations. Finally, designers and architects would profit from broadening their toolkit by picking and mixing, adopting and adapting from one that is more user-sensitive, in their search for future aesthetics of care environments.



NOTES

- 1 In 2015, the average length of stay for acute myocardial infarction was 6.5 days in OECD countries. The average length of stay has fallen in all OECD countries since 2000 (OECD 2017).
- 2 The average age of healthcare buildings in the US is 28 years, during which they undergo renovations (Guenther & Vittori 2008, p. xviii). In Japan, the short life cycle of hospitals has been attributed to a 'scrap and build' culture, according to which some hospitals are economically built, poorly maintained and soon demolished (Nagasawa 2003, 2006).
- 3 Examples of assessment tools used in healthcare buildings are: BREEAM UK New Construction; LEED Building Design and Construction; Green Star - Design & As Built; and CASBEE New Construction (Castro et al. 2017)
- 4 The first of these Health and Wellbeing Centres, located in a new building, opened in the Helsinki Kalasatama district in February 2018 (<https://archello.com/project/kalasatama-health-and-well-being-centre>).
- 5 In Japan, a clinic is classified as a facility with 19 or fewer beds, while a hospital has 20 or more (Sakamoto et al. 2018).
- 6 These innovations have been developed as part of Aalto University programmes supporting the creation of new start-up enterprises and collaboration between the University and the private sector.
- 7 The so-called 'collative' variables launched in the 50s and 60s by Daniel Berlyne, *Aesthetics and Psychobiology*, New York: Appleton-Century-Crofts, 1971. See also Parsons (1991).
- 8 In the Käpylä Autism Centre, art therapy is used as a rehabilitation method for the users and these works of art are displayed in the building. In Malmö University Hospital, quite ambiguous works of contemporary Swedish artists are part of the building design. Among the Japanese case studies, Katta General Hospital incorporated contemporary meditation gardens of stones in the lobby areas.
- 9 A study by Groat (1982) compared architects' perceptions of Modern and Post-Modern architecture with those of non-architects by using a multiple sorting task of photographs of buildings, concluding that the two groups interpreted architecture differently and that the architects' professional training and familiarity with architectural content and values affected their judgements. Studies by Devlin & Nasar (1989), Purcell & Nasar (1992) and Gifford (2000) support the same findings.
- 10 E.g., the patients preferred the head of the bed to be located so that they could see out to the corridor and the door to be left open. The staff, in line with recent advances in EBD literature (MacAllister et al. 2019), proposed the opposite.
- 11 Art therapy will not be addressed here as it falls outside the scope of this doctoral study.
- 12 Even the common usage of the word aesthetic varies with different cultures. In Japanese, the word 'esthé', short for aesthetics, is commonly associated with beauty parlours and treatments of bodily care and embellishment. Subsequently, when I was conducting preliminary case study interviews at Japanese healthcare facilities, the term caused confusion and I had to start each interview with a discussion on its meaning. This initiated the search for a methodology effective for investigating the user experiences of such an ambiguous phenomenon as the aesthetic.
- 13 Åhlberg's (2014, pp. 55-73) essay on the "Notions of the Aesthetic and of Aesthetics" is a vivid account of the many ways the terms "aesthetic" and "aesthetics" have been applied by scholars in the past.
- 14 Merriam Webster Online dictionary
- 15 Wladyslaw Tatarkiewicz provides a comprehensive historical analysis of the



- development of the concepts of beauty from antiquity to our times (1980, pp. 121-152).
- 16 Citation by Shusterman (1999, p.300), emphasis added. Shusterman offers a discussion on the neglect of the body in Baumgarten's aesthetic theory; sensory perception was at the time considered a "lower faculty", as opposed to "the higher faculties of understanding and reason", certainly influenced by the 18th century religious ideological climate.
 - 17 In a Q-methodological study, Myers (1990) investigated computer game aesthetics on dimensions such as fantasy, curiosity, challenge, and interactivity.
 - 18 In his much cited *The Book of Tea*, Kakuzo Okakura (1906) gives an account of the tea ceremony, its tea-masters, design of a tearoom and the art of flower arranging. Another classical piece on Japanese aesthetics is *The Pillow Book* written by the young courtesan Sei Shonagon (2011) describing the court life of a 10th century Heian empress.
 - 19 Defined by Richard Shusterman (1999) as "the critical and meliorative study of the experience and use of one's body as a locus of sensory aesthetic appreciation... and creative self-fashioning", p.302.
 - 20 Neuroaesthetics focuses on the effects of visual stimulation on brain behaviour. Nanda, U. et al. (2009) give an account of the experiments made during recent decades on how the brain reacts to different visual stimuli.
 - 21 For a contemporary debate on disinterestedness in aesthetic appreciation between Arnold Berleant and Ronald Hepburn (2003) see "An Exchange on Disinterestedness", *Contemporary Aesthetics*, vol.1.
 - 22 Saito (2007, p. 44) discusses the aesthetic experience defined by Dewey in relation to attitudes of distancing.
 - 23 Hermerén's account is discussed by Thomas Leddy (1995, p.262). Other thinkers who, according to Leddy (p.267), have created lists of aesthetic qualities are Frank Sibley (1959), Monroe Beardsley, Peter Kivy and Roger Scruton.
 - 24 This is a common idea prevalent in the field of cultural theories and sociology. In phenomenological theory it is named the epoch..
 - 25 Saito (2007) refers to this approach as "moral-aesthetic" judgement, p.208.
 - 26 In the Japanese care context, the 'Toyama-styled' care environment, owing its name to the Toyama region where the principles were first adopted in 1993, combines care homes for the elderly and disabled with nurseries for children in order to animate the daily lives of the residents. The associationist theory is often elaborated by a comparison presented by Archibald Alison of the sublime hooting of an owl at midnight amid ruins, with the same sound during the day, in *Essays on the Nature and Principles of Taste*, see Saito (2007, p.121) for references.
 - 27 E.g. Vitruvius's (1960) *The Ten Books on Architecture* (1st century B.C), Leon Battista Alberti's (1988) *On the Art of Building in Ten Books* (15th century), Andrea Palladio's *Quattro Libri dell'architettura*, Claude Perrault's *Ordonnance for the Five Kinds of Columns after the Method of the Ancients* (early 18th century).
 - 28 The Golden Section, *sectio aurea*, is based on the formula $a:b=b(a+b)$, forming the mathematically irrational number $(1+\sqrt{5}):2$, equalling $F(\phi) = 1,618034$ (Sarjakoski 2003).
 - 29 The Shōmei, compiled by the carpenters of the Tokugawa shogunate Heinouchi Yoshima and his son and dating to early 17th century, is the oldest preserved design manual describing the modular proportions of the *shoin* style, a style that was adopted by the upper class and later evolved into the *sukiya* style (Nishi & Hozumi 1983).
 - 30 According to the Kodansha Encyclopedia of Japan (1983, vol. 7, *tatami*), for example, the tatami size in the Kyoto area measures 0.95 x 1.91 m, in the Nagoya area 0.91 x 1.82 m and in the Tokyo region 0.88 x 1.76 m.
 - 31 In the care homes for the elderly that were part of the pilot study, the typical size of the residents' private room was 6 tatami (Ståhlberg-Aalto 2013, p. 103).
 - 32 Adapting a version of the six S's of Stuart Brand (1994), modified by excluding those which are not distinctly aesthetic, the "services" and the "structure".

- 33 In a dissertation by Jenna Stevens (2011), 29 published Q studies involving patients as respondents are reviewed and the author concluded that Q methodology has successfully been used on a wide range of patient populations of varying age groups. These studies, however, did not address the physical environment.
- 34 Here the term experimental is not used in its conventional meaning to indicate a research setting where a specific variable or behaviour is manipulated directly and systematically, but to designate the unconventional use of Q methodology in the domain of architectural research and the nature of the Q sorting task as an interactive experiment.
- 35 In Finland, valuable expertise was provided by Erkki Vauramo, Professor, and Ira Verma, researcher, Sotera Institute, Aalto University; Henna Kjisik, Professor, School of Architecture, Oulu University; Helinä Kotilainen, Chief Architect, Finnish National Institute for Health and Welfare, Kirsti Pesola, consultant, Finnish Association of People with Mobility Disabilities. The following contacts most helpfully assisted in the selection process and in arranging the visiting permits in Japan: Yasushi Nagasawa, Professor, and Fumiko Saruwatari, School of Architecture, Kogakuin University; Shuang Yan, Professor, Miyagi Gakuin Women's University and Satoshi Ishii, Professor, Tohoku Institute of Technology.
- 36 I am deeply indebted to Fumiko Saruwatari and Prof. Shuang Yan for accompanying me on the case study visits throughout Japan, as well as to the interpreters Junko Iwaya, Miho Okamoto and Ryoko Abe.
- 37 The standard error for a factor loading is defined as $SE = 1/\sqrt{N}$, where N = the number of statements in the Q sample. Factor loadings in excess of 0.37 are statistically significant at the level $p < 0.01$. Factor loading significance is calculated by the formula $1/\sqrt{48} \times 2.58$ (SEr) = ± 0.37 (McKeown & Thomas 1988, p.50).
- 38 The three alternative analysis methods were 1) the preliminary PCA analysis and Varimax rotation published in a separate research article (Ståhlberg-Aalto 20015), 2) centroid factor analysis combined with hand rotation of factors, and 3) PCA analysis combined with a Varimax rotation *and* the manual rotation of factors.
- 39 Thomas & Baas (1992) tested the reliability of Q methodology by conducting a tandem Q study on the same topic on two different locations using a different set of Q samples and respondent groups; the studies yielded identical results.
- 40 In France, a trend is that the emergency departments are growing in size and becoming more diverse due to the lack of local physicians. Patients go to the emergency wards regardless of how serious their problems are (Blin, 2013, p. 17).
- 41 Here, the 'hot-hospital' refers to functions which require a high level of medical and technical equipment, such as operating theatres, emergency and intensive care units, while the 'cold' spaces are low-tech spaces such as consultation rooms or in-patient wards.
- 42 The autism spectrum spans several disorders, such as autism, Asperger Syndrome and pervasive developmental disorder. The autism spectrum is a neurodevelopmental disorder, diagnosed to include the following symptoms: deficits in social communication and social interaction, and restricted, repetitive patterns of behaviour, interests or activities. This diagnosis is defined in the DMS-5, The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, American Psychiatric Association, 2013.
- 43 The Housing Finance and Development Centre of Finland (ARA) and the Finland's Slot Machine Association (RAY). A peculiarity of the Finnish subsidy system for building and renovation of care facilities within the non-profit healthcare sector is that it has been funded by profits of RAY, the state monopoly for gambling. From January 2017, responsibilities for the granting of subsidies were moved to the Ministry of Social Affairs and Health.
- 44 Here the term *discourse* is used as an expression of an informed and coherent set of ideas and should not be confounded with the use of the word in semiology or poststructuralist philosophy.
- 45 Here significance is fulfilled when the factor loading is in excess of 0.37 ($p > 0.01$) on one factor only (see footnote 37, Chapter 3).



- Humphrey's rule states further that a factor is significant if the cross-product of its two highest loadings exceeds twice the standard error, in this case $(1.048) \times 2 = 0.29$ (Aalto 2001, p.143). According to this criterion, all factors of my analysis are significant. Additionally, I applied a commonsensical principle by which a participant defining a factor should have no more than half of the factor loading on any other factor. Participants with significant loadings on several factors were also excluded from the factor definition. This set of limitations was applied in order to ensure that the factors are *pure* expressions of the distinct discourse they represent.
- 46 Here, note that the two visitors were students of architecture, making the architects a majority among the defining participants of the discourse.
- 47 A parallel could be drawn to the writings of Nigel Taylor on the ethical dimensions of architecture discussed in Chapter 2 when he proposes the negative, that "any lack of care given to the design of a building is also, in effect, a lack of care shown to the public who have to live with it" (Taylor 2000, p.202).
- 48 In comparison, the rest of the case study buildings are all smaller, with total floor areas varying from 530 to 7250 sq.m.
- 49 Here it is good to keep in mind that the Q analysis calculates a weighted average of the factor scores for each statement, so the individual reactions of a respondent might differ from the average stance. However, hypothetically, if a group of respondents would have systematically rank-ordered the statements related to traditional features of the environment, e.g., in the category +5, this group would have emerged as a factor in the statistical analysis.
- 50 A parallel could be drawn between this broad way of arguing to that of Yuriko Saito (2007) on everyday aesthetics, where the aesthetic is viewed to comprise both a certain aesthetic attitude towards and/or a sensuous experience of an object, phenomenon or activity. In other words, that the aesthetic features of the environment may well be 'simply' experienced by our senses and need not be the result of cognitive interpretations.
- 51 In Japan, the number of persons aged 65 and over living with their children have dropped from 69% in 1980 (Koga et al. 2002) to 40.6% in 2014 (GOJ 2016). Yet by comparison, in Finland the number of extended families is so small that it is not even published in official government statistics (www.tilastokeskus.fi) nor mentioned as a housing alternative for the elderly (Özer-Kemppainen 2006).
- 52 I will here limit the discussion to the case study buildings and not go in-depth into cultural differences on how the concept of privacy is defined and perceived of in Japan vs. the set of European countries as this would be the subject of whole new doctoral dissertation.
- 53 At the time of the case visits, Japanese governmental or regional subsidies reimbursed construction costs of single rooms up to 13.0 sq. m, which had directly affected the dimensioning of the spaces at least in Yuraku nursing home. The overall size of the group homes in Käpylä Autism Centre was limited to 40 sq. m /person by the policies of the Finland's Slot Machine Association, who at the time was in charge of social building subsidies.
- 54 The classical orders, discussed in Chapter 2, and the way classical and neo-classical architecture spread over centuries in Europe is an example of how international the field of architecture has been throughout history. The same goes for the close exchange between Modernist Western architects and Japan.
- 55 Based on the case visits to Japanese and European hospitals and on publications (Ståhlberg-Aalto 2013, JIHa 1/2008), one difference between Japanese and European hospitals seems to be that, in Japan, multi-occupancy rooms, or 'quasi-private' rooms as they are called there, are prevalent and tend to be 4-person rooms, while in the visited European case buildings the multi-person rooms in new hospitals are 2-person rooms. In Japan a 'quasi-private' room refers to a multi-person room where each patient bed has an individual window along with some personal space around the bed to provide privacy.
- 56 For example, the design of Käpylä Autism Centre occurred at a time of transition in the care for the disabled in Finland, the emphasis

in living solutions shifting from institutional care, where residents lived in ward-like environments and in multi-occupancy rooms, towards small-scale group homes providing each resident a private room. Thus the group home concept based on four single rooms was, after lengthy negotiations, approved of by the financial authorities, Finland's Slot Machine Association, who at the time was in charge of governmental building subsidies for social housing projects.

