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Attractiveness and Density

A study of the four-family house area Sjøveien

Doctoral thesis
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Contents

Contents.....	i
Summary	vii
1 Introduction.....	1
1.1 Acknowledgements	1
1.2 A sustainable housing sector	1
1.3 Aim of the study.....	4

PART 1: BACKGROUND AND RESEARCH QUESTIONS

2 The Norwegian housing sector at the end of the 20th century	9
2.1 The Norwegian housing situation in 1995.....	9
2.2 The growth of the average housing size	13
2.3 Different types of housing and average consumption of living floor space.....	15
2.4 How the detached dwelling leads to excess consumption of living floor space	17
2.5 The dwelling situation for families with children in 1995.....	21
3 The distribution of different types of housing in Norway	23
3.1 The composition of the housing stock in post-war Norway	23
3.2 The distribution of detached housing	25
3.2.1 The dream of the detached single-family house.	25
3.2.2 Is the detached dwelling a traditional Norwegian housing type?.....	26
3.2.3 The role of detached dwellings in the post-war period.	26
3.2.4 Detached dwelling areas at the end of the 20th century.....	27
3.3 The distribution of vertically, horizontally and cross divided small-scale housing	28
3.3.1 Low rise high density housing as the ideal housing for the working class	28
3.3.2 The role of concentrated small-scale housing in the post-war period.	29
3.3.3 The “dense and low” movement of the 1970s	29
3.3.4 Concentrated small-scale housing at the end of the 20 th century	30
3.4 The distribution of apartment buildings and blocks of flats.	31
3.4.1 Urban apartment housing before the Second World War	31
3.4.2 The role of apartment buildings and blocks of flats in the post-war period.	32
3.4.3 Apartment building projects at the end of the 20 th century	33
3.4.4 Conclusion.....	33
4 Norwegian housing research of relevance to the project	35
4.1 Research on dense vertically divided small-scale housing	35

4.2	The housing culture of the detached house areas from the 1980s	37
4.3	Research on inner-city developments	39
4.4	Implementing a policy to increase housing densities	41
4.5	Families with children living in blocks of flats or apartment buildings	44
4.6	High-density low-rise housing, a lifetime or a short-term dwelling solution?	45
4.7	Qualities in future concentrated small-scale housing.	46
4.8	Conclusion	49
5	The Sjøveien case study area	53
5.1	Preliminary inquiry	53
5.2	Demographic and physical density in the investigated areas	54
5.3	Percentage of children in the different areas	55
5.4	The Sjøveien area as a case for the main study	56
5.5	Background information about the Sjøveien area	58
5.6	Physical and demographic densities, buildings and building pattern	61
5.7	Sverre Pedersen, the area's architect?	64
5.8	The four-family house as a type of dwelling.....	66
6	Research questions and methods.....	69
6.1	Research questions.....	69
6.2	Case studies	69
6.3	Making generalizations based on case studies	70
6.4	How should Sjøveien as a case study be classified?	72
6.5	How can Sjøveien be classified?.....	73
6.6	A single case study	74
6.7	Combining different types of data.....	76
6.8	Collecting the data	77
6.9	Initial hypothesis, a necessary guide or an unfortunate preconception?.....	78
6.10	Choice of concepts and theoretical framework for the study	81
6.11	Conclusion	83

PART 2: ATTRACTIVENESS

7	Housing value, housing quality and lifestyle	87
7.1	Housing value	87
7.2	Housing quality	88
7.3	Eriksson's classification system of housing values	88
7.4	A classification system of housing values adapted for this study.....	92
7.5	Different categories of inhabitants	93
7.6	The concept of lifestyle.....	94
7.7	Dwelling attractiveness.	96
7.8	A quantitative investigation of housing qualities	98
7.9	A qualitative investigation of attractiveness.	102

