

# Preparing for a Swedish papy boom: On aging as a concept in a design process

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## Abstract

Sweden has to prepare for a *papy boom*, a French term for the increasing proportion of senior citizens in society, viz. those aged 65 years or older. This paper focuses on a municipal organizer's decision-making process to arrange an open, municipal architecture competition with the aim of promoting future-oriented architecture for senior citizens. A sample comprising twenty-seven informants (municipal employees, political officials and other representatives) was selected, and these people were interviewed using a qualitative, interviewing guide. A section in the guide included a photograph compilation in order to encourage discussion about both the competition brief and the Swedish guideline of hominess in architecture intended for elderly, frail people. The aim of this study was to explore notions about the appropriate, future-oriented habitats of the aging population. Such findings describe spatial aspects possible to use as primary generators in an architectural design process, and to assist the creative work of architects, when they conceive new architecture and built environments for the future, aging society. The result of this study suggests that the photograph compilation was effective in defining twelve key aspects of appropriate architecture for aging. The results of this study lend support to an overarching conclusion that the appropriate habitat for aging in the future society must exploit the aesthetic and sensuous dimension of architecture.

**Keywords:** architecture, habitats for aging, design process, primary generators, Photolanguage method.

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## Introduction

In the peacetime following the Second World War between 1945 and 1950, there were 760,120 registered births in Sweden (Statistics Sweden, 2009). This generation is now approaching retirement, a fact that is transforming Sweden into an aging society. This phenomenon has been identified in the majority of Western countries (Maucunovich, 2004). In the European Union, statistics measuring the proportion of senior citizens rank Italy as having the largest percentage of senior citizens (18.2% of its inhabitants being 65 years or older), followed by Germany (17.5%) and Greece (17.3%). Fourth largest is Sweden with 17.2% (Council of Europe, 2005).

As this baby boom generation has aged, the term *papy boom* has come into play. This French term describes the opposite process of rejuvenation, namely the increase in the proportion of elderly people in the population (Martel & Légaré, 1995). According to research, the papy boomers will experience comfortable aging, having a secure financial situation, and good health (Batljan & Lagergren, 2004; Batljan & Lagergren, 2005). In Sweden, very late stages in life imply that there exists an accumulation of health issues and an increasing degree of dependency (Parker & Thorslund, 2007). Recent statistics from the Swedish National Board of Health and Welfare (NBHW) indicate that approximately 6% of the age group 65 years and older will encounter health issues that will require 24-hour availability of nursing services in special housing (NBHW, 2008). In Sweden, the local municipalities are responsible for both the provision of appropriate housing facilities and individually assessed eldercare for senior citizens ("The Swedish Local Government Act", 1991).

The present paper focuses on a multi-level, decision-making process concerning the organization of an open, architecture competition on future habitats for an aging population in a suburban Swedish municipality situated in the expansive Greater Stockholm area. During the last century, this municipality expanded from being a small rural community in 1950 with some 7,300 citizens, to an expansive region with a population of 64,355 citizens in 2009. Migrating Swedes, and immigrants of other nationalities were attracted by the municipality's vicinity to Stockholm. The peak in population growth occurred during the 1960s when the number of citizens increased by 264% in

just one decade. In December 2008, the proportion of the age group 65 years and older was 15.8%, and the municipality forecasts 20% annual growth taking place in this age group until 2018. In 2006, the municipality organized an open, architecture competition<sup>1</sup> with the aim of highlighting the question of appropriate, architectural space for the aging population (Andersson, 2010 (in press)). The competition's purpose was two-fold: at the urbanistic level the task was to provide a detailed development plan for the site; at the architectonic level it was to renew space for elderly, frail people. In February 2007, a Danish entrant<sup>2</sup> was proclaimed winner of the competition. The aim of the present study is to explore notions about the appropriate, future habitats for an aging population, which were awakened by the municipality's preparations for the competition. The findings are relevant for the creative work of architects and other professionals who use conceptual thinking and primary generators (Darke, 1984) to visualize new architectural space for an aging society.

## **Research material and methods**

This study takes place as part of a comprehensive case study of an open, architecture competition organized by a Swedish, suburban municipality. The organizer's considerations in conjunction with the organization of the competition are in focus for this study. Data was collected using a survey of the official documents pertaining to the aforementioned competition, and this was supplemented with open-ended interviews with identified players. The data collection started in 2008 (one year after the conclusion of the competition), and the transcriptions of the interviews were completed in August 2009.