- 57 Note that the other patient interviewed at the same facility found her single room very important and would not have wanted to share it with others. In other words, children do not automatically want to sleep with others, which might be a popular expert's opinion. On the contrary, at Baum Haus, an issue was bullying between the children, and what happened behind the closed doors of the rooms was part of the problem.
- 58 Even the Emperor of Japan had visited the Yuraku Nursing Home for the Elderly, which was an additional reason for the staff to be proud of their environment.

APPENDICES

I LIST OF ABBREVIATIONS

ADL	Activities of Daily Life	PCA	Principal Components factor Analysis
AJJ	Architecture Institute of Japan	RIBA	Royal Institute of British Architects
AR	The Architectural Review (journal)	SARS	Severe Acute Respiratory Syndrome
CAVE	Computer Aided Virtual Environment	SOTERA	Research Institute for Health Care Facilities (Aalto University, Finland)
DAF	Directed Attentional Fatigue	UNFPA	United Nations Population Fund
EBD	Evidence-based design	Varimax	Data correlation method based on the automatic rotation of factors aiming at maximizing the variance between factors
ICU	Intensive Care Unit	WHO	World Health Organisation
JJHA	Japan Institute of Healthcare Architecture	WAN	World Architectural News (awards)
MDD	Major Depressive Disorder		
MRI	Magnetic Resonance Imaging		
NHS	National Health Service (UK)		

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III CASE STUDY BUILDING COMPARISON TABLE

case study building	type of building	number of resident / patient beds / clients	staff total, d = daytime, n = at night	site area m ²	total floor area, m ²	floor area m ² / resident, / patient	residents / home unit, patients / ward	persons / resident or patient room	
4.2.1 Katta Public General Hospital	general hospital	308 (4 infectious + 4 tuberculosis)	320	56 657	25 862	84,0	44-60	1, 2 or 4 30% single 70% multi-person rooms	
4.2.2 Katsura Ladies Clinic	maternity clinic	19	8 nurses: 2 / n 6 / d 2 physicians		930	48,9	19	1 4	
4.2.3 Senri Rehabilitation Hospital	physical rehabilitation hospital	120 (172 allowed)	100 physio-therapists	3723	7255	60,5 (42,2)	12	1	
4.2.4 Baum Haus, main building	children's psychiatric rehabilitation & dormitory	37 (in use of 50)	29		2536	50,7	no units, resident rooms on two floors according to gender	1, 2 or 4	
Black dormitory Dormitory for visitors		20 2 apartments			567	28,3		1	
4.2.5 Yuraku Nursing Home for the Elderly	nursing home & group home for the elderly, day care centre	100 (residents) 20 (day care)	97 7 / d / unit 1 / n / 2 units		6558	65,6*	10 - 12 (nursing home) 9 (group home)	1	
4.2.6 Marne-la-Vallée Hospital Centre	general hospital	460 (MSO**) 125 (psychiatry)	2300		72 000	123,1	30 / flexible patient wards	1 85% single 2 15% double rooms	
4.2.7 Malmö Emergency and Infectious Diseases Unit	unit at Skåne University Hospital	51			24 000 - 19 000 new construction - 5000 reconstruction		17 – 18 rooms / ward / floor	1- 2 according to demand	
4.2.8 Maggie's Glasgow	cancer caring centre located on NHS hospital campus	no in-patients 70-110 visitors per day	9 specialists & advisors		534		-	-	
4.2.9 Käpylä Autism Centre	group home and rehabilitation centre for adults with autism	12 residents 36 day clients			1780	37,1* (incl. day clients and residents) floor area / group home: 43.5 / resident	4	1	
4.2.10 Haus Steinfeld Senior Centre	nursing home for the elderly	50 residents		8100	3658	73,2	25	1 (34 rooms) 2 (8 rooms)	

* Including the day activity centre located in the building compound

** MSO = medicine, surgery, obstetrics

*** Floor area estimated from architect's drawing

floor area m ² / resident's private area, patient room	F = floors B = basement P = penthouse	date	structure	environ- mental context	aesthetic strategy	acknowledgement
10,0 / single room +1,8 / toilet *** 26,0 / 4-person room +2,8 / toilet (corridor) ***	3 F	2002	RC Steel frame	rural	healing architecture inspired by LeCorbusier: light, ventilation, views outside, outdoor access from patient room on rooftop terraces, minimalistic white design	Japan Healthcare Architecture Award 2003 Japan Institute of Architecture design commendation 2004 Tohoku District Architectural Award
10,15...12,25 / single room incl. small toilet 35,0 / 4-person room +2,0 / toilet (corridor)	1 F	2011	RC	suburban	individuality & integrity, each patient room in unique box, play of boxes with varying height and proportions, concrete and wood, light	- recommended by experts
'western-styled': 13,5 / single room + 1,5 / toilet *** 'Japanese styled': 15,0 / single room + 4,2 / toilet (corridor)	3 F 1 B	2007	RC brick	suburban	residential & hotel ambience, rehabilitation by means of architecture, homelike 12 person care units, family participation, sensuous materials	Japan Healthcare Architecture Award 2009
11,5 / single room 13,5 / double room 22,0 / 4-person room *** shared toilet/ bathroom	2 F 2 F	2006 2003 2006	RC Steel frame Wood	rural rural	random white cubes create spaces in-between, theoretical approach: patient defines use of space, freedom, integrity, simple materials & colours	2008 Japan Institute of Architecture Grand Prize 2006 AR Awards Grand prize and Highly Commended
'western-styled': 13,5 / single room +1,6 / toilet *** 'Japanese styled': 16,0 / single room + 1,6 / toilet ***	3 F	2003	RC Steel frame	rural	village of small houses, family- like care units, home, integrity, outdoor access from resident's room, gardens and terraces, light, traditional arch. elements and materials	Japan Healthcare Architecture Award 2005
12,5 / single room +2,5 / toilet *** 17,0...21,5 / double room +2,5...3,0 / toilet ***	3 F 1 B	2012	RC façades of structural glazing and aluminium panels	suburban	monolith low-rise building, 110x200m, pierced by interior courtyards in different colours; single patient rooms; network of double corridors. Concept of monospace: neutral, flexible expandable space	1st prize arch. competition nominated for Prix Equerre d'Argent 2013, HQE Label
31,5 / patient room +7,0 / toilet +8,6 / ante-room +3,2 / ante-room	7 F 1 B	2011	RC façade glass lamellas, metal plate	urban	cylindrical building, patient rooms on exterior and staff auxiliary spaces on interior façades. Outdoor access from patient room; separation of clean and contaminated circulation	1st prize arch. competition 2010 Finalist for Kaspar Salin priset 2012 BBH Best International Healthcare Design award
-	1 F	2011	RC	urban	a sequence of intimate spaces encircling an courtyard; the boundaries between spaces, inside and outside, corridor and activity room are diffuse	Andrew Doolan Prize Best Building Award 2012 shortlisted for the RIBA Stirling Prize 2012
23,5 / resident flat: incl. 20,0 / room +3,5 / bathroom 22,8 / wheelchair flat: incl. 18,3 / room +4,5 / bathroom tot.174 / group home	5 F	2004	RC brick wood	urban	small scale group homes: one home / floor, views in four directions. Independent life: separate home & work. Support autistic user demands by use of materials, colours, light, space layout & technical solutions	Helsinki City Honorary Prize for Good building design Published in the Finnish Architectural Review
19,4 / single room +4,5 / bathroom*** 28,0 / double room +4,5 / bathroom***	3 F	2005	RC wood	rural	traditional materials: timber-frame construction on concrete plinth, local wood, hayloft shutters, special window sills. Layout of spaces around atrium garden: 1 care unit / floor. Connection to community.	1st prize arch. competition 2005 State Architecture Award of Carinthia 2005 Timber Constr. Award 2006 New Alpine Arch. 2006 nom. State Award for Energy and Sustainability

IV POTENTIAL CASE STUDY BUILDINGS, ABBREVIATED LIST

EUROPEAN CARE ENVIRONMENTS

Acute care environments:

- Santa Caterina Hospital, Brullet-de Luna Arquitectes; 2004, 27.387 m², Gironès, Spain
- Evelina Children's Hospital; Hopkins Architects, 2005, 16.500 m², London, UK
- Martini Hospital, Burger Grunstra Architects and consultants, 2007, 60.000 m², Groningen, the Netherlands
- Akershus University Hospital, C. F. Møller Architects; 2008, 137.000 m², Oslo, Norway

Chronic care environments:

- Groot Klimmendaal, rehabilitation centre, Arch. Koen van Velsen; 2009, 14.000m², Arnhem, the Netherlands
- REHAB Basel, Centre for Spinal Cord and Brain Injuries; Herzog de Meuron, 1998, Basel Switzerland
- De Hogeweyk, residential block for elderly with dementia, Molenaar & Bol & VanDillen architecten; 2009, 152 residents, Weesp, the Netherlands
- Waterhoeves, mixed housing, van den Oever, Zaaijer & Partners; 2010, 19.850 m², Ypenburg, the Netherlands
- Centre for Cancer and Health, NORD Architects; 2011, 2.250 m², Copenhagen, Denmark
- Alcácer do Sal, nursing home for the elderly; Aires Mateus & Associates, 2010, 3.640 m², Portugal
- Housing for the elderly & day centre; Javier Garcia-Solera Vera, 2005, 2.674 m², Alicante, Spain
- Santa Rita Geriatric Center; Manuel Ocaña, 2009, 5.990 m², Ciutadella, Illes Balears
- Centre for Seniors, Pfeifer Roser Kuhn; 2003, 7.002 m², Lich, Germany
- Miss Sargfabrik, mixed housing solution, Arch. BKK-3; 2000, 4.371 m², Vienna, Austria
- St. Nikolaus, nursing home for the elderly, Kadawittfeldarchitektur; 2001, 4.300m², Neumarkt, Austria
- Hainburg Nursing Home, Kronaus + Kinzelbach; 2009, 3.821 m², Hainburg, Austria
- Pflegezentrum Gurgltal, nursing home for elderly, Moser+Kleon Arkitekten; 2010, 8.255 m², Imst, Austria
- Sonjatun omsorgssenter, nursing home for the elderly, Erling Haugen; 2000, 1.540 m², Troms, Norway
- Ulrika Eleonora Senior Housing, L & M Sievänen architects; 2002, 3.250 m², Loviisa, Finland
- Onni Wellbeing Centre, L & M Sievänen architects; 2007, 3.240 m², Pukila, Finland
- Villa Andante, nursing home for the elderly, Tuomo Siitonen Architects; 2010, 2.079 m², Espoo, Finland
- Kauklahti nursing home for the elderly, Siven & Takala Architects, 2012, 6.170 m², Finland



JAPANESE CARE ENVIRONMENTS

Acute care environments:

- Aiwa Hospital, M. Senda + Environmental Design Institute, Taisei Corp.; 2006, 5,070 m², Saitama, Japan
- Tokyu Hospital, Tokyu Corporation + Daiken Sekkei Inc; 2007, 12,649 m², Ota-ku, Tokyo, Japan
- Tokyo Metropolitan Tama / Children's Medical Center, Nikken Sekkei; 2010, 129,879 m², Tokyo, Japan
- Sekii Ladies Clinic, obstetrics clinic, Atelier Hitoshi Abe; 2001, 16,568 m², Furukawa, Miyagi, Japan
- Angel Women's Hospital, obstetrics hospital, Yuzuru Tominaga + Form System Institute; 2002, 3,091 m², Kitakyushu-shi, Fukuoka Prefecture, Japan
- Hanamizuki Ladies' Clinic, obstetrics clinic, Coelacanth & Associates; 2003, 1,988 m², Nagasaki, Japan
- Minamigaoka Clinic, obstetrics clinic, Matsuyama Architect & Associates; 2010, Sapporo, Hokkaido, Japan
- St Luke's Birth Clinic, obstetrics clinic, Shimizu Corporation; 2010, 1,724 m², Chuo-ku, Tokyo
- Opis K Clinic, doctor's clinic, Architecton; 2007, 199 m², Nabari Mie, Japan
- Minami-Nagano Dental Clinic & Residence, Hiroki Tanabe; 2005, 274 m², Nagano, Japan