8	Evaluation of housing qualities in five Norwegian suburban residential areas.	105
8.1	The Torvetua area.....	106
8.2	The Disengrenda area.....	107
8.3	The Reinen area.....	108
8.4	The Nobø area	109
8.5	Housing qualities in the five areas.....	110
8.6	The predominance of practical values	111
8.7	Aesthetic and symbolic values	112
8.8	Psychosocial values for different household categories	113
8.9	Conclusion.....	114
9	Evaluation of housing qualities in the Sjøveien area.....	117
9.1	Importance of dwelling qualities in Sjøveien compared to the total sample.	118
9.2	The attractiveness of Sjøveien compared to other areas in the sample	119
9.3	Qualities that are important in contributing to Sjøveien's attractiveness.....	120
9.4	Under-optimized qualities	121
9.5	Different household categories and their importance to residents	122
9.6	Different household categories and their evaluation of realization.....	124
9.7	Different household groups' evaluation of aesthetic and symbolic values ...	125
9.8	Different household groups' evaluation of psychosocial values.....	125
9.9	Different household groups' evaluation of under-optimized qualities.....	126
9.10	Conclusion.....	127
10	A descriptive presentation of qualitative data from Sjøveien.....	129
10.1	The interviewees' reasons for moving into a flat in the Sjøveien area.	131
10.2	Location, "A desire for green surroundings"	133
10.3	The outdoors; "A desire for openness"	137
10.3.1	Vegetation in the area	138
10.3.2	The children's use of the outdoor areas.	140
10.3.3	Dangers in the outdoor areas.	144
10.3.4	Outdoor meeting places	145
10.3.5	Privacy in the outdoor areas.....	148
10.4	The houses; "A desire for exterior preservation and interior alteration"	153
10.4.1	House features	153
10.4.2	The revitalization of the area.	155
10.4.3	Alterations to the buildings.....	157
10.5	The flats: "A desire for light and spaciousness"	161
10.5.1	An attractive location for the flat	161
10.5.2	The adults' use of the flat	162
10.5.3	The children's use of the flat.	163
10.5.4	The informants' evaluation of the original flats.....	165
10.5.5	Alterations to the flats.....	166
10.5.6	Enlargement of the flats.....	169
10.6	The social environment: "A desire for community"	173

10.6.1	A community of families with children.....	173
10.6.2	Conflicts between families and people without children.	175
10.6.3	Cooperation on maintenance	177
10.6.4	Conflicts and dispute resolution.	179
10.6.5	Is the “Sjøveien culture” only suitable for families with small children?	183
10.6.6	The desire for a community center.	183
10.6.7	Internal subcultures	185
10.6.8	The emigrants.	186
10.6.9	Sjøveien’s atmosphere.....	188
10.7	The housing career: “A desire to be able to adapt to new life situations?” ...	190
10.7.1	Housing background.	190
10.7.2	The informants’ attitudes towards the detached dwelling alternative. .	191
10.7.3	Future housing.....	192
10.7.4	Where would you not like to live?	193
11	Interplay between suburban values and design.	195
11.1	The values of suburbia.	196
11.2	The original design of Sjøveien as an expression of suburban values.....	200
11.3	“A dwelling in green surroundings”; The label of Suburbia?	200
11.4	Suburban identity; The perfect mix of countryside and town	202
11.5	The Sjøveien enclave; A source of security, identity and community.	205
11.6	The attractiveness of the neoclassical architectural design	206
11.7	Revitalization as an important identity making process.	208
11.8	The four-family house; A supporter of a community-oriented suburban lifestyle?.....	209
11.9	The esthetics of Sjøveien; An example of an esthetics of segregation?	210
11.10	Conclusion	214
12	Sjøveien’s architecture; A design for community?	217
12.1	Jan Gehl; Designing social space	218
12.2	Meek housing cooperation; An interpretation of Gehl’s ideas	220
12.3	The design of Sjøveien compared to the design ideas of Jan Gehl.....	223
12.4	The social effects of spatial hierarchies and architectural sub division.....	224
12.5	The absence of private outdoor places	226
12.6	Socially demanding architectural design.....	227
12.7	The social influence of the organizational level.....	228
12.8	Preferred character of neighborhood networks in different stages of life.....	229
12.9	Planning for a diversified neighborhood network	231
12.10	Conclusion	235