### ***Study sample***

A survey of the municipality's reasons for holding an architecture competition gave rise to the formation of a sample of twenty-seven informants, some of whom were key agents in the process of innovating habitats for elderly people by the use of architectonic visions. Official documents<sup>3</sup> revealed that there were four key players who were affiliated with three municipal administrations: the Administration for Social Welfare and Health (ASWH) for social and eldercare matters; the City Planning Office (CPO) for planning and built environment concerns; and the Municipal Executive Office (MEO) for executive matters. Besides the four key players, eleven informants

were selected from within the ASWH, CPO and MEO. These eleven underwent an interviewing process, which was necessary for corroborating the key players' statements. Additional informants were members of the competition jury or one of the two referential working committees that had assisted the jury in the assessment of the thirty-three submitted entrants. Thus, two informants from the Municipal Assembly (MA), six members of the Senior Citizens Council (SCC), and four representatives from the Swedish Association of Architects (SAA) were included in the sample.<sup>4</sup> In all, twenty-seven informants were settled upon—eight men and nineteen women (see table 1). The study draws conclusions from all twenty-seven interviews in the sample. Quotations are taken from twenty-four interviews, since three of the interviews were not approved by the respective informants. These three interviews have been integrated into the sample, since they supplied knowledge about the organizational process.

### ***The interviewing guide***

The aim of the qualitative interviewing guide was to facilitate a relaxed conversation about the competition, key issues in the competition brief; and the work to promote innovative space for elderly, frail people. It aimed to enable personal reflections upon the outcome of the competition. The guide focused on the municipality's considerations of the architecture competition as an instrument to renew architecture for senior citizens. The guide consisted of twelve sections, with three to six sub-questions (eighty-two questions in total).<sup>5</sup> One section consisted of three thematic questions. First, the informant was invited to answer these questions by making a choice of one to three photographs from the photograph compilation. Second, the informant was encouraged to describe his or her associations in relation to the thematic question and the personal choice of motifs. This section was inspired by the Photolanguage© method (Baptiste, Belisle, & Pechenart, 1991). The photograph compilation consisted of twenty-five photographs taken by the author and originally intended for repertoire-based usage in the conception of new, architectonic visions (Schön, 1983) (see table 2). To follow the guidelines of the Photolanguage© method, other photographs of animals or nature were added to the collection. On average, the interviews lasted ninety minutes. In order to avoid a focus on age, background questions were restricted to education, professional experience, and previous experience with eldercare or building matters.

**Table 1. Informant characteristics: age group, years of professional experience, professional background, education and affiliations with municipal administration or official organization ( municipal or trade).**

Affiliation with municipal administration or official organization (municipal or trade)	Informant	Gender	Age group	Years of professional experience	Professional background	Number of interviewers	Status of transcription
ASWH	Informant A1	f	35–44	20	GSSS	2	A
ASWH	Informant A2	f	35–44	18	GSSS	2	A
ASWH	Informant A3	f	35–44	15	Med. Gymnast	2	A
ASWH	Informant A4	f	45–54	18	Med. Gymnast	2	A
ASWH	Informant A5	f	45–54	22	Nurse, RN	2	A
ASWH	Informant A6	f	55–64	26	GSSS	1	A
ASWH	Informant A7	m	55–64	38	GSSS	1	NA
ASWH	Informant A8	f	55–64	34	GSSS	2	NA
ASWH	Informant A9	m	55–64	38	Engineer	1	A
ASWH	Informant A10	f	55–64	37	Nurse, RN	2	NA
ASWH	Informant A11	f	55–64	43	NHA	2	A
CPO	Informant B1	f	25–34	5	architect MSA	2	A
CPO	Informant B2	f	55–64	33	architect MSA	2	A
MA	Informant C1	f	35–44	18	SHS	1	A
MA	Informant C2	f	55–64	38	Economist	2	A
MEO	Informant D1	m	35–44	17	SP	2	A
MEO	Informant D2	m	55–64	33	GSSS	2	A
SAA	Informant E1	f	45–55	21	architect MSA	2	A
SAA	Informant E2	f	55–64	39	architect MSA	2	A
SAA	Informant E3	m	65–74	38	architect MSA	2	NA
SAA	Informant E4	m	65–74	42	architect MSA	2	A
SCC	Informant F1	m	65–74	40	EW	1	A
SCC	Informant F2	f	65–74	39	Engineer	1	A
SCC	Informant F3	f	65–74	42	Insurance agent	1	A
SCC	Informant F4	f	65–74	40	Staff Nurse	1	A
SCC	Informant F6	m	75–84	40	MD	2	A
SCC	Informant F5	f	75–84	35	Nurse, RN	1	A

**Abbreviations:**

A = informant approved transcript of interview; EW = engineering worker; GSSS = Graduate of School of Social Studies; MD = managing director; MSA = Member of Swedish architect MSA; NA = Informant did not approve the transcript of the interview; NHA = Nursing Home Administrator; RN = Registered Nurse; SHS = Senior High School; SP = social planner.

**Notes:**

The approved transcripts of the twenty-seven interviews are cited in the study, whereas the non-approved transcripts are not cited in study.