Chronic care environments:

- Kokura Rehabilitation Hospital, Masahiro Yasui Architects & Associates; 2001, 17,359 m², Fukuoka, Japan
- Fukushima Prefectural Koriyama School for the Physically Handicapped, Kazuo Watabe / Yui Architects & Planners; 2002, 13,525 m², Koriyama, Japan
- Life Stage U-topia, dwelling and workshop for mentally handicapped, Environmental Development Research Inc.; 2003, 3,253 + 720 m², Hadano, Japan
- Kujira Hospital, psychiatric hospital, Shimizu Corporation; 2006, 5,067 m², Koto-ku, Tokyo, Japan
- Oya-no-ie, nursing home for the elderly, Atelier ZO; 2001, 2,489 m², Musashino City, Tokyo, Japan
- Kema Kirakuen, nursing home for elderly, Nagano Architects & Associates; 2001, 4,778 m², Amagasaki, Japan
- Freude Hikoshima, Hidetoshi Ohno + Akihiro Yoshida / APLdw; 2005, 4,895 m², Shimonoseki, Japan
- Aboa Hills, nursing home for elderly, Nosu Architects Planners Engineers; 2009, 8,484 m², Yokohama, Japan

V CASE STUDY BUILDING GENERAL INFORMATION REQUEST SHEET

I. General information on the building

- Name of facility:
- Owner:
- Design team (e.g. architect, interior designer, construction manager, structural and other engineers, landscape architecture, general contractor):
- Type of facility:
- Location:
- Site area:
- Total floor area:
- Structure:
- Total construction costs:
- Program description / number of beds, treatment facilities and services provided:
- Completion date:
- Recognitions/awards:

2. Is it possible to get copies of site plan and floor plans (dwg/pdf-files)?

VI LIST OF Q STATEMENTS IN THE DIFFERENT LANGUAGES

1. “There should be works of art in the care environment. When I see paintings or handicraft work, they get my attention and make my sensitivity active – they give me power! They also initiate conversation in a natural way.”

介護環境には、美術品が見込まれなければなりません。絵画や工芸品は見るものの注意力や感受性を高める効果があり、それによって入居者には活力が生み出されます。また、こうした美術品は自然な会話のきっかけにもなり得ます。

“Il devrait y avoir des œuvres d’art dans un établissement de soins. Quand je vois des peintures ou de l’artisanat, ça attire tout de suite mon attention, ça mobilise ma sensibilité et ça me donne de la force! Ça favorise la conversation aussi.»

“In der Pflegeumgebung sollten auch Kunstwerke sein. Gemälde oder handwerkliche Kunst wecken meine Aufmerksamkeit und machen alle meine Sinne wach – sie spenden mir Kraft! Außerdem führen sie ungezwungen zu einem Gespräch.”

“Det borde finnas konstverk i vårdmiljön. När jag ser målningar eller hantverk så fäster jag min uppmärksamhet vid dem och alla mina sinnen aktiveras – de ger mig kraft! De väcker också diskussion på ett naturligt sätt.”

“Hoitoympäristössä pitäisi olla taideteoksia. Maalaukset tai käsityöteokset saavat huomioni ja herättävät kaikki aistini – ne antavat minulle voimaa! Taideteokset myös herättävät keskustelua luonnollisella tavalla.”

2. “Furniture made of plastic or metal is disagreeable to touch, for example when the bed is made of cold metal frame or the plastic gets all too sticky. Bad materials just make people feel bad.”
プラスチック製や金属製の家具は、触れるものに不快な感触をもたらします。金属製やプラスチック製のベッドフレームが冷たくなったりべとついたりするように、相応しくない素材は入居者の気分を低下させます。

“Quand le mobilier est en plastique ou en métal, c’est désagréable au toucher. Par exemple, quand un lit est en métal froid ou quand le plastique devient collant. Quand les matériaux ne sont pas bien, les gens ne vont pas bien.”

“Möbel aus Kunststoff oder Metall sind unangenehm zu berühren; wenn zum Beispiel das Bettgestell aus kühlem Metall besteht oder wenn der Kunststoff sich dumpfig und stickig anfühlt. Schlechte Materialien lassen einen sich selbst schlecht fühlen.”

“Möbler tillverkade av plast eller metall är obehagliga att röra vid, t ex om sängkanten är gjord av kalla stålrör eller när plastytan blir klabbig av



smuts. Dåliga material bara får oss att må dåligt.”

“Muovisia tai metallisia huonekaluja on epämiellyttävä koskea; esimerkiksi kun sängyn runko on kylmää metallia tai kun muovi tuntuu nihkeältä ja tahmealta. Huonot materiaalit vain saavat ihmiset tuntemaan itsensä huonoiksi.”

3. “The artificial lights should be soft and indirect, not strong and bright. This makes us feel comfortable and creates a soft atmosphere. Glaring lights on the other hand cause headache and fatigue.”

照明には柔らかい間接光を用い、光量が強く明るくなり過ぎないように注意する必要があります。適度に調整された照明は、快適な心地良い空間を作り出すことができます。一方、眩しい光は頭痛や疲労の原因となります。

“La lumière artificielle doit être douce et indirecte, pas trop fort et vive. Ça crée une atmosphère de douceur qui met à l’aise. Les lumières éblouissantes, au contraire, provoquent des maux de tête et fatiguent.”

“Die Beleuchtung sollte weich und indirekt sein, nicht zu stark und blendend. So fühlt man sich wohler und es sorgt für eine sanfte Atmosphäre. Außerdem wirkt blendendes Licht ermüdend und ruft Kopfschmerzen hervor.”

“Belysningen borde vara mjuk och indirekt; inte alltför stark eller klar. Det skapar en mjuk stämning som får oss att känna oss behagliga till mods. Blandande ljus å andra sidan kan orsaka huvudvärk och få en att känna sig trött.”

“Valaistuksen pitäisi olla pehmeä ja epäsuora, ei voimakas eikä häikäisevä. Näin luodaan viihtyisä tunnelma, jossa voi tuntea olonsa miellyttäväksi. Toisaalta häikäisevät valot väsyttävät ja aiheuttavat päänsärkyä.”

4. “It’s of prime importance to have personal familiar objects in the resident/patient room, e.g. a lamp from home, photographs, decorations. These objects evoke memories – a sense of personal history – and make you feel attached to the place.”
例えば自宅で使用していた照明器具・写真・装飾品といった、入居者にとって思い出のある個人的な所有物を居室および病室に用意することは非常に重要です。そうした所有物は、記憶を喚起し、生い立ちを思い起こさせるのみならず、それらが置かれた空間に対して愛着を抱かせることに繋がります。

“Il est primordial qu’il y ait des objets personnels dans la chambre d’un patient, par exemple, une lampe, des photos, des décorations. Ces objets évoquent des souvenirs – le sens d’une histoire personnelle – et permettent de s’attacher à l’endroit.”

“Es ist sehr wichtig, dass in den Räumen der Bewohner persönliche Gegenstände sind; Lampen aus dem eigenen Zuhause, Fotos, Schmuckgegenstände oder Ähnliches. Diese wecken Erinnerungen, sie schaffen Assoziationen zu der eigenen Geschichte und bestärken das Gefühl der Zugehörigkeit zu der Umgebung.”

“Det är mycket viktigt att ha personliga och familjära saker i klient-/patientrummet, t ex en lampa, fotografier eller andra inredningsföremål hemifrån. Dessa föremål väcker minnen – en känsla av ens personliga historia – och får dig att fästa dig vid platsen.”

“On erittäin tärkeää että asukkaiden/asiakkaiden huoneissa on henkilökohtaisia esineitä, kuten kotoa tuotuja valaisimia, valokuvia, koriste-esineitä tai vastaavaa. Nämä esineet herättävät muistoja ja saavat kiintymään paikkaan; ne luovat mielikuvan omasta historiasta.”

5. “The architect is the best person to choose the furniture for the facility; not the patients or the residents. The care environment shouldn’t be personal – it’s not a home, but a place to get cured.”

施設の家具を選定を行う適任者は、患者や住人ではなく建築家です。介護環境は治療を行う為に存在し、自宅のような私的な場所ではないからです。

“L’architecte est la personne la mieux placée pour choisir le mobilier de l’établissement; pas les patients. Un environnement de soins ne doit pas devenir personnel, ce n’est pas un foyer mais un endroit pour être soigné.”

“Ein Architekt ist die geeignetste Person für die Wahl der Möblierung der Pflegeanstalt, nicht die Bewohner/Patienten. Die Pflegeumgebung soll nicht privat sein – sie ist kein Zuhause, sondern ein Ort zur Genesung und Rehabilitation.”

“Arkitekten är den bästa personen att välja möbler till vårdmiljön; inte klienten eller patienten. Vårdmiljön borde inte vara alltför personlig – det är inte ett hem, utan ett ställe där man vårdas.”

“Arkkitehti on paras henkilö valitsemaan huonekalut hoivaympäristöön; ei asukas eikä potilas. Hoivaympäristön ei kuulu olla henkilökohtainen – se ei ole kenenkään koti, vaan paikka jossa parannutaan ja kuntoudutaan.”

6. “It’s good that there is nearly no visible medical equipment or technical aids in the rooms. These intimidate people and remind them of the fact that they are frail/sick and in need of help.”

医療器具や補助器具は、出来る限り室内の直接目に見える場所には設置しないことが望まれます。そうした物が目に入ることで、入居者自身が「脆弱性や病気を抱え治療が必要な存在である」という認識を高めることに繋がる為です。

“Il faut éviter au maximum la présence d’équipement médical ou technique visible dans les chambres. Ça intimide les gens et ça leur rappelle qu’ils sont fragiles ou malades et ont besoin d’aide.”

“Es ist gut, dass in den Räumen, soweit möglich, keine medizinischen Geräte oder technische Hilfsmittel sichtbar sind. Diese bedrücken die Bewohner und führen ihnen die eigene Pflegebedürftigkeit und ihre Schwächen oder Leiden ständig vor Augen.”

“Det är bra att det finns nästan ingen synlig medicinsk utrustning eller tekniska hjälpmedel i rummet. Dessa skrämmer människor och påminner dem om att de är svaga och sjuka och i behov av hjälp.”

“On hyvä, että huoneissa ei ole lähes ollenkaan näkyviä hoitolaitteita tai teknisiä apuvälineitä. Nämä ahdistavat ihmisiä ja muistuttavat heitä omasta avuntarpeesta, heikkouksista tai sairauksista.”

7. “Family participation is vital! The rooms should have couches for family members to sleep on and the family should be able to influence the interior decoration. This activates them to participate in the care and in creating a good care environment.”
家族の関与はきわめて重要です。室内には訪問する家族が横になることができるソファを設置し、内装の選定においても彼等の意見が反映されるように配慮する必要があります。こうした関わりによって「介護に参加する」という意識が高まり、より良い介護環境の形成が促進されます。

“La participation de la famille est vitale! Les chambres devraient avoir des canapés pour que les membres de la famille puissent dormir sur place et la famille devrait avoir son mot à dire sur la décoration intérieure. La famille serait ainsi plus concernée et ça permettrait de créer un meilleur environnement de soins.”

“Die Beteiligung der Angehörigen ist von größter Bedeutung! Im eigenen Zimmer sollten Sofas stehen, auf dem die Familienmitglieder schlafen können. Man sollte den Angehörigen auch die Möglichkeit bieten, bei der Einrichtung des Zimmers mitzuwirken. Dies motiviert sie, an der Pflege und an der Schaffung einer angenehmen Pflegeumgebung teilzunehmen.”

“Famijedeltagandet är livsviktigt! Alla rum borde ha bäddsoffor som familjemedlemmar kan sova i, och familjen borde kunna påverka rummets inredning. Detta aktiverar familjen till att delta i vården och i att skapa en bra vårdmiljö.”

“Perheen osallistuminen on kaikki kaikessa! Huoneessa pitäisi olla sohva, jossa perheenjäsenet voivat nukkua ja perheelle pitäisi tarjota mahdollisuus vaikuttaa huoneen sisustukseen. Tämä kannustaa heitä osallistumaan hoivaan ja viihtyisän hoivaympäristön luomiseen.”

8. “There should be many small groups of chairs and tables in the common spaces/lobbies, so that people can choose their favourite place to sit in and choose with whom they socialize. It’s easier to talk with people in smaller groups. That’s real empowerment!”

ロビーを含む共用部にいくつかの椅子およびテーブルによって構成される小さなエリアを多く点在させることで、入居者が好みの場所を選んでくつろいだり、団欒したりすることが可能になります。小さなグループを維持することで会話が容易になり、結果として入居者のエンパワーメントに繋がります。

“Il devrait y avoir plusieurs petits ensembles de tables et chaises dans les parties communes afin qu’on puisse choisir où s’asseoir et avec qui. C’est plus facile de parler quand on est en petit groupe. Pour moi, il s’agit vraiment de la liberté de choix!”