PART 3: DENSITY AND ATTRACTIVENESS

13	Experience of physical density among residents in Sjøveien	239
13.1	Physical versus demographic density	239
13.2	Theories about density.....	240
13.3	Yi-Fi Tuan;” Place, space and spaciousness”.....	241
13.4	The architectural concept: “Open space”	243
13.5	The relation between the concepts of open space and spaciousness.....	245
13.6	A longing for spaciousness or a wish for protecting screening?.....	246
13.7	Planning of future residential areas with a higher physical density	249
13.8	Actual physical density in the Sjøveien area	250
13.9	Spaciousness in the outdoor areas	251
13.10	Multi-functional space.....	253
13.11	The quality of place in the outdoors in Sjøveien	255
13.12	A visual continuum with culturally defined territorial borders.....	256
13.13	Experience of spaciousness related to type of housing and building pattern	257
13.14	Spaciousness inside the flat	258
13.15	Does preference for spaciousness lead to high consumption of space?	260
13.16	Conclusion.....	260
14	Experience of demographic density among residents in Sjøveien.....	263
14.1	Early theories about density and crowding.....	263
14.2	Theories developed after the Second World War	264
14.3	Density inside the flat versus neighborhood density	265
14.4	Jane Jacobs, the advocate of urban living.....	266
14.5	Ethological determinism.....	267
14.6	Cultural determinism.....	268
14.7	Design determinism.....	269
14.8	High demographic density; benefit or an evil?	270
14.9	The relevance of the concept of “crowding” in a Norwegian context	271
14.10	Actual demographic density in the Sjøveien area.....	272
14.11	Crowding and neighborhood interaction	274
14.12	Neighborhood conflicts and experience of demographic density	277
14.13	Previous dwelling and experience of demographic density	279
14.14	Size of flats and feeling of crowding.....	281
14.15	Enlargement of the flats	284
14.16	Conclusion.....	286

PART 4: A FUTURE RESIDENTIAL ALTERNATIVE

15	Sjøveien as an alternative to the detached residence areas	291
15.1	Turnover among residents.....	291
15.2	Do the residents dream of a detached property?	292
15.3	Sjøveien compared to the detached residence areas investigated by Støa.....	294
15.4	Vertically divided versus cross divided small-scale housing	297
15.5	A community oriented residence culture with little tolerance to differences?	299
15.6	“Move in time” or “Grow old in Sjøveien”?.....	301
15.7	Conclusion	303
16	Conclusions and implications	305
16.1	Research question 1; Major findings.....	305
16.2	Research question 2; Major findings.....	307
16.3	Research question 3; Major findings.....	309
16.4	Implications for architectural design.....	311
16.5	The importance of meeting the suburban values	312
16.6	Physical density and building pattern.....	312
16.7	Planning of the outdoor areas.....	313
16.8	The potential of the four-family block regarding psychosocial integration..	314
16.9	The potential of building flexibility	316
16.10	Questions for further research.....	317
	Literature.....	321

Summary

The popularity and expansion in the number of detached dwellings in Norway is one of the most important reasons for the Norwegian housing sector's high consumption of energy and other resources. Despite a general societal trend towards embracing urban values, the detached single-family house remains the most popular housing alternative in Norway.

Families with children are particularly responsible for the high demand for detached dwellings. Despite an attempt to make the detached housing areas more compact by exploiting the plot as much as possible, detached housing still cannot compete with more concentrated building structures when it comes to demographic density and efficiency of resource use. With this as a background, the goal of this research project was to develop knowledge about dwelling types that are more concentrated than the traditional detached dwellings, but that are attractive to families with children.

A desire on the part of authorities to promote concentrated housing has been an important topic for Norwegian housing researchers in recent years. Both suburban and urban residential areas have been investigated with the aim of determining how to protect critical housing qualities even when plot development increases. Central research issues have been the relationship between measured density and experienced density, the regulation of neighbor contact and privacy in dense situations, the experience of spatial density versus spaciousness and how the residents' background and life situation influence their experience of density. Dwelling qualities that may enhance the attractiveness of concentrated housing have also been sought, as well as the reasons for why the majority of dwellers, despite all governmental efforts, still seem to prefer detached dwellings.

Nevertheless, the trend among dwellers is not entirely negative. For example, urban apartment buildings have grown in popularity during the 1990s. But the inhabitants of these new urban flats are mainly childless. Qualitative investigations put faces on the statistics that show that families with children prefer suburban residential areas built with different types of small-scale housing. Housing qualities that appear to be important to families seem to be safe surroundings for their children, a green environment suited to children's activities, and plenty of space both indoors and outdoors.

As long as suburban homes are available and parents don't see any great advantage to living in concentrated, urban flats with a central localization, their predilection for suburban homes will continue. Thus the biggest potential for decreasing the housing consumption of families with children may be by further developing suburban types of concentrated small-scale housing as alternatives to detached dwellings. On the basis of this, an example of concentrated small-scale housing in suburbia was chosen as the case study for this thesis.