**Table 2. Description of the photo compilation and its specifics: built space, content, details, format, location, nature scenery, origin.**

Items in photograph compilation <sup>1</sup>	Origin of photograph		Photograph details			Photograph format in millimeters (14,8x21,0 MM)	Photograph location	
	existing built space (EBS)	staged built space (SBS)	built space (bs)	nature scenery (n)	content (A = animal; H = human; SI = social interaction)		exterior (E)	interior (I)
Photograph A	EBS			n		landscape	E	
Photograph B		SBS	bs		H, SI	portrait	E	
Photograph C	EBS		bs		SI	portrait		I
Photograph D	EBS			n		portrait	E	
Photograph E	EBS		bs			portrait		I
Photograph F		SBS	bs	n		portrait	E	
Photograph G	EBS			n	A	portrait	E	
Photograph H		SBS	bs			portrait	E	
Photograph I		SBS	bs		H	portrait		I
Photograph J		SBS	bs			portrait		I
Photograph K	EBS		bs	n		landscape	E	
Photograph L		SBS	bs		H, SI	portrait	E	
Photograph M	EBS		bs			portrait	E	
Photograph N	EBS		bs			portrait		I
Photograph O		SBS	bs			portrait		I
Photograph P	EBS			n		landscape	E	
Photograph Q	EBS			n	H	portrait	E	
Photograph R		SBS		n	H	portrait	E	
Photograph S	EBS			n	A	landscape	E	
Photograph T	EBS		bs			portrait	E	
Photograph U	EBS		bs			portrait		I
Photograph V	EBS		bs		H, SI	portrait	E	
Photograph X	EBS		bs		H, SI	landscape		I
Photograph Y	EBS		bs			portrait	E	
Photograph Z	EBS		bs			landscape	E	

**Abbreviations:**

A = animal; bs = built space; E = exterior location; EBS = existing built space; H = human being; I = interior location; n = nature scenery; SBS = staged built space (building expositions); SI = social interaction.

**Notes:**

1) Each photograph had a small white dot with a letter in the right hand corner.

**The interviewing process**

It was assumed that the informants in the municipal administrations could be biased by their earlier involvement in the process of organizing the architecture competition, and that they could be inclined to either exaggerate or

dismiss their influence on the process, depending on the degree of their involvement in the process. The interviewing guide was adjusted with each informant to annul this bias. Furthermore, it was assumed that the photograph-based questions and the interview situation would establish the true circumstances concerning the interviewees' involvement in the municipal preparation for

the competition. The interview survey was conducted between January and June in 2008. The interviewees were contacted by email with a letter of introduction attached. All selected informants agreed to be interviewed.<sup>6</sup> A date and a place for the interview were set up. Each interview was transcribed verbatim by the author, and after the interviews the informants were asked to read the transcript and to approve it. The majority of the informants complied with this suggestion, making just minor changes to the text. However, two informants declined to approve their transcripts, while one suggested corrections that made the text erroneous in comparison with what was recorded during the interview. Just the same, these three interviewees—informants B7, B10 and E3—were integrated into the sample, since by their participation they provided information about the organizational process. But they are not quoted in the following text.

### **Research data**

This study is based on the full sample of the twenty-seven interviews. The photograph section in the interviewing guide has been extracted for this study, and has supplied the research data. This section discussed the difference between homelike and institution-like environments in architecture for elderly, frail people. The interviewees were asked to choose one to three photographs from the photograph compilation of twenty-five motifs, in conjunction with the following three questions:

- Q1) In the competition brief, elderly, frail people within the municipality live in institutions called an institutional milieu in the competition brief. It is given this name because it is said that inside there exists is an institutional atmosphere. Please choose one to three photographs from the collection, and describe some characteristic features of this institutional milieu.
- Q2) In the competition brief, it is said that the municipality is looking for “a milieu which interacts with our senses and empowers an experience of being in an environment of quality, with care and security, and makes us feel the sublime within such an instance of architecture. Architecture, interior design and coloring, as well as the exterior landscape, shall be in harmony and interact, contributing to this feeling.” By choosing one to three photographs from the photograph compilation, could you describe some characteristic features of such an environment?

- Q3) The ordinances of the Swedish Social Services Act (“Social Services Act,” 2001) recommend comprehensive guidelines for the architectural design of housing for elderly, frail people. Which photographs, would you say reflect the definition of spatial criteria which form part of the Swedish guideline of hominess in architecture intended for elderly frail people? The criteria are: (1) the residential features derived from private, detached houses or apartment buildings; (2) a homelike environment; (3) a supportive milieu for way-finding; and (4) the opportunity for an interior, spatial prospect, an outlook, for the purpose of promoting a better understanding of the architectural configuration of the building (Svensson, 2008). By choosing one to three photographs from the collection, could you define these criteria separately?

### **Theoretical framework for analyzing research data**

The analysis of the research data employed a theoretical framework to apprehend the collected data (Fisher, 1997). In this study *architectural space* is defined as comprising any built environment, and this therefore includes landscape architecture, interior decorating, architectural design and physical planning. This implies the requirement of a holistic approach to the interaction between human beings and architectural space. For this reason, this paper promotes a transactional worldview, where human behavior is identified as a set of actions related to places and things (Altman & Rogoff, 1987).