“In den Gemeinschaftsräumen und Aulas sollten mehrere kleine Sitzgruppen sein, so dass die Bewohner sich ihren Lieblingsplatz aussuchen und wählen können, mit wem sie sich am liebsten unterhalten. Es ist leichter in einer

kleinen Gruppe miteinander zu sprechen. Dies repräsentiert wahre Selbstbestimmung!”

“Man borde ha många små stol- och bordsgrupper i de gemensamma utrymmena/entréhallarna, så att människor kan välja sin favoritplats att sitta på och välja vem de sällskapar med. Det är lättare att prata med folk i mindre grupper. Det kallar jag riktig valfrihet!”

“Yhteistiloissa ja auloissa pitäisi olla monta pientä tuoli- ja pöytäryhmää niin, että ihmiset voisivat valita lempipaikkansa ja sen kenen kanssa seurustelevat. On helpompi puhua ihmisille pienessä ryhmässä. Se on aitoa omista asioista päättämistä!”

9. “I hate it when the television dominates the common spaces/lobbies. I don’t want to watch the programs and it’s impossible to talk with people when the television is on all the time.”

ロビーを含む共用部が、まるでテレビに占領されているような状況は好ましくありません。常にテレビが点いている必要はありませんし、またそうした状況下では会話をすることができません。

“Je déteste quand la télévision domine dans les espaces communs. Je n’aime pas regarder les programmes et c’est impossible de parler avec les gens quand la télé est continuellement allumée.”

“Ich hasse es, dass der Fernseher die Gemeinschaftsräume und Aulas dominiert. Ich will mir die Sendungen nicht ansehen und eine Konversation mit den anderen ist unmöglich, wenn der Fernseher ständig an ist.”

“Jag hatar när TV: n dominerar i de allmänna utrymmena. Jag vill inte se på tv-programmen och det är omöjligt att prata med folk om TV:n är på hela tiden.”

“Vihaan sitä, että televisio dominoi yhteistiloja ja auloja. En halua katsoa tv-ohjelmia ja muiden kanssa keskustelu on mahdotonta, kun tv on päällä kokoajan.”

10. “If a patient/resident wants to break a piece of furniture, it’s good that it breaks. Otherwise you wouldn’t feel the satisfaction of destroying something. In that sense furniture and other objects can have an educational function.”

もし患者や居住者が壊したいと望む場合、家具が壊れることは実は好ましいことです。物を壊すという行為がもたらす満足感を必要と

する方々にとっては、壊れることが必要なことです。その観点から考えると、家具や備品は教育的機能を持っているとも言えます。

“Si un patient veut casser un meuble, c’est bien que celui casse. Autrement, on ne peut pas ressentir la satisfaction de la destruction. Dans cette perspective, le mobilier et autres accessoires peuvent avoir une fonction éducative.”

“Falls jemand von den Bewohnern/Patienten ein Möbelstück zerschlagen möchte, ist es gut, dass es wirklich auch kaputt geht. Ansonsten bleibt die erstrebte Befriedigung aus. In dieser Hinsicht können einzelne Möbelstücke und andere Gegenstände eine lehrhafte Funktion haben.”

“Om en klient/patient vill söndra en möbel, är det bra att den går sönder. Annars får man inte tillfredsställelsen av att söndra något. I det avseendet kan möbler eller andra föremål ha en undervisande funktion.”

“Jos asiakas/asukas haluaa hajottaa huonekalun, on hyvä, että se hajoaa. Muuten hän ei saa hajottamisesta syntyvää tyydytystä. Siinä mielessä huonekaluilla ja muilla esineillä voi olla opettavainen funktio.”

11. “Materials should foremost be hygienic and the placement and design of fixtures, such as washbasins and disinfectants, should encourage people to wash their hands. It’s really a question of bacteria and the spreading of diseases.”

バクテリアや病気の発生を抑える為に、素材は衛生的であることが最も重要であり、洗面台や消毒剤などの取付品の設置場所やデザインは、利用者に積極的に手洗いを促すよう配慮される必要があります。

“Les matériaux doivent avant tout être hygiéniques et l’emplacement et la conception des équipements fixes, tels que les lavabos et les désinfectants, doivent inciter les gens à se laver les mains. C’est la propagation des bactéries et des maladies qui est en jeu.”

“Die Materialien sollten in erster Linie hygienisch sein und die Platzierung der Ausstattung, wie zum Beispiel Waschbecken und Desinfektionsbehälter, sollte die Benutzer zum Händewaschen anregen. Es geht hier ja in erster Linie um Bakterien und die Verbreitung von Krankheiten.”

“Materialen bör främst vara hygieniska och placeringen av utrustning, såsom tvättställ och desinficeringsmedel, bör vara sådan att det uppmanar oss att tvätta händerna. Det handlar egentligen om bakterier och spridningen av sjukdomar.”

“Materiaalien pitäisi ensisijaisesti olla hygieenisiä ja varusteiden, kuten vesialtaiden ja desinfiointitelineiden, sijoittelun tulisi kannustaa ihmisiä pesemään käsiä. Asian ytimenä ovat oikeastaan bakteerit ja sairauksien leviäminen.”

12. “The medical equipment/technical aids make me feel safe and protected. A high-tech environment attracts me and instils confidence in the facility’s ability to provide the latest care and treatments.”

医療器具や補助器具は、「安全である」、「守られている」という感覚を生み出します。先端技術が備わった環境は、その施設が最新の介護や治療を提供できるという自信の現れとなります。

“Je me sens protégé et rassuré par la présence de l’équipement médical et technique. Je suis attiré par un environnement high-tech; il me rassure sur la capacité de l’établissement à fournir les soins et les traitements les plus avancés.”

“Medizinische Geräte und technische Hilfsmittel vermitteln ein Gefühl von Sicherheit und ich fühle mich geschützt. Das ‘High-Tech’-Ambiente gefällt mir und weckt in mir das Vertrauen, dass die Pflegeanstalt modernste Betreuung und Behandlungsmaßnahmen zu bieten vermag.”

“Medicinsk utrustning och tekniska hjälpmedel får mig att känna mig trygg och skyddad. En ‘high-tech’ omgivning attraherar mig och gör mig övertygad om att vårdinrättningen är kompetent att ge den senaste vården och de nyaste behandlingarna.”

“Hoitolaitteet ja tekniset apuvälineet saavat minut tuntemaan oloni turvallisiksi ja suojatuksi. ‘High-tech’ -ympäristö viehättää minua ja saa minut uskomaan, että hoivalaitos kykenee antamaan minulle nykyaikaista hoitoa ja kuntoutusta.”

13. “Colours should be stimulating and activating; not too neutral or soft. The colours of the walls and other surfaces are of great

importance, because they affect how we feel, what we do and how we recognize places. Colours guide us inside the building.”

控えめ過ぎず柔らか過ぎず、見るものを刺激し活性化させるような色が選定される必要があります。壁やその他の表面仕上げの色は特に重要です。色は入居者の気分や行動を左右するのみならず、建物内の場所の特定に必要となる為です。

“Les couleurs doivent être stimulantes et donner de l’énergie; pas trop neutres ni trop douces. Les couleurs des murs et des autres surfaces sont d’une grande importance parce qu’elles affectent la manière dont nous nous sentons, ce que nous faisons et comment nous reconnaissons les différents lieux. Les couleurs nous guident dans le bâtiment.”

“Die Farben sollten inspirierend und aktivierend sein, nicht zu neutral oder sanft. Die Farben der Wände und anderer Flächen sind sehr wichtig, da sie Einfluss darauf haben, wie wir uns fühlen, was wir tun und wie wir verschiedene Plätze erkennen. Die Farben leiten uns innerhalb der Anlage.”

“Färgerna borde vara stimulerande och aktiverande; inte för neutrala eller mjuka. Väggarnas och andra ytors färger är av stor betydelse därför att de påverkar oss; hur vi mår, vad vi gör, och hur vi känner igen olika platser. Färgerna guidar oss inne i byggnaden.”

“Värien pitäisi olla virikkeellisiä ja aktivoivia; ei liian neutraaleja eikä pehmeitä. Seinien ja muiden pintojen värit ovat hyvin tärkeitä, koska ne vaikuttavat siihen, miten me voimme, mitä me teemme ja miten tunnistamme eri paikkoja. Värit ohjaavat meitä rakennuksen sisällä.”

14. “The entrance of the building should be clearly articulated, have a reception desk or a legible and clear signage system to show the way to the different spaces. Doors should be clearly discernible from the walls, by the use of a different colour or material.”

建物の入口は明確化し、受付デスク、または読み易い標識等を設置することで、それぞれのエリアへの行き方を示す必要があります。扉と周囲の壁面は、異なる色や素材を用いることで容易に識別することができるよう配慮します。



“L'entrée du bâtiment doit être soigneusement conçue. Il doit y avoir une réception ou un système de signes indiquant clairement le chemin vers les différentes parties du bâtiment. On doit pouvoir distinguer facilement les portes des murs grâce à l'utilisation de couleurs ou de matériaux différents.”

“Der Eingang der Anlage sollte deutlich strukturiert sein, einen Empfangstisch oder ein gut lesbares und übersichtliches Wegweisersystem haben, so dass der Weg zu den jeweils gesuchten Räumen mühelos zu finden ist. Die Türen sollten sich deutlich von den Wänden abheben durch Verwendung von unterschiedlichen Farben oder Materialien.”

“Byggnadens ingång borde vara klart gestaltad, ha en reception eller tydliga och lättlästa skyltar som visar vägen till de olika rummen. Dörrar borde med hjälp av färger och material klart urskiljas från den omgivande väggytan.”

“Rakennuksen sisäänkäynnin tulisi olla selkeästi jäsenneily. Vastaa-ottotiskin kautta tai helpolukuisen ja selkeän opastejärjestelmän avulla ohjataan käyttäjiä oikeisiin tiloihin. Ovien pitäisi erottua selkeästi seinäpinnoista käyttämällä eri materiaaleja tai värejä.”

15. “Surfaces made of hard materials, such as concrete or metal, are cold and hostile. These cold surfaces alienate us and really should be avoided in the care environment.”

コンクリートや金属といった硬い素材が使用された表面は冷たく、冷徹な印象を与えることがあります。こうした冷たい表面は疎外感を喚起する可能性がある為、介護環境での使用は極力避けることが望めます。

“Les surfaces faites de matériaux durs comme le béton ou le métal sont froides et hostiles. Ces surfaces froides nous aliènent et devraient vraiment être évitées dans un établissement de soins.”

“Oberflächen aus harten Materialien, wie zum Beispiel Beton oder Metall, sind kalt und abweisend. Diese harten Baustoffe entfremden uns und sie sollten in einer Pflegeumgebung wirklich vermieden werden.”

“Ytor i hårda material, såsom betong eller metall, är kalla och fränstötande. Dessa kalla material fjärrar oss och borde verkligt undvikas i vårdmiljön.”

“Kovista materiaaleista tehdyt pinnat, kuten betoni tai metalli, ovat kylmiä ja vastenmielisiä. Nämä kovat materiaalit vieraannuttavat meitä ja niitä tulisi oikeastaan välttää hoivaympäristössä.”

16. “I like it when there's only the essential; when the materials, surfaces and details are restrained and simple. It's reposing and calm.”

本当に必要なものだけが存在することが好まれます。仕上げ面や納まりが綺麗に整ってシンプルであることは、見るものの気持ちを落ち着かせ、安らかに保つことに貢献します。

“J'aime quand il n'y a que l'essentiel; quand les matériaux, les surfaces et les détails sont sobres et simples. C'est calme et reposant.”

“Ich mag es, dass es um mich nur die notwendigen Dinge gibt; dass die Materialien, Oberflächen und einzelne Objekte dezent und einfach sind. Es beruhigt mich.”

“Jag tycker om när det finns bara det väsentligaste; när materialen, ytorna och detaljerna är återhållsamma och enkla. Det är rofyllt och lugnande.”

“Pidän siitä, että tilassa on pelkästään välttämättömät asiat; siitä, että materiaalit, pinnat ja yksityiskohdat ovat pelkistettyjä ja yksinkertaisia. Se rauhoittaa minua.”

17. “I like the feeling of textile carpets or tatami mats under my feet: they are soft to walk on and suppress hard noises. This creates a nice atmosphere. Too much noise is a big problem in the care environment.”

足裏の感触が良い布のカーペットや畳敷は柔らかい歩き心地を可能にし、また衝撃音を和らげる効果もあります。介護環境においては、大きな物音が問題になり得る点が考慮されなければなりません。

“J'aime avoir un tapis sous mes pieds. Les tapis créent une atmosphère agréable; c'est doux quand on marche dessus et ça amortit le bruit. C'est un véritable problème quand il y a trop de bruit dans un établissement de soins.”

“Ich mag es, wie sich Stoffteppiche unter meinen Füßen anfühlen; man geht so sanft auf ihnen und sie dämpfen harte Geräusche. Das schafft eine angenehme Stimmung. Zu viel Lärm in der Pflegeumgebung ist ein großes Problem.”

“Jag gillar känslan av textilmattor under min fotsula; de är mjuka att gå på och dämpar hårda

ljud. De bildar en angenäm stämning. För hög ljudnivå är ett stort problem i vårdmiljön.”

“Pidän siitä, miltä tekstiilimatto tuntuu jalkojeni alla; niiden päällä on pehmeätä kävellä ja ne vaimentavat kovia ääniä. Tämä luo miellyttävän tunnelman. Liika meteli hoivaympäristössä on iso ongelma.”

18. “It’s important to have as much as possible natural materials, such as wood, stone or brick, on the surfaces of floors, walls or fixtures. Natural materials are so sensual – not just to look at; but to touch and feel.”

床や壁、および造作などには、可能な限り木材・石・れんがなどの天然素材を用いることが重要です。天然素材は見た目が美しいだけでなく、手触りや感覚にも訴えかけます。

“C’est important que le sol, les murs et le mobilier fixe soient faits, autant que possible, de matériaux naturels, tels que du bois, de la pierre ou des briques. Les matériaux naturels font appel à tous nos sens. Pas seulement à la vue mais aussi au toucher et au ressenti.”

“Es ist wichtig, dass auf den Fußböden, an den Wänden oder in der festen Ausstattung möglichst viele natürliche Materialien verwendet werden, wie zum Beispiel Holz, Stein oder Ziegel. Naturmaterialien sind so sinnlich – nicht nur zum Ansehen sondern auch zum Anfassen und Berühren.”

“Det är viktigt att så långt som möjligt använda sig av naturliga material på golv, väggar och fasta möbler, som t ex trä, sten eller tegel. Naturliga material tilltalar alla våra sinnen – inte bara att se, men även att beröra och känna på.”

“On tärkeätä, että huoneen lattioiden, seinillä tai kalusteissa on mahdollisimman paljon luonnollisia materiaaleja, kuten puuta, kiveä tai tiiltä. Luonnolliset materiaalit ovat niin aistikkaita – niitä voi koskea ja tuntea, ei vaan katsoa.”

19. “The materials and colours of surfaces; floors, walls and ceilings; and the way they are detailed, should express traditional values. It’s therapeutic and makes you feel comfortable – makes you connect to it.”

床・壁・天井の仕上げ面の素材には、色から納まりに至るまで、伝統的価値観が体现されている必要があります。それらがもたらす快適性は健康維持に貢献し、居住者と環境の繋がりを強化します。

“Les matériaux et les couleurs des surfaces – sols, murs, plafonds et leurs détails – doivent exprimer des valeurs traditionnelles. C’est thérapeutique et agréable. Ça nous permet de sentir une connexion avec notre environnement.”

“Die Materialien und Farben der Oberflächen, wie zum Beispiel Fußböden, Wände und Decken, und das wie sie angebracht sind, sollten herkömmliche Werte spiegeln. Es ist therapeutisch und bringt Wohlbefinden – es schafft das Gefühl der Verbundenheit.”

“Väggarnas, golvens och takens material och färger och deras detaljer bör ge uttryck åt traditionella värderingar. Det är terapeutiskt och behagligt – det ger dig en kontaktpunkt till din omgivning.”

“Lattioiden, seinien ja kattojen materiaalien ja värien sekä yksityiskohtien, joilla ne on tehty, tulisi heijastaa perinteisiä arvoja. Se on terapeutista ja antaa hyvän olon – se luo yhteisen kontaktipinnan ympäristön ja itseni välille.”

20. “High quality materials and carefully designed details make the place unique and special. It makes the users feel valuable – that they are important beings – and it makes the care staff give better care.”

高い品質を持った素材や入念にデザインされた納まりは、その場所を特別な空間に変えることができます。こうした特別性は、利用者に「大切にされている」という感覚を抱かせるだけではなく、スタッフがより良い介助を提供することにも繋がります。

“Des matériaux de haute qualité et les détails soigneusement planifiés donnent au lieu un caractère unique et singulier. Les usagers sentent qu’ils ont de la valeur – qu’ils sont des êtres importants – et le personnel fournit de meilleurs soins.”

“Hochwertige Materialien und sorgfältig geplante Einzelheiten machen den Ort einzigartig und besonders. Sie vermitteln den Benutzern das Gefühl, dass sie wertvoll sind – dass sie als Person wichtig sind – und es motiviert auch das Pflegepersonal dazu, bessere Betreuung zu bieten.”

“Material av hög kvalitet och noggrant planerade detaljer ger platsen en unik och säregen prägel. Det ger användarna en känsla av att de är värdefulla – att de är viktiga varelser – och det uppmanar även personalen till att ge bättre vård.”



“Korkealuokkaiset materiaalit ja huolella suunnitellut yksityiskohdat tekevät paikasta ainutlaatuisen ja erikoisen. Ne saavat käyttäjät tuntemaan itsensä arvokkaiksi – että he ovat tärkeitä – ja se kannustaa myös henkilökuntaa antamaan parempaa hoivaa.”

21. “Patients/residents should be able to alter the ambience of the room; by adjusting the window blinds, the reading light by the bed, the room temperature and moisture, or the amount of openness and insight into the room – this is empowerment!”

ブラインド・ベッドサイドの読書灯・室内温度や湿度・室内の開放感や視界といった室内環境を、患者や住人が自ら調整できるように配慮する必要があります。そうした自由度は、結果としてエンパワーメントに繋がります。

“Les patients doivent pouvoir modifier l’atmosphère des chambres en ajustant les stores des fenêtres, la lampe de chevet, la température et l’humidité, ou le degré d’ouverture sur l’extérieur de la chambre – Il s’agit là d’un véritable droit fondamental!”

“Die Bewohner/Patienten sollten die Möglichkeit haben, die Atmosphäre ihres Zimmers zu ändern; durch unterschiedliche Einstellung der Jalousie, Regulierung des Lichts der Leselampe, der Temperatur und der Luftfeuchtigkeit des Raumes oder durch Änderung der Offenheit und der Einblicksmöglichkeit ins Zimmer – dies bedeutet Selbstbestimmung!”

“Klienter/patienter bör kunna ändra rummets atmosfär, t ex genom att reglera gardiner, läslampan vid sängen, rumstemperaturen och -fuktigheten; hur öppet rummet är och hur mycket man ser in i det – det är verklig självbestämmanderätt!”

“Asukkaiden/asiakkaiden tulisi voida muuntaa huoneensa tunnelmaa; säätämällä sälekaihtimia, lukulamppua, huoneen lämpötilaa ja kosteutta tai muuttamalla huonetilan avoimuutta ja sitä, millainen näköyhteys sinne on ulkoa – tämä on itsemäärittämis-oikeutta!”

22. “The staff should be able to see all spaces. A clear layout of spaces and the use of transparent walls, such as wooden grids, glass or other

material, make it possible to supervise the users. Too complex spaces should be avoided because they prevent control and visibility.”

スタッフはすべての空間を一望できなければなりません。分かりやすい空間レイアウトや、向こう側を見ることが可能な間仕切り（例えば木製の格子・ガラスなど）を使用することで、スタッフが居住者に目を配ることが可能になります。複雑な空間形状は管理や視認性を阻害するため避ける必要があります。

“Le personnel doit avoir un accès visuel à tous les espaces. Une disposition simple des espaces et l’utilisation de parois transparentes, en verre, grillage ou autre matériau, facilite la surveillance des usagers. Les espaces trop complexes doivent être évités parce qu’ils empêchent le contrôle et la visibilité.”

“Die Beschäftigten sollten in jedes Zimmer hinein schauen können. Klare Anordnung der Räume sowie durchsichtige Zwischenwände, wie zum Beispiel Lamellenwände aus Holz, Glaswände oder andere Materialien machen es möglich, die Benutzer zu überwachen. Zu komplizierte Räume sollten vermieden werden, da sie die Kontrolle und die Sichtbarkeit behindern.”

“Personalen måste kunna se in i alla utrymmen. Övervakningen av patienter kan underlättas med hjälp av en klar rumslayout och genomskinliga väggar av glas, galler eller liknande. För komplicerade rum bör undvikas eftersom de omöjliggör bevakningen och insynen.”

“Henkilökunnalla pitäisi olla näkö-yhteys jokaiseen huoneeseen. Tilojen selkeä sijoittelu sekä läpinäkyvät väliseinät, kuten säleiköt, lasiseinät tai muut materiaalit, mahdollistavat käyttäjien valvonnan. Liian moni-mutkaisia tiloja tulisi välttää, koska ne haittaavat tilojen kontrollia ja näkyvyyttä.”

23. “Easy maintenance is essential; I can’t stand it when it’s dirty! Surfaces should be easy to clean and not too sensitive. The colour white for example gets easily dirty and a wooden floor or tatami-mat scratched or soiled. These should be avoided.”

簡単に維持管理ができることは極めて重要です。表面素材は、傷がつきにくく、汚れを容易に落とすことができるものを選定します。例えば白い塗装は汚れやすい為、なるべく避けることが望まれます。木製フローリングや

畳敷など、傷がついたり染みがつきやすい素材についても同様です。

“L'entretien doit être simple, c'est essentiel! Je ne peux pas supporter la saleté! Les surfaces doivent être facile à nettoyer, pas trop délicates. Il faut par exemple éviter le blanc qui se salit facilement et le parquet ou les tapis, qui se rayent et s'usent rapidement. Ce type de surfaces doit être évité.”

“Müheleose Sauberhaltung ist äußerst wichtig; ich kann es nicht ausstehen, wenn es dreckig ist! Die Oberflächen sollten leicht zu reinigen und nicht zu empfindlich sein. Weiß zum Beispiel wird leicht schmutzig und ein Holz- oder Teppichboden kann beschädigt oder verschmutzt werden. Solche Oberflächen sollten vermieden werden!”

“Lätt städad är det viktigaste – jag står inte ut med smuts! Ytor borde vara lätta att rengöra och inte alltför känsliga. Vit färg t ex blir lätt smutsig och golv i trä eller textilmatta lätt skrämade och slitna. Den här typen av ytor bör undvikas.”

“Helppo puhtaanapito on kaikkein tärkeintä; en siedä sitä, että on likaista! Pintojen tulisi olla helposti puhdistettavia eikä liian herkkiä. Valkoinen väri esimerkiksi tulee helposti likaiseksi ja puinen lattia tai tekstiilimatta naarmuuntuu tai likaantuu. Näitä tulisi välttää.”

24. “Safety is the key issue when choosing materials. Surfaces should not be rough so that users hurt themselves, nor slippery so that they fall. The way the light is reflected on shiny floor, can make it difficult to walk on it.”

素材を選定する上では安全性が鍵になります。怪我をする可能性のある粗い仕上げや、利用者が滑って落ちたりする可能性のある表面加工は避けなければなりません。また、光沢のある床面に照明が反射することで歩行が困難になる点も考慮される必要があります。

“La sécurité des patients est le critère principal au moment du choix des matériaux. Les surfaces ne doivent pas être trop brutes afin que les patients ne se blessent pas, ni glissantes afin qu'ils ne tombent pas. Par exemple, la lumière se reflétant sur un sol brillant peut compliquer la simple activité de marcher.”

“Sicherheit hat absolute Priorität bei der Wahl der Materialien. Die Oberflächen sollten nicht so rau oder uneben sein, dass man sich daran verletzen könnte, oder so glatt, dass man

ausrutschen kann. Auch das Licht kann auf einem blanken Boden so stark blenden, dass es schwierig ist, darauf zu gehen.”

“Patientsäkerheten är huvudsaken då man väljer material. Ytor får inte vara så grova att man kan skrapa sig på dem; inte heller alltför glatta så att man faller. Ljuset kan t ex reflekteras på ett glansigt golv så att det är svårt att gå på det.”

“Turvallisuus on avainasia materiaalien valinnassa. Pinnat eivät saisi olla niin karkeita, että käyttäjät satuttavat itseään niillä, tai niin liukkaita, että liukastuu. Valo saattaa myös heijastua kiiltävällä lattialla niin pahasti, että siinä on hankala kävellä.”

25. “The resident/patient rooms shouldn't be too small, otherwise you feel cramped. The size of the room is important.”

部屋の広さは重要です。居住者および患者の居室には適度な広さが確保され、居住者に圧迫感を感じさせないように配慮される必要があります。

“Les chambres des patients ne doivent pas être trop petites. Ils ne doivent pas se sentir pris dans un piège. La taille des chambres, c'est important.”

“Die Zimmer der Bewohner/Patienten sollten nicht so klein sein, dass es darin beklemmend wird. Die Größe des Zimmers ist wichtig.”

“Patientrummen får inte vara så små att man känner sig instängd. Rummets storlek är viktigt.”

“Asukkaiden /asiakkaiden huoneet eivät saisi olla niin pieniä, että alkaa ahdistaa. Huoneen koko on tärkeä”.

26. “I prefer it when spaces are placed in random, not strictly aligned. A certain complexity makes the spaces rich and more varied – the building should be like a toy to be discovered. It's so boring when rooms are aligned along a strait corridor.”