In environmental, psychological research, photographs are used as surrogates to assess personal preferences of different settings (Hull & Stewart, 1992). The Photolanguage© method was originally developed as a pedagogic instrument for schools, but it has also been used in the field of psychiatric care to verbalize subconscious memories (Baptiste et al., 1991; Vacheret, 2000). In a previous study the author used a photograph compilation as a specimen to discuss the interior setting of an assisted living facility with the elderly, frail residents and the members of the staff (Andersson, 2005). In this case, three particular photographs were repeatedly chosen to illustrate hominess.<sup>7</sup> For comparison, this photograph compilation was included under the assumption that the images would assist recollection and activate non-rational memories.

The research data comprised two sets of information, namely various discourses on aging and space as supplied

by the transcripts of the interviews, and the spatial experiences related to the informants' personal choice of photographs from the photograph compilation. Discursive analysis operated on the assumption that spoken information could be examined as speech acts (Van Dijk, 1977), in relation to both the municipal, architecture competition, and the appropriate architectural space for aging. The analytical procedures began with the scrutiny of the verbatim transcriptions of the interviews. This approach has similarities to Applied Discourse Analysis (ADA), since it does *not* focus on language per se but on what is expressed through language (Gunnarsson, 1998). Consistent with this psycho-evolutionary framework, the photograph analysis assumed that the informants would choose photographs based on affective responses towards a motif, rather than adopting a cognitive-based assessment (Ulrich, 1983).

## **Results**

### **Findings on appropriate architectural space for aging**

Analysis of the research data yielded findings that pertained to the relevant architectural space for aging. The photograph compilation was used to measure preferences for either homelike or institution-like environments; the characteristics of the sublime dimension in the envisioned outcome of the architecture competition; and the employment of the Swedish guideline for hominess in the architecture of housing for elderly, frail people. These diverse findings formed part of the rationale about space for aging, whereas the photograph-based findings provided emotional associations with space for aging, potentially rooted in the respondents' personal experiences and preferences for space. A relative ranking for the photographs was created by comparing the number of positive connotations with the number of negative ones, as found in the discourses which took place during the photograph section in the interviewing guide. The ranking was calculated by deducting the number of negative connotations for each photograph from the number of positive ones (see table 3). Based on this ranking, a panorama of twelve key aspects in architectural space for aging ensued: 1) sensory stimulation; 2) homelike and residence-like character; 3) at home in the kitchen; 4) architecture and nature; 5) the linkage between indoor and outdoor space; 6) the domestic hearth; 7) interior colors in a room with a view; 8) familiarity, recognition and anticipation; 9)

existential space; 10) healing force of nature; 11) enabling personalization; 12) features representing an institutional environment.

#### ***1. Sensory stimulation***

Photograph F was of a picturesque bosket with an elevated water pond, and it generated genuinely positive connotations; it engendered a broad panorama of associations with the sublime dimension of architecture. One informant suggested that in essence the photograph depicted a befitting setting, since all of the human senses were stimulated by it. The possibility of being outdoors and experiencing the greenery, the smell of nature and the sounds of birds was identified as being of great importance. Another informant said that the photograph possessed a motif which was soothing and relaxing. A third informant offered what is arguably the best explanation for the photograph's attraction to the informants: "This photo is great architecture, it suggests the context which every type of architecture must respect: the setting, the greenery, and water. Sensory stimulation is important for all human beings."

#### ***2. Homelike and residence-like character***

Ranked in second and third places, were two photographs—photographs E and N—with interior motifs of communal space for dining and socializing. The photographs were used repetitively by the informants to answer the interviewing questions about aspects of homelike and residence-like qualities. The conclusion of the informants' use of these photographs was that the interior setting of a homelike space was an anachronism. It was not intentionally designed that way, but accidentally evolved over time, and therefore assumed a cozy quality.

#### ***3. At home in the kitchen***

Photograph C, a view of a Swedish kitchen from the 1940s or 50s, was perceived to be a true kitchen. The motif evoked decided connotations of hominess. The size of the kitchen seemed to be important, as the homelike character was related to space for a single family's household. If the kitchen was discerned as being too spacious, it lost its homelike character and mutate into a large kitchen space as found in institutions.

**Table 3. Use of the photographs in the photograph section of the interviewing guide with respect to the following questions: Q1) Identify the homelike versus institution-like environment; Q2) Describe the characteristics of the envisioned, sublime architecture; and Q3) Choose the photographs which reflect spatial criteria which form part of the Swedish guideline of hominess in architecture intended for elderly, frail people. These criteria are: (1) the residential-like features derived from private, detached houses or apartment buildings; (2) a homelike environment; (3) a supportive milieu for wayfinding; and (4) an opportunity for an interior, spatial prospect, an outlook, which promotes a better understanding of the architectural configuration of the building.**