空間には極端な規則的よりも、無作為性があることが望まれます。一定の複雑性は空間をより豊かな、変化を持ったものにします。建物は、まるでおもちゃのように発見を提供する必要があります。部屋が真っ直ぐな廊下に整然と並んでいることは退屈を引き起こします。

“Je préfère quand les espaces sont placés dans un ordre arbitraire, qu'ils ne sont pas strictement alignés. Une certaine complexité rend les espaces riches et plus variés – Le bâtiment est comme un

jouet qui attend d'être découvert. C'est tellement ennuyeux quand les chambres sont alignées le long d'un couloir tout droit."

"Ich finde es besser, dass die Zimmer unschematisch und nicht in einer geraden Reihe angeordnet sind. Gewisse Verwinkelung macht die Räume vielseitig und abwechslungsreicher – das Gebäude sollte wie ein Spielzeug sein, das man gerne genauer erforscht. Es ist so langweilig, wenn die Zimmer einem geraden Gang entlang angereiht sind."

"Jag föredrar att rummen är fritt placerade och inte i en rak rad. Ett visst slags komplexitet gör rummen rika och mera varierande – byggnaden blir som en leksak som väntar på att bli upptäckt. Det är så tråkigt när alla rum ligger längs med en rak korridor."

"Pidän parempana sitä, että huoneet on sijoitettu vapaamuotoisesti, eikä suoraan riviin. Tietynlainen monimutkaisuus tekee tiloista rikkaammat ja vaihtelevammat – talon tulisi olla kuin lelu, jota tutkitaan. On niin tylsää, kun huoneet ovat suoran käytävän varrella."

27. "For maximum comfort, spaces should have just the right amount of natural light. Being able to feel the sunlight is one of the most important features, but to be able to sit in the shadow is also soothing. The heat of direct sunlight can be disturbing."

最大限の快適性を確保するために、室内には適切な量の自然光を取り入れる必要があります。日光を感じられることは最も重要な点ですが、日陰に座って涼むこともできなければなりません。直射日光の熱が不快さをもたらす点には注意が必要です。

"Pour un confort maximal, la pièce doit avoir juste la bonne dose de lumière naturelle. Il est important de pouvoir sentir le soleil sur sa peau, mais il est tout aussi important de pouvoir s'asseoir à l'ombre. La chaleur des rayons du soleil peut être gênante."

"Um die größtmögliche Bequemlichkeit zu erreichen sollten die Räume genau die richtige Menge an natürlichem Licht haben. Das Sonnenlicht auf der Haut spüren zu können ist eine der wichtigsten Eigenschaften. Aber auch im Schatten zu sitzen kann beruhigend sein. Direktes Sonnenlicht kann störend sein."

"För största möjliga bekvämlighet borde

rummet ha just den rätta mängden naturligt ljus. Det är viktigt att kunna känna solljus mot huden, men det är minst lika viktigt att kunna sitta i skuggan. Värmen från direkt solljus kan egentligen vara störande."

"Suurimman mahdollisen mukavuuden saavuttamiseksi tiloissa tulisi olla juuri oikea määrä luonnonvaloa. Yksi tärkeimpiä ominaisuuksia on saada tuntea auringonvalo ihoa vasten, mutta myös varjossa istuminen voi olla lohduttavaa. Suora auringonvalo saattaa olla häiritsevää."

28. "The common spaces/lobbies should be divided into smaller intimate spaces. Big spaces are institutional and intimidating, while small spaces have a human scale and make you feel at home."

ロビーを含む共用部は、入居者が寛ぐことができるいくつかの小さな空間に分けらる必要があります。大空間は病院施設のような印象や威圧感を与えますが、小さな空間の持つヒューマンスケールは利用者を寛がせることができます。

"Les salles communes et les halls d'entrée doivent être divisés en espace plus petits, plus intimes. Les grands espaces ont une allure institutionnelle et sont intimidants alors que les petits espaces sont à l'échelle humaine et nous donne le sentiment d'être à la maison."

"Die Gemeinschaftsräume und Aulas sollten in kleinere, intime Teile aufgeteilt werden. Große Räume sind anstaltsähnlich und beklemmend, während kleine Räume menschengerechte Dimensionen haben und an zuhause erinnern wirken."

"De gemensamma rummen och entréhallarna borde delas in i mindre och intimare rum. Stora utrymmen är anstaltsaktiga och inger ångest, medan små rum har en mänsklig skala och får dig att känna dig som hemma."

"Yhteistilat ja aulat tulisi jakaa pienempiin intiimeihin osiin. Isot tilat ovat laitosmaisia ja ahdistavia, kun taas pienillä tiloilla on inhimilliset mittasuhteet ja ne ovat kodinomaisia."

29. "To have a view from a window is a key issue. The windows should be placed so that people really can see outside when sitting or lying in bed – not only the sky. It connects the inside with the world outside. This is very important, also for the staff."

窓から外が見えることはとても重要です。窓はベッドに寝ていても座っていても外が見えるような位置に配置されなければなりません。空だけではなく外部の景色が見えることで、室内空間と外部空間の連続性が生まれます。これは居住者の為だけではなく、スタッフにとっても非常に重要です。

“Avoir une fenêtre avec vue, c’est essentiel. La fenêtre doit être placée de manière à ce que l’extérieur – et pas seulement le ciel – soit visible quand on est assis ou couché sur le lit. Ça permet d’établir une connexion avec le monde extérieur. Ceci est très important pour le personnel aussi.”

“Eine Aussicht aus dem Fenster zu haben ist ausschlaggebend. Die Fenster sollten so eingesetzt sein, dass die Bewohner auch sitzend oder im Bett liegend wirklich hinaus schauen können – und dabei nicht nur den Himmel sehen. Die Fenster bilden die Verbindung zwischen dem Innenraum und der Welt draußen. Dies ist auch für die Beschäftigten sehr wichtig.”

“Att ha en utsikt ut från ett fönster är huvudsaken. Det räcker inte att man kan se himlen, utan fönstret bör vara så placerade att man faktiskt ser ut när man sitter eller ligger i sängen. Det förenar byggnadens interiör med världen där ute. Detta är mycket viktigt även för personalen.”

“Näkymä ikkunasta on avainkysymys. Ikkunan tulisi sijaita niin, että ihmiset todellakin näkevät ulos istualtaan tai sängyssä maataksaan – ei riitä, että näkee pelkän taivaan. Ikkunat ovat yhteys sisätilan ja ympäröivän maailman välillä. Tämä on hyvin tärkeää myös henkilökunnalle.”

30. The patient/resident room is foremost a place to live in; it symbolizes the home. A homey ambience weighs more than practical issues of aid equipment, maintenance or staff working conditions. Put the patients first!”

患者や住人の部屋は、そこが住居であるということが最も重要です。介護器具の実用性・保安性・スタッフの労働環境などの諸条件よりも、家庭的な雰囲気が優先されなければなりません。どんな場合においても患者が最優先される必要があります。

“La chambre du patient est d’abord un lieu à vivre; elle symbolise la maison. Une ambiance chaleureuse est plus importante que les aspects pratiques, techniques, hygiéniques ou même que les conditions de travail du personnel. Le patient d’abord!”

“Das eigene Zimmer der Bewohner/Patienten ist in erster Linie ein Ort zum Wohnen; es versinnbildlicht das Zuhause. Häusliche Atmosphäre bedeutet mehr als die Fragen über die praktischen Dinge, wie zum Beispiel Hilfsgeräte, Instandhaltung oder die Arbeitsverhältnisse des Personals. Auf die Bewohner/Patienten kommt es an!”

Patientrummet är först och främst en plats att bo i; det symboliserar *ett hem*. En hemtrevlig atmosfär väger mera än praktiska aspekter såsom hjälpmedel, städning och personalens arbetsförhållanden. Klienten/ patienten kommer först!”

Asukas-/asiakashuone on ensisijaisesti paikka asua; se symbolisoi *kotia*. Kodinomainen tunnelman saavuttaminen on tärkeämpää kuin käytännölliset asiat kuten apuvälineet, siivottavuus tai henkilökunnan työolosuhteet. Asukas/asiakas on tärkein!”

31. “Different spaces reflect traditions and cultural identity; like the tea room, a café or a bar, the sauna or a spa. Users value these, because they convey that the facility respects their cultural identity.”

異なる空間は、伝統性および文化的アイデンティティを反映します。例えば茶室・カフェやバー、サウナやスパなどの設備を通じ、利用者は自身の文化的なアイデンティティが尊重されていると感じることができます。

“Certains espaces reflètent des traditions et une identité culturelle; par exemple, un salon de thé, un café, un bar, un sauna ou un spa. Les usagers y accordent de l’importance parce que ces différents espaces sont le signe que l’établissement respecte leur identité culturelle.”

“Verschiedenartige Räume spiegeln Elemente der Traditionen und Kulturidentität der Benutzer wieder; wie zum Beispiel der Tee-Raum, ein Café oder eine Bar, die Sauna oder eine Badeanstalt. Die Benutzer schätzen diese sehr; sie sind ein Zeichen dafür, dass die Pflegeanstalt ihre Kulturtraditionen würdigt.”

“Olika rum reflekterar traditioner och vår kulturella identitet; som t ex bastun eller en spa, ett terem, ett café eller en krog. Användarna uppskattar dessa därför att de visar att vårdplatsen respekterar deras kulturella identitet.”

“Erlaiset tilat heijastavat perinteitä ja käyttäjien kulttuuri-identiteettiä; kuten sauna tai kylpylä, teehuone, kahvila tai baari. Käyttäjät arvostavat näitä koska ne osoittavat että hoivalaitos kunnioittaa heidän kulttuuriperinteitään.”

32. “The only place to be alone in is the toilet – this is intolerable! The smell and sounds from the other patients/residents in the room is very disturbing. You can’t even have visitors, without everybody in the room listening to your conversation.”

唯一の個室がトイレのみであるといったような状況は言語道断です。他の患者や住人が発する匂いや音が室内に充満することは、強い不快感をもたらします。他人の会話が聞き取れるような状況では、訪問者を迎えることもできません。

“Le seul endroit où on peut être seul, c’est dans les toilettes – Ceci est inacceptable! Dans la chambre, les odeurs et les bruits des autres patients sont très gênants. On ne peut même pas avoir une visite sans que tout le monde entende ce qu’on dit.”

“Der einzige Ort, wo man alleine sein kann ist die Toilette – es ist unerträglich! Die Geräusche und Gerüche der anderen Mitbewohner/Patienten sind sehr störend. Man kann nicht mal Besuch haben, ohne dass alle in dem Zimmer die Gespräche mitanhören.”

“Den ända platsen man kan vara ensam i är toaletten – detta är oacceptabelt! Lukten och ljuden från de andra patienterna i rummet är väldigt störande. Man kan inte ens ha besök utan att alla hör vad man pratar om.”

“Ainoa paikka, jossa voit olla yksin on vessassa – tämä on sietämätöntä! Toisten asukkaiden/asiakkaiden hajut ja äänet ovat hyvin häiritseviä. Ei voi olla edes vieraita ilman että kaikki huoneessa kuulevat, mistä keskustellaan.”

33. “Spaces should have different degrees of privacy. The resident/patient room is the most private and its entrance should be set apart from the more public common spaces/lobbies so that you do not stumble directly from private to public.”

それぞれの空間には、異なる度合いのプライバシーが確保されている必要があります。患者や住人の部屋は最もプライベートな空間ですが、ロビーなどの共有部にもある軽度のプ

ライバシーを持たせることで、個人的な空間から突然公共の空間に出ていくような状況を避けることができます。

“Les pièces devraient avoir différents degrés d’intimité. La chambre du patient est l’endroit le plus privé et son entrée devrait être située à l’écart des espaces communs de manière à ce que le passage entre l’espace privé et l’espace public soit progressif.”

“Verschiedene Räume sollten verschiedene Grade der Privatheit bieten. Das Privateste ist das eigene Zimmer der Bewohner/Patienten. Der Eingang zu dem eigenen Zimmer sollte getrennt sein von den öffentlichen Räumen und Aulas, so dass man nicht so plötzlich vom Privaten ins Öffentlichen stampft.”

“Olika rum borde ha olika nivåer av avskildhet. Patientrummet är det mest privata och dess ingång borde ligga avskilt från de mera offentliga rummen så att övergången mellan privat och offentligt inte kommer så plötsligt.”

“Eri tiloissa tulisi olla eri yksityisyyden asteita. Asukkaan/asiakkaan huone on kaikkein yksityisin. Huoneen sisäänkäynnin tulisi olla erillään julkisista yhteistiloista/ auloista niin, että siirtyminen yksityisestä julkiseen ei tapahtuisi niin yhtäkkiä.”

34. “The private room is not important at all and I don’t mind that the toilet is accessed by the corridor. In fact, it feels safe and good to sleep in the same room with others.”

個室は重要視していません。トイレが廊下に設置されていても構いません。その他の人達と同じ部屋で眠るということはかえって安心感を生みます。

“Avoir sa propre chambre n’a aucune importance et ce n’est pas grave si les toilettes sont dans le couloir. En fait, c’est même rassurant et agréable de dormir dans la même chambre que d’autres personnes.”

“Ein eigenes privates Zimmer ist gar nicht so wichtig und es stört mich auch nicht, wenn man über den Gang zur Toilette gehen muss. Eigentlich kommt es einem geschützt und gut vor, mit anderen in einem Raum zu schlafen.”