Ranking order	Item in photo compilation	Perceived positive connotation (PPC)			PPC, total	Perceived negative connotation (PNC)			PNC, total	Use of photographs (UP) for positive or negative associations (UP = PPC+PNC)
		Question Q1.	Q2.	Q3.		Question Q1.	Q2.	Q3.		
1	F	0,0	18,0	1,0	19,0	0,0	0,0	0,0	0,0	19,0
2	E	1,0	6,0	17,6	24,6	-7,0	0,0	-1,0	-8,0	16,6
	N	2,0	5,0	11,3	18,3	-2,0	0,0	0,0	-2,0	16,3
3	C	0,0	2,1	14,3	16,4	-1,0	0,0	-1,0	-2,0	14,4
4	A	1,0	5,0	5,0	11,0	0,0	0,0	0,0	0,0	11,0
	Q	0,0	0,0	10,1	10,1	0,0	0,0	0,0	0,0	10,1
5	R	1,0	9,0	5,1	15,1	-4,0	-2,0	0,0	-6,0	9,1
	S	0,0	6,0	3,0	9,0	0,0	0,0	0,0	0,0	9,0
6	K	1,0	0,0	7,0	8,0	0,0	0,0	-1,0	-1,0	7,0
	L	1,0	5,0	1,0	7,0	0,0	0,0	0,0	0,0	7,0
	Z	0,0	2,0	5,0	7,0	0,0	0,0	0,0	0,0	7,0
7	O	2,0	4,0	3,0	9,0	-3,0	-1,0	0,0	-4,0	5,0
	X	0,0	3,0	3,0	6,0	-1,0	0,0	0,0	-1,0	5,0
8	T	0,0	1,0	4,0	5,0	-1,0	0,0	0,0	-1,0	4,0
	G	0,0	4,0	1,0	5,0	-1,0	0,0	0,0	-1,0	4,0
9	P	0,0	1,0	2,1	3,1	0,0	0,0	0,0	0,0	3,1
	B	0,0	6,0	1,0	7,0	-4,0	0,0	0,0	-4,0	3,0
	H	1,0	2,0	3,0	6,0	-3,0	0,0	0,0	-3,0	3,0
	M	1,0	0,0	3,0	4,0	-1,0	0,0	0,0	-1,0	3,0
10	Y	0,0	2,0	0,0	2,0	0,0	0,0	0,0	0,0	2,0
	D	0,0	1,0	0,0	1,0	0,0	0,0	0,0	0,0	1,0
11	I	1,0	2,0	5,1	8,1	-7,0	-1,0	0,0	-8,0	0,1
	J	1,0	3,0	5,1	9,1	-8,0	0,0	-2,0	-10,0	-0,9
12	V	1,0	1,0	2,0	4,0	-7,0	0,0	-1,0	-8,0	-4,0
	U	0,0	0,0	0,0	0,0	-16,0	0,0	0,0	-16,0	-16,0
	<b>Total use</b>	<b>14,0</b>	<b>88,1</b>	<b>112,7</b>	<b>214,8</b>	<b>-66,0</b>	<b>-4,0</b>	<b>-6,0</b>	<b>-76,0</b>	

**Note:**

Some photographs were used repetitively by the informants to answer one or all of the three questions, thereby describing different aspects of architectural space. This usage is indicated by the decimal point which denotes the frequency. The relative ranking is based on the whole number including the decimal.



**Figure 1. Associations generated by the photograph compilation: sensory stimulation (photograph F); homelike and residence-like character (photographs E and N); at home in the kitchen (photograph C); and, architecture and nature (photographs A and Q).**

(All photographs by author)

#### **4. Architecture and nature**

The two photographs of a slightly bending road—photograph A—and of red-painted, wooden buildings in a Swedish, pastoral, summer landscape—photograph Q—both generated positive connotations. These photographs were used to discuss the Swedish guideline which prescribes the creation of firstly a supportive milieu for wayfinding and secondly an opportunity to give rise to an interior, spatial outlook which promotes a better understanding of the architectural configuration of the building. Choosing randomly from the photograph compilation, the informants selected the photograph of the road to discuss wayfinding. One informant said with reference to photograph A that an architectural space with clear directions fostered wayfinding. The motif with the wooden buildings—photograph Q—was preferred by some, for its sense of familiarity was seen as necessary to understand architectural space. Another informant suggested that a familiar view of the exterior space reinforced the ability to proceed inside the building.

#### **5. Indoor space linked to outdoor space**

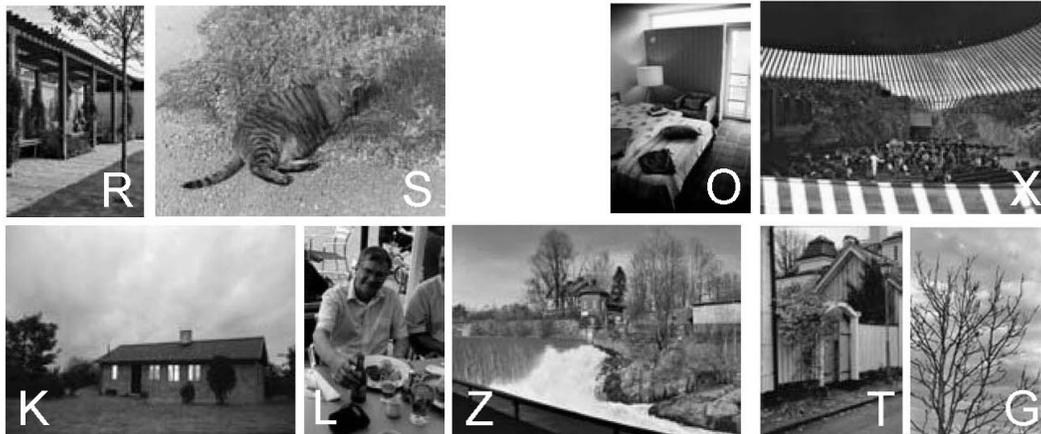
The two photographs of an exterior pergola—photograph R—and of a cat—photograph S—generated a mixture of positive and negative connotations. One informant suggested that the pergola motif evoked an institution-like environment, since the absence of tables and chairs discouraged a comfortable respite, although it could be part of a large patio with a pleasant climate behind protective walls. The cat intimated home, despite the fact that some informants were afraid of cats. Also, photograph C suggested the ideal, transparent line that traverses from indoors to outdoors of a private, detached house.

#### **6. The domestic hearth**

There were three photographs that gave rise to mainly positive connotations with respect to aspects of the domestic hearth. One informant suggested that photograph K evoked the warm feeling of a welcoming house at the closing nightfall. Another informant also stated that this photograph was homelike. Photograph L evoked the sublime dimension of architecture: a peaceful feeling of being at ease, of socializing, and interacting with nature. Photograph Z was said to represent a residence-like quality of architectural space, displaying a location that is easy to find. The informants said it was an example of a pleasant, residence-like architecture.

#### **7. Interior colors and a social space**

Photograph O was met with mixed reactions from the informants, with some assessing it as homelike, others as institution-like. The interior colors of the motif induced one informant to point out the importance of using colors in the habitat, while another focused on the design of the window, and in particular the necessity of having both a pleasant view of the exterior and excellent penetration of daylight. The interior decorating was perceived as futuristic. The informants stated that photograph X showed a community of some sort that implied the importance of being part of a social context. The religious aspect was not pointed out; rather it was said that the photograph expressed the spatial quality of an interior outlook that provided a better understanding of the architectural configuration of the building.



**Figure 2. Associations generated by the photo compilation: the linkage between indoor and outdoor space (photographs R and S); the domestic hearth (photographs K, L and Z); interior colors and a social space (photographs O and X); and, familiarity, recognition and anticipation (photographs T and G).**

(All photographs by author).

### **8. Familiarity, recognition and anticipation**

Two photographs—photographs T and G—evoked spatial aspects that dealt with familiarity, recognition, and anticipation. One informant suggested that photograph T indicated a chronological dimension in architecture, and that the different, architectural layers were significant in that connection. Informants appreciated the photograph for its evoking of a residence-like setting, but they also perceived a touch of anticipation in the motif, from the protected space inside the walls as opposed to the openness of the street. Another informant associated it with an institution-like environment, since the porch defined a separate space, hidden away from public eyes. Photograph G implied openness and endless space. The hardly noticeable bird on a branch indicated nature, and suggested to the informants a quiet and soothing place in which to spend time.

### **9. Existential space**

Photograph M was associated with a societal institution, whereas photograph P represented a wide, observable space. This photograph added potency to the idea of the

healing force of nature. Photographs B and H encountered some negative connotations from the informants relating to institution-like environments. These photographs were also used to illustrate a milieu helpful for wayfinding since they offered an opportunity for an interior, spatial outlook which propagated a better understanding of the architectural configuration of the building. More importantly, all of the photographs evoked the existential aspect of both the architecture and the built environment, in the sense that each represented the outdoor space closest to the building: the balcony, the patio, the terrace. Due to the cultural context, the informants pictured Swedish, summer traditions of drinking coffee with strawberry cake, eating lunch or dinner, and socializing with friends and relatives at this particular, protected, outdoor and sunny place.

### **10. Healing force of nature**

Two photographs were identified as symbolizing the impetuous forces of nature. One informant chose photograph D to emphasize the stimulating feeling of being amongst nature. Another informant decided that photograph Y aroused the same sensation. A third informant pointed out that a built environment must be sensuous to enable the exploration of architectural space and nature.



**Figure 3. Associations generated by the photo compilation: existential space (photograph P, B, H, and M); the healing force of nature (photographs Y and D); enabling personalization (photographs I and J); and, features representing an institutional environment (photographs V and U).**

(All photographs by author).