“Att ha ett eget rum är inte alls så viktigt och det gör inget fast man går på toaletten via korridorerna. Tvärtom känns det tryggt att sova med andra i samma rum.”

“Oma yksityinen huone ei ole ollenkaan tärkeä eikä minua häiritse, vaikka vessaan mentäisiin käytävän kautta. Oikeastaan tuntuu turvalliselta ja hyvältä nukkua muiden kanssa samassa huoneessa.”

35. “Spaces should be different so that it’s easier to recognize where one is! A striking piece of furniture, art work or a view through a window act as landmarks that help people orientate inside the building. Not to get lost gives a sense of control and reduces stress.”

個々の空間に変化をつけることで、それぞれの場所を把握することが容易になります。目立つ家具や美術品、窓から見えるランドマークなどは、居住者が建物内で場所を把握する上で目印として機能します。迷わずに移動できることは、自己を制御しているという感覚を与え、ストレスを低減します。

“Les espaces doivent être différents de manière à ce qu’il soit plus facile de savoir où on est! Un meuble, une œuvre d’art, un point de vue particulier à travers une fenêtre sont des points de repère qui aident les gens à s’orienter à l’intérieur du bâtiment. Ne pas se perdre donne un sentiment de contrôle et réduit le stress.”

“Die Räume müssten unterschiedlich sein, damit es leichter ist zu erkennen, wo man ist! Ein auffallendes Möbelstück, Kunstwerk oder die Aussicht aus dem Fenster funktionieren als Orientierungspunkte; sie helfen den Leuten sich zu orientieren. Dass man sich nicht verirrt, vermittelt das Gefühl, dass man die Situation meistert. Das vermindert Stress.”

“Rummen borde vara annorlunda så att det är lättare att känna igen var man är! En iögonenfallande möbel, ett konstverk eller en vy från ett fönster fungerar som landmärke, som hjälper människor att orientera sig i bygg-naden. Att inte tappa bort sig ger en känsla av kontroll och minskar stress.”

“Tilojen tulisi olla erilaisia niin, että on helpompaa tunnistaa, missä on! Silmiinpistävä huonekalu, taideteos tai näkymä ikkunasta toimii maamerkinä ja auttaa ihmisiä suunnistamaan rakennuksessa. Se, että ei eksy, antaa mielikuvan, että hallitsee tilanteen. Tämä vähentää stressiä.”

36. “Space efficiency and functionality is everything – the building should be compact!

The scattering of spaces on a large area and long distances between the spaces prevent staff from doing their job and force patients/residents and visitors to walk too much.”

空間にとっては、効率および機能性がすべてです。建物の大きさはコンパクトにしなければなりません。様々な空間が広い場所のなかに点在していたり、それぞれの部屋の間の移動距離が長くなることで、スタッフの作業に支障がきたされるだけではなく、患者や住人、そして訪問者は長い距離を移動しなければいけなくなります。

“L’efficacité et la fonctionnalité de l’espace est la clé de tout – Le bâtiment doit être compact! Les espaces dispersés sur une vaste surface avec de longues distances entre eux complique le travail du personnel et oblige les patients et les visiteurs à parcourir de longs trajets.”

“Die Effektivität und Funktionalität der Räume ist das Allerwichtigste – das Gebäude sollte kompakt sein! Das Streuen der Räume über eine weite Fläche und deren weite Entfernung voneinander beeinträchtigen das effektive Arbeiten des Personals, und die Bewohner/Patienten und Besucher müssen zu viel laufen.”

“Effektivitet och funktionalitet är A och O – byggnaden bör vara kompakt! Om man sprider ut rummen på en stor yta med långa avstånd emellan, försvåras personalens arbete och patienter och besökare tvingas gå långa sträckor.”

“Tilojen tehokkuus ja toiminnallisuus on kaiken A ja O – rakennuksen tulisi olla kompakti! Jos tiloja ripotellaan laajalle alueelle, niiden väliset etäisyydet ovat pitkiä. Tämä estää henkilökunnan tekemästä työtään hyvin ja pakottaa asukkaita/asiakkaita tai vierailijoita kävelemään pitkiä matkoja.”

37. “The distance from the bed to the toilet should be as short as possible. It gives a feeling of safety when the toilet is near and you can use it as independently as possible.”

ベッドからトイレの距離は出来る限り短くする必要があります。トイレが至近にあることで、いつでも自由に使用できるという安心感が与えられます。

“La distance du lit aux toilettes doit être aussi courte que possible. Cela donne un sentiment de sécurité quand les toilettes sont proches et ça permet leur utilisation de manière aussi indépendante que possible.”



“Die Entfernung zwischen dem Bett und der Toilette sollte möglichst kurz sein. Wenn die Toilette in der Nähe ist, hat man ein Gefühl der Sicherheit und man kann sie so selbstständig wie möglich aufsuchen.”

“Avståndet från sängen till toaletten bör vara så kort som möjligt. Det inger en känsla av trygghet när toaletten är nära och man kan använda den så självständigt som möjligt.”

“Etäisyyden sängyn ja vessan välillä pitäisi olla mahdollisimman lyhyt. Vessan läheisyys antaa turvallisuuden tunteen, jolloin sitä pystyy käyttämään mahdollisimman itsenäisesti.”

38. “An important function of the building is to activate the users; to get them to be interested in things and to move. In that sense long walking distances inside the building are good because they make the users exercise.”

建物の持つ重要な機能として、利用者を活性化させ、物事に興味を抱かせ、行動的にするという点があります。この観点から、建物内の長い歩行距離は居住者に運動する機会を与える為、推奨されるべきです。

“Une des caractéristiques importantes du bâtiment est sa capacité à amener les usagers à s'intéresser aux choses et à se déplacer. De ce point de vue, avoir à parcourir de longues distances à l'intérieur du bâtiment ne pose pas de problème; ça permet à l'usager de faire de l'exercice.”

“Eine wichtige Funktion des Hauses ist es, die Benutzer zu aktivieren; in ihnen Interesse für verschiedene Sachen zu wecken und sie zum Bewegen zu bringen. In dieser Hinsicht sind lange Gehstrecken innerhalb des Gebäudekomplexes gut, weil sie die Benutzer zur Bewegung anregen.”

“En av byggnadens viktiga egenskaper är att aktivera användarna; att få dem att bli intresserade av saker och att få dem att röra på sig. I det hänseendet gör det inget att man måste gå långa sträckor inne i byggnaden; det är bara bra träning.”

“Yksi rakennuksen tärkeä funktio on aktivoida käyttäjiä; saada heidät kiinnostumaan asioista ja liikkumaan. Siinä mielessä pitkä kävelyetäisyydet rakennuksen sisällä on hyvä asia, koska se pakottaa käyttäjiä liikkumaan.”

39. “All resident/patient rooms should have direct access out on a terrace or balcony, or, nature should be brought inside the building in courtyards or

through plants. Nature is an important source of well-being; it activates all our senses, makes us positive and relaxed and think of less stressful things.”

すべての住人および患者の居室は、テラスまたはバルコニーへ直接アクセスが可能であるか、または中庭や植木などを用いることで自然を建物内に取り入れらなければなりません。自然は健康にとって重要な源泉であり、これによってすべての感覚は活性化され、ポジティブになり、リラックスでき、ストレスとならないことを考えることが可能になります。

“Toutes les chambres des patients devraient avoir un accès direct à une terrasse ou un balcon, ou alors, on doit faire venir la nature dans le bâtiment par la présence de cours ou de plantes. La nature est une source importante de bien-être; elle active tous nos sens, nous détend, nous rend positifs et nous fait penser à des choses moins stressantes.”

“Alle Zimmer der Bewohner/Patienten sollten direkten Zugang zu einer Terrasse oder auf einen Balkon haben, oder die Natur sollte ins Haus hinein gebracht werden in Form von Hofplätzen oder Pflanzen. Die Natur ist eine Quelle des Wohlbefindens; sie aktiviert die Sinne, stimmt uns positiv, entspannt und lässt uns an weniger stressige Dinge denken.”

“Alla patientrum borde ha en direkt utgång till en terrass eller en balkong, eller naturen borde hämtas in i huset med hjälp av innergårdar eller växter. Naturen är en viktig källa för vårt välmående; den aktiverar alla våra sinnen, gör oss positiva och avslappnade och får oss att tänka på mindre stressiga saker.”

“Kaikista asukas-/asiakashuoneista tulisi olla suora käynti ulos terassille tai parvekkeelle tai luonto tulisi tuoda osaksi sisätiloja pihojen tai viherkasvien välityksellä. Luonto on hyvinvoinnin tärkeä lähde; se aktivoi kaikkia aisteja, tekee meistä positiivisia ja saa meidät rentoutumaan ja ajattelemaan vähemmän stressaavia asioita.”

40. “The views outside animates the spaces and makes being in the building a real experience. I really love to just sit and contemplate the scenery. It gives me energy to go on; it gives me power.”
外の風景は空間を動的にし、建物内で過ごす時間を実質的な体験へを変化させます。ただ

座って風景を眺めるだけでも、前進する活力が湧いてきます。

“La vue sur l’extérieur anime les espaces et transforme le séjour dans le bâtiment en une véritable expérience. J’aime beaucoup être juste assis et contempler le paysage. Ça me donne de l’énergie pour continuer; ça me donne de la force.”

”Die Aussicht nach außen beleben die Räumlichkeiten und sie machen den Aufenthalt in dem Gebäude zu einem richtigen Erlebnis. Ich liebe es einfach nur da zu sitzen und die Aussicht zu genießen. Es gibt mir Energie zum Weitermachen; es spendet mir Kraft.”

“Utsikten ut livar upp rummen och förvandlar vistelsen i byggnaden till en ren upplevelse. Jag älskar att bara sitta och betrakta landskapet. Det ger mig energi att fortsätta; det ger mig kraft.”

“Näkymät ulos elävöittävät tiloja ja muuttavat rakennuksessa olemisen todelliseksi elämykseksi. Rakastan istua ja ihailla näkymiä. Se antaa minulle energiaa jatkaa; se antaa minulle voimaa.”

41. “Materials and colours should stem from the surroundings; local materials, local culture and local history. This attitude gives an identity to a place; makes it part of a larger context in time and space.”

素材や色味には地域の文化や歴史などが反映され、周辺環境との関連性を持っている必要があります。そうした姿勢は空間にアイデンティティを与え、時間や空間などといった大きなコンテキストとの関係を構築します。

“Les matériaux et les couleurs utilisés doivent provenir de l’environnement: matériaux locaux, culture locale, histoire locale. Une telle démarche donne une identité à un endroit, en fait un élément d’un contexte plus large dans l’espace et le temps.”

“Die Materialien und Farben sollten aus der Umgebung stammen; regionale Materialien, regionale Kultur und regionale Geschichte. Eine solche Herangehensweise gibt dem Ort eine eigene Identität und macht ihn zu einem Teil der Umgebung; zu einem Teil des größeren Ganzen, örtlich wie zeitlich.”

“Materialen och färgerna borde härstamma från omgivningen; lokala material, lokal kultur och lokal historia. En sådan attityd skapar en identitet åt en plats; gör den till en del av ett större sammanhang både i tid och rum.”

“Materiaalien ja värien tulisi polveutua ympäristöstä; paikalliset materiaalit, paikallinen kulttuuri ja paikallinen historia. Tällainen asenne antaa paikalle identiteetin; tekee siitä osan isompaa kokonaisuutta niin ajassa kuin tilassakin.”

42. “The surroundings enable us to feel the passing of time and the different seasons; the sun rising in the morning or setting in the evening, the heat of summer or the typical smell of autumn. This scenery initiates discussion in a natural way.”
周囲の環境は、時間の経過や季節の移り変わりを感じさせてくれます。朝には日が昇り、夕方には日が沈む。夏の暑さや、秋の匂い。こうした景色は、自然な会話が發生するきっかけとなります。

“L’environnement nous permet de sentir le passage du temps et des différentes saisons; le soleil qui se lève le matin, ou qui se couche le soir, la chaleur de l’été ou les odeurs de l’automne. De plus, ces paysages invitent à la discussion.”

“Die Umgebung macht uns bewusst, wie die Zeit vergeht und die Jahreszeiten wechseln; der Sonnenaufgang am Morgen und Sonnenuntergang am Abend, die Wärme im Sommer oder der typische Herbstgeruch. Die Umgebung liefert Gesprächsstoff auf eine natürliche Weise.”

“Omgivningen får oss att känna tidens gång och de olika årstiderna; hur solen stiger på morgonen och går ner på kvällen, sommarens hetta eller höstens dofter. Detta landskap inbjuder till diskussion på ett naturligt sätt.”

“Ympäristö tekee meidät tietoisiksi ajankulusta ja vuodenaikojen vaihtelusta; aurinko nousee aamulla tai laskee illalla; kesän kuumuus tai syksyn tuoksu. Ympäristö herättää keskustelua luonnollisella tavalla.”

43. “I don’t mind that the building stands out in the surroundings or is flashy! An area may have historical traditions, but these traditions evolve and we are part of this evolution.”