### **11. Enabling personalization**

Photographs I and J generated both positive and negative connotations. At best, the homelike features in the two motifs caused some informants to portray the environment as a hotel-like setting; at worst, as some kind of institution. The perceived austerity and rectilinear nature of both motifs seemed to emphasize the institutional affiliations. The overall lack of personal artifacts in the photographs caused the informants to consider the space portrayed by the photographs as not being fully furnished or having received an institutional ban on placing things on the walls. The interior colors in photograph I were perceived as obtrusive, and typical of institutions. Continuing with the negative apprehensions, some informants associated the stark colors on the walls with directional cues in an institution-like setting. One informant used the term “*de-individualized*” to describe photograph J. Others were somewhat more positive, and identified some homelike features. Another informant added in reference to hominess and the photograph J that the main feature of an homelike, architectural space was the possibility to subdivide into minor spatial entities.

### **12. Features representing an institutional environment**

The two photographs U and V embodied specific, spatial features that led the informants to perceive them as purely institution-like. In particular, photograph U generated solely negative connotations: it was perceived as a setting from an institution. Specifically, it was described as evincing a cold, dead, de-humanized, gray, sterile environment; its austerity induced fear. The design of the ceiling was perceived as being un-homelike, and the very thought of being confined to a bed and having to look up at such a ceiling was utterly repugnant to the informants. Architectural spaces like the corridor, the culvert, and the large indoor spaces for various uses were linked with photograph U. The negative associations conjured up by photograph V focused on its architectural design. The architectural forms within the motif were perceived as being sharp and representing an edge. The informants identified these associations with a public building or institutions in general. This was particularly so for the grand, exterior staircase. Despite this, two informants with a background in architectural training stated that the modern architecture pictured in photograph V implied a positive, future-oriented space for aging.

## Discussion

The present study is explorative. Few Swedish or European studies with a similar focus were identified during the preparation of this study. Still, the question of appropriate, architectural space for aging has generated interest both in Sweden and North-America (Almberg, 1997; Brent, 1999; Marsden & Kaplan, 1999; Paulsson, 2001, 2008; Paulsson & Husberg, 2008). The final research material has allowed for a comparison of the data generated by the sample of twenty-seven informants. This fact has facilitated a degree of triangulation which can support valid conclusions (Yin, 2003). It is likely that the findings are biased due to the Swedish culture, specifically concerning the context of a suburban municipality in the vicinity of a large city. Nevertheless, this study helps us to understand how decision-makers in a suburban municipality perceive the appropriate, architectural space for an aging society.

The study has implemented a research method—the Photolanguage© method—that produces individual discourses on appropriate space for the aging population, and an individual, preferential ranking of photographs which displays various architectural space. As presented in this paper, the informants associated homelike features with the following concepts: a certain scale of building; the design of individual architectural elements; the formal shape of the building, and its location. Similar results were achieved in a North-American study, where the perceived hominess in facilities for assisted living was explored by the use of photographs (Marsden & Kaplan, 1999). Furthermore, the informants in the present study preferred motifs involving nature, in particular those with a combination of architecture and landscape configurations. This finding is also consistent with past research in environmental psychology using photographs (Joye, 2007). The informants disliked photographs which incorporated either an unrecognizable motif or sharp, edge-like, architectural forms. Regarding the different motif settings in the photograph compilation, this finding vouches for the prospect-refuge-theory, established in previous research (Appleton, 1975).

None of the informants in the study perceived themselves as old, although in some cases the length of an informant's professional experience indicated that he or she had attained or was near to retirement age. Thus, aging can be seen to be an integral part of life and existence, more than just a mundane moving through time: to age is to explore the individual gift of personal characteristics (Messy, 1992). This fact supports an overall conclusion that concerns the relation between aging and the built environments—chronological age is of little signification on a personal level, but of major concern for societal, health planning for the future, aging society.

Architecture can be viewed as a field of practice that is located at the intersection of four spatial dimensions: private space versus communal space, and the concretization of space versus the conceptualization of space (Cold, Dunin-Woyseth, & Sauge, 1992). These relationships call for an evaluative approach in order to distinguish between appropriate and inappropriate architectural space (Rönn, 2007). Such an assessment is an integral part of the architecture profession, and is sharpened by the iterative act of first creating architectural space, and then evaluating the built environment. It is tacit knowledge best described as *the enlightened eye* (Eisner, 1998). The presented findings are relevant for this type of assessment, and as input for the creative work of architects and those working in affiliated design-professions.

In the present study, the informants stressed the aesthetic dimension of architecture and built environments. This extent of familiarization with the architectural space has been indentified by several sources as an important means for successful aging in place (Haak, Dahlin-Ivanoff, Fänge, Sixsmith, & Iwarsson, 2007; Hurtig, Paulsson, & Schulz, 1981; Rosel, 2003). Based on the findings, architectural space ideally forms an existential and spatial framework within which various aspirations of self-development can be fulfilled (Lapierre, Bouffard, & Bastin, 1997; Norberg-Schulz, 1971). In this sense, this study contributes to a deeper understanding of architectural space and its relation to aging and age-related issues. It is our belief that the findings are credible, legitimate and transferable to similar situations involving architectural space and aging generally in a Western, cultural context (Maxwell, 1996; Onwuegbuzie & Johnson, 2008).