建物が周囲の環境の中で目立っていたり、派手であったりしても問題はありません。地域によっては歴史的、文化的な伝統が存在しますが、そういった伝統は進化していくものであり、私達もその一部分であると考えています。

“Ça ne fait rien si le bâtiment ne s’inscrit pas dans son environnement ou s’il est trop voyant! Une région peut avoir des traditions historiques mais celles-ci évoluent et nous faisons partie de ce processus d’évolution.”

“Es stört mich nicht, dass das Bauwerk sich deutlich von der Umgebung abhebt oder prunkhaft ist! Eine Gegend mag historische Traditionen haben, aber diese Traditionen entwickeln sich weiter und wir sind ein Teil dieser Entwicklung.”

“Jag bryr mig inte om att byggnaden sticker ut i sin omgivning eller är flott! Ett område kan ha sina historiska traditioner, men dessa traditioner förändras konstant och vi är en del av denna förändringsprocess.”

“Minua ei häiritse ollenkaan, vaikka rakennus erottuu ympäristöstään tai on pramea! Tietyllä alueella saattaa olla historiallisia perinteitä, mutta nämä perinteet kehittyvät ja me olemme osa tätä kehitystä.”

44. “There should be many places to spend time in outside; in the courtyards surrounded by trees or in the open places; in the shadow or in the sun. I feel that it’s easier to meet people and chat outdoors, because it’s a neutral place to talk in.”
木樹に囲まれた中庭や広場、日陰や日向など、外部には時間を使える様々な場所が必要です。戸外の方が人に会って会話をするには適しています。会話が生まれるより自然な環境であるからです。

“Il devrait y avoir différents endroits pour passer du temps à l’extérieur; dans des cours bordée d’arbres ou dans des lieux ouverts; à l’ombre ou au soleil. Je pense que c’est plus facile de rencontrer les gens et de discuter à l’extérieur parce que c’est un endroit neutre.”

“Draußen sollte man viele Plätze haben, wo man sich im Freien aufhalten kann; in Höfen von Bäumen umsäumt, oder auf offenen Plätzen, im Schatten oder in der Sonne. Ich finde, dass es leichter ist, Leuten im Freien zu begegnen und mit ihnen zu plaudern, weil es ein neutraler Ort für Gespräche ist.”

“Det bör finnas många olika slags platser att vistas i ute; på gården omgiven av träd eller på en öppen plats; i skuggan eller i solen. Jag tycker att det är lättare att träffa människor och prata utomhus därför att det är en så neutral plats.”

“Ulkona tulisi olla monta erilaista paikkaa, joissa voi viettää aikaa; pihalla puiden ympäröimänä tai avoimimmilla paikoilla; varjossa tai auringossa. Ulkona on paljon helpompaa tavata ihmisiä ja jutella, koska se on niin neutraali paikka keskustella.”

45. “It’s good that there are no walls around the building site. That way you can look at what’s going on in the neighbourhood and the building feels part of the surroundings. The building should also be used by people from outside, from the community.”

建物の周囲には壁が無いことが望まれます。それによって、周辺環境や近隣で何が起こっているかを把握することが可能になり、建物が周辺環境の一部となることが出来ます。また、建物を地域のコミュニティーなど、外部の人々が利用することができるようにする必要があります。

“C’est bien qu’il n’y ait pas de murs ou de clôtures autour de l’établissement. De cette façon, on peut regarder ce qui se passe aux alentours et l’établissement semble faire partie de l’environnement. Les gens du coin devraient pouvoir aussi utiliser l’établissement.”

“Es ist gut, dass es keine Mauern oder Zäune um die Anlage gibt. So kann man sehen, was in der nahen Umgebung los ist und das Gebäude ist in die Umgebung eingegliedert. Die Anlage sollte auch von den Leuten von draußen benutzt werden können.”

“Det är bra att det inte finns några väggar eller staket runt tomten. På det sättet kan du följa med vad som händer i grannskapet och byggnaden känns som en del av sin omgivning. Byggnaden borde också kunna användas av folk i trakten.”

“On hyvä, että talon ympärillä ei ole aitausta tai muuria. Näin ollen voit seurata mitä naapurustossa tapahtuu ja rakennus muuttuu osaksi ympäristöä. Myös lähiympäristön ihmisten on voitava käyttää rakennusta.”

46. “The flexibility of a space is the key issue! The spaces should foremost be designed so that it’s possible to use them in many different ways, and adopt them to the needs of different users and their way of life. The users define the spaces.”
空間の自由度が鍵となります。それぞれの空間は、様々な用途に合わせた利用が可能なの

うにデザインされていなければならず、異なる利用者や生活スタイルに適應できなければなりません。空間は利用者によって定義されます。

“La flexibilité de l'espace est une dimension essentielle! Les espaces doivent être planifiés de façon à être utilisables de plusieurs manières et adaptables aux besoins et aux modes de vie des différents usagers. Ce sont leurs usagers qui définissent les espaces!”

“Flexible Benutzung der Räume ist die Hauptsache! Die Räumlichkeiten sollten so konzipiert sein, dass sie auf unterschiedliche Weise benutzt werden können und für die Bedürfnisse von verschiedenen Benutzern und deren Lebensweise umgewandelt werden können. Die Benutzer bestimmen somit selbst den Raumcharakter.”

“Rummets flexibilitet är huvudsaken! Rummen borde främst vara planerade så att man kan använda dem på många olika sätt och anpassa dem till användarnas varierande behov och livsstilar. Användarna definierar rummet.”

“Tilojen juostava käyttö on pääasia! Tilojen tulisi olla niin suunniteltuja, että niitä voidaan käyttää monella eri tavalla ja että niitä voidaan muuntaa eri käyttäjien elämäntilanteiden ja tarpeiden mukaisesti. Käyttäjät määrittelevät tilan.”

47. “The surroundings should provide lots of activities for the users; walk around or sit in the courtyards; dry laundry; grow vegetables and gardening. These activities are important because they turn the care environment into a real healing environment – they make us live.”

周辺環境は利用者に様々な活動の場を提供します。中庭を散歩したり、座ってのんびりしたり、洗濯物を乾かしたり、野菜を育てたり、ガーデニングをしたり。こうした活動はとても重要です。そのような活動が、介護環境を本当の意味での「癒しの環境」へと変えて行くからです。

“Les alentours doivent fournir beaucoup de possibilités d'activité aux usagers: se promener ou s'asseoir dans les cours; faire sécher son linge; cultiver des légumes et jardiner. Ces activités sont importantes car elles transforment l'environnement de soins en un véritable environnement de guérison. Elles nous font vivre.”

“Die Umgebung sollte den Benutzern reichlich Aktivitäten bieten; in den Höfen spazieren oder sitzen, Wäsche zum Trocknen aufhängen, Gemüse anbauen und Gartenarbeit verrichten. Diese Tätigkeiten sind wichtig, weil sie aus einer Pflegeumgebung eine richtige Genesungsumgebung machen – sie machen uns lebendiger!”

“Omgivningen borde bjuda dess användare på massor av aktiviteter; att promenera runt eller sitta på gården, ställen att torka byk på eller platser för odlingar och trädgårdsskötsel. Dessa aktiviteter är viktiga därför att de förvandlar vårdmiljön till en helande miljö – de får oss att leva.”

“Ympäristön tulisi tarjota paljon aktiviteettejä käyttäjille; kävellä tai istua pihalla; paikkoja kuivattaa pyykkiä; viljellä kasveja ja hoitaa puutarhaa. Nämä aktiviteetit ovat tärkeitä, koska ne tekevät hoiva-ympäristöstä todellisia paranemis-paikkoja – ne saavat meidät elämään.”

48. “The surroundings should be easily attainable, flat, clearly articulated and well-lit. This makes it easier for the users to go outside without help of staff or family members. It gives a feeling of safety.”

周辺環境は簡単に把握が可能な上に、明確かつ平坦であり、照明によって適切に照らされている必要があります。結果、居住者はスタッフや家族による介助を伴わずに外部空間に出ていくことができ、それによってもたらされる安心感を感じることができます。

“Les alentours doivent être d'un accès facile, plats, bien conçus et bien éclairés. Il est alors plus facile pour les usagers de sortir sans l'aide du personnel ou d'un membre de la famille. Cela donne un sentiment de sécurité.”

“Die Umgebung sollte leicht zugänglich, eben, übersichtlich aufgeteilt und gut beleuchtet sein. Dies macht es dem Benutzer leichter hinaus zu gehen ohne die Hilfe des Personals oder der Angehörigen. Es gibt das Gefühl der Sicherheit.”

“Omgivningen borde vara lätt tillgänglig, platt, välutformad och välbelyst. Det gör det lättare för klienter/patienter att gå ut utan personalens eller de anhörigas hjälp. Detta ger en känsla av trygghet.”

“Ympäristön tulisi olla helposti saavutettava, tasainen, selkeästi jäsennelty ja hyvin valaistu. Näin ollen käyttäjän on helpompaa mennä ulos ilman hoitohenkilökunnan tai perheenjäsenien avustusta. Se antaa turvallisuuden tunnetta.”



VII Q INTERVIEW INSTRUCTIONS

I have selected 48 statements presented by users and stakeholders of care environments in Japan and Europe on the role of aesthetics and architecture in the care context. In addition, I have included some statements taken from academic publications and literary works dealing with the same topic. Please arrange the statements along the scale from -5 (most unlike my view) to $+5$ (most like my view) so that the result describes *your own personal view as a user or professional stakeholder* (e.g. resident/patient, staff, administration, visitor/family or architect):

1. Read through all statements.
You can arrange them onto the table in three loose piles: one on the 'positive' end of the scale ($+5$, $+4$, $+3$, $+2$), one close to the 'zero' category (-1 , 0 , $+1$) and one on the 'negative' end of the scale (-5 , -4 , -3 , -2). The scale and the numbers do not mean anything absolute. For example, you do not need to disagree with a statement under -2 ; by placing it there you simply mean that it is 'more unlike' your view than a statement under $+2$.
2. Arrange the statements along the scale so that the distribution describes your view towards the statements as well as possible. Please try to use the whole scale and try to follow the pattern in the score sheet – I am interested in what differences you see between the statements. However, if you think you definitely need to, you can place more or fewer statements than there are places in the columns of the score sheet.
3. Afterwards, I would like to ask a few questions on basis of the statements.

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MOST UNLIKE MY VIEW

[illegible]

1. Name: _____
2. Age: _____
3. Sex: _____ (male/female)
4. User/stakeholder: _____ (resident, patient, staff, administration, visitor, family, architect)
5. Occupation/former occupation: _____
6. Length of stay at facility: _____
7. If you had opportunity to choose and were in need of care, would you stay at this facility: _____

IX Q INTERVIEW FOLLOW-UP QUESTIONS

Asked of all interviewees:

1. Did you understand all statements?
2. Was it possible to express your opinion by arranging the statements?
3. Could you explain why certain statements are in the extremes (-5, -4...+4, +5) and some in the middle (0)?
4. Are there any missing statements or themes?
5. What thoughts did the statements evoke about the care environment?

If the interview takes place in the care facility:

6. Could you show me features you find important in the care environment so that I can take a photograph of it?

Fit for the purpose questions if there is time:

7. Do you find the building beautiful and is the physical environment important? Why?
8. Do you think that the building and its surroundings can influence the well-being of the users or is part of the healing process? How?
9. How do you experience the furniture, works of art, plants and other interior objects?
10. How do you experience the surfaces in the building, such as materials, textures, colours or details?

11. What do think of the light in the building, such as natural or artificial light?
12. How do you experience the rooms and lobbies of the building?
13. Are they too open or closed; is the size good; is it easy to find one's way?
14. How about the ambience of the spaces?
15. How do you experience the building in relation to its surroundings?
16. Do the staff/residents/patients have enough privacy and does the building enable social contacts?
17. How do you experience the functional aspects of the building, such as layout of functions, hygiene and safety?
18. Can the users (resident, patient or staff members) influence the treatment/living environment sufficiently?
19. What are the main challenges in the design and building processes of care environments?
20. What are the aesthetic goals and strategies of this care building?
21. What is the contemporary debate on care environments? Is everyone of the same opinion on what to do and where we are headed?
22. Does the model of financing influence the aesthetic and other choices and outcome?

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Evaluating the built environment in a comprehensive manner is both challenging and topical. The environment influences us in a multitude of ways, simultaneously and personally. We feel, hear, see, smell, and even taste the environment that surrounds us. Care environments, in particular, are complicated and their effects on users difficult to estimate. However, the aesthetics of care environments carry huge potential to induce wellbeing, enhance quality of life and, thereby, affect the healing and rehabilitation of patients and residents.

This book applies experimental Qmethodology – a qualitative method for systematically analyzing human subjectivity – in search of a new way to evaluate care environments. The focus is on the role of aesthetics as experienced by the actual users and stakeholders of ten high-quality and award-winning care environments in Japan and the European countries of Finland, Sweden, the United Kingdom, France and Austria. A total of 45 participants, including architects, members of the administration, care staff, patients, residents, and their relatives give their subjective accounts on the aesthetic features of the care environment. Five aesthetic discourses and a set of *shared* aesthetic values are identified, which transcend building-type specific, contextual and professional boundaries.

The aims are to increase our understanding of care environment aesthetics and architecture, and thus contribute to the design of future care buildings that fulfil the values and expectations of the users.

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