This study aimed to identify notions about the appropriate, future-oriented habitat for an aging population, and to determine empirical facts. The presented empirical findings suggest that both discursive, and photographic approaches are necessary to fully understand the spatial implication of aging. The results of this study lend support to an overarching conclusion that the appropriate habitat for aging in the future society must exploit the aesthetic and sensuous dimension of architecture. However, further research is needed to substantiate this hypothesis.

## Abbreviations

The following abbreviations of Swedish official authorities have been used:

The Administration for Social Welfare and Health (ASWH), (in Swedish Socialförvaltningen).

The City Planning Office (CPO), (in Swedish Stadsbyggnadskontoret).

The Committee for Social Welfare and Health (CSWH), (in Swedish Socialnämnden).

The Municipal Assembly (MA), (in Swedish Kommunfullmäktige).

The Municipal Executive Office (MEO), (in Swedish Kommunstyrelsen).

The National Board of Health and Welfare (NBHW), (in Swedish Socialstyrelsen).

The Senior Citizens Council (SCC), (in Swedish Kommunala Pensionärsrådet).

The Swedish Association of Architects (SAA), (in Swedish Sveriges Arkitekter).

## Acknowledgements

I am grateful to Mr Magnus Rönn, associate professor at the School of Architecture, Royal Institute of Technology, Stockholm, for his significant advice and support in structuring this study. Also, I would like to thank Mrs Eva Henriksen RN/ PhD, Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm and head of FOU Äldre Norr, the Research and Development Centre for Care of Older People, Jaerfaella, for her extensive comments on the text which came from a nursing research perspective and her suggestions for improvements to the text. Furthermore, I would like to thank my fellow presenters and participants in the seminar group for their comments and suggestions for clarifications.

## Author Biography

The author is architect SAR/ MSA, a member of the Swedish Association of Architects, and PhD Fellow at the School of Architecture, Royal Institute of Technology, KTH in Stockholm, Sweden. Mr. Andersson graduated from the KTH in 1990. As a practitioner, he has worked on residential architecture including buildings intended for frail people of all ages, and on offices and hotels, and has performed various design tasks. He commenced PhD studies in 2003, and after a short stint as a Building Permit Handling Officer at the City of Stockholm, he continued this project in 2007, focusing on architectural space for elderly and frail people. Mr. Andersson is in the final phase of preparation for his doctoral thesis the subject of which is architectural space for dependent seniors in Sweden, and, which is an extension of a previous licentiate thesis. This two-step procedure is characteristic of Swedish technical universities. The doctoral thesis is due for publication later in 2010.

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## Endnote

<sup>1</sup> The open architectural competition "Flottiljen—Future-Oriented Habitats for the Elderly" was organized by the municipality of Jaerfaella (in Swedish municipality of Järfälla kommun).

<sup>2</sup> The entrant "The Flowery Meadow" was conceived by the Danish architecture firm GPP Arkitekter A/S, Aarhus, Denmark.

<sup>3</sup> The documentation consisted of administrative documentation, comprehensive plans, detailed development plans, policy documents, programming documents, and other material related to the competition.

<sup>4</sup> The jury consisted of nine members: the ASWH, two chairs; the CPO, one chair and the MEO, one chair. Furthermore, two jury members were political representatives from the MA, representing the two largest political parties. Two jury members were assigned by the Swedish Association of Architects, (SAA), and one supplementary member was assigned by the (ASWH). The competition secretary was a representative of the SAA, who organized the jury sessions and was responsible for writing the jury report. Two working committees assisted the jury in assessing the entrants. One committee consisted of six members who represented three national organizations in defense of the elderly people's rights, and elected members of the Senior Citizens Council (SCC). All of these representatives were interviewed. Additionally, two politicians from the Committee for Social

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Welfare and Health participated, but they were not interviewed. The second committee consisted of five members, two of which were municipal experts on real estate and building management. These two were interviewed. The other three members represented nursing research, research in architecture (the author of this paper) and an eldercare entrepreneur. These members were not interviewed.

<sup>5</sup> The sections were: (1) introduction to the interview (anonymity and confidentiality); (2) background questions; (3) organizational facts; (4) key issues in the brief; (5) care and architecture for senior citizens; (6) a photograph compilation on homelike versus institution-like environments; (7) the competition brief itself; (8) the jury assessment; (9) the municipal preparation for the realization of the special housing in the winning entrant; (10) the programming document for the realization of the winning entrant; (11) the consultation process during the remodeling of the winning entrant; (12) concluding questions.

<sup>6</sup> Due to the author's earlier involvement in the competition process, informants identified as key informants, i.e. jury members and members of the two working committees, were interviewed by the author and associate professor Magnus Rönn, the School of Architecture, KTH, supervisor of the project.

<sup>7</sup> This refers to photographs E, N and O. The main conclusion from this study was that a photograph was not chosen based on its motif, but rather on the connotations that details within the motif generated.