In Norway, a great deal of research has been conducted concerning areas with row houses and linked houses on small plots that follow a linear building pattern with high densities. The emphasis has been on developing areas with housing qualities that are more traditionally found in detached dwellings, where privacy is a main concern.

New information regarding what is considered ideal housing, however, suggests that the time may be ripe for residential areas based on a higher degree of common use of space, thus challenging the traditional view that "everyone" wants a private screened garden and entrance in order to protect privacy.

The choice of the case area for further study was based on a desire to develop more knowledge about this phenomenon. Finding a case that could successfully represent areas that are built with a higher percentage of collective space became desirable after a survey of previous research in the field. Additionally, the area had to be popular for families with children and had to have a potential for demographic density that was higher than in a detached dwelling area.

The four-family house area Sjøveien has a high percentage of families with children among its inhabitants. None of the flats have private gardens, and the buildings have only one entrance and a central staircase, which gives access to all the flats. There are no balconies. The four-family house requires a great deal of cooperation among the dwellers. Maintenance of the house and garden is a common responsibility for the families living in each house.

By conducting a case study in the Sjøveien area, this project has tried to illuminate the following topics:

1. What factors make the Sjøveien area attractive to the families with children?
2. How do the factors that contribute to attractiveness and factors connected with physical and demographic density interact in Sjøveien?
3. To what degree is the Sjøveien area able to compete with detached dwelling areas as a permanent dwelling alternative for families with children?

A case study strategy was particularly well-suited to this study because it offers an opportunity to study phenomena in context, where it is possible to observe the interplay between the different variables in a complex socio-material system that constitutes a residential area. This investigation is based on a single case design. The reason for this is a desire to thoroughly explore a wide range of variables. Different types of data have been integrated into the investigation. Qualitative interviews, observations, questionnaire, pictures, drawings and informal talks have all been used as data.

With respect to the theoretical framework, there has been a conscious choice to employ concepts as much as possible that are already in common use in the field of architectural research. This choice has been made because the use of identical concepts among researchers will make it easier to relate studies to other work, thereby allowing the research to build on related projects. The research also draws on commonly used concepts in the social sciences.

Major findings:

The four-family house area Sjøveien appears to be a residential area that is very attractive to households with children. The area is highly rated with regard to housing qualities that more typically form the foundation for a suburban residential area. The lifestyles of the parents are based on family values with a focus on the needs of their children. The Sjøveien area is regarded as a nice place to live with children.

- Spacious and open outdoor areas with green grass and trees are considered well suited for children's play.
- The suburban locale in green surroundings is an optimal example of the suburban dream; "The perfect mix of town and countryside."

- The area's enclave quality adds to increased security and better social control. In addition the distinctive and aesthetic character of the area helps residents identify with the area, a process that also is supported by good opportunities for participation.
- The four-family house as a type contributes to the attractiveness of Sjøveien because of its flexibility in offering good opportunities for altering the layout and size of flats. The building type and its open building pattern offer excellent conditions for daylight and view are also important in this regard.
- The style of the four-family house invites the common use of areas both indoors and outdoors and makes the area especially attractive to parents interested in developing a close neighborhood network.
- The open layout of the outdoors also contributes to building a social network between parents in the area. The absence of visual hindrances allows people and activities to mix, thereby creating opportunities for contact between neighbors. Thus the open layout supports the social choices of community-oriented parents, while other residents who want more privacy feel uncomfortable

Sjøveien also illustrates several interesting phenomena with respect to the connection between attractiveness and density.

- An open building pattern and a low BYA (percentage of plot covered with buildings) contributes to a more spacious feeling than most medium dense small housing areas with a similar percentage of land use. This spaciousness is regarded as one of the main attractions of the residential area.
- The open, multifunctional character of the outdoors offers good opportunities for use. The resulting freedom of movement contributes to the feeling of spaciousness.
- Up to a limit, demographic density may be advantageous in developing neighborhood networks. This limit is determined by both cultural and structural factors, and if density exceeds this limit, the area may feel crowded. In Sjøveien, these limits seem to have been reached.
- The spaciousness of the design results in outdoor areas where residents are exposed to each other and thereby make contact. At the same time this situation limits the ability define quiet places suitable for private space. The limited opportunities for outdoor privacy seems to be an important reason behind the feeling of crowding.
- Many community-oriented parents are also not supportive of balcony construction. Respondents gave aesthetic reasons for their lack of support, but clearly a number of them are afraid of losing the

neighborhood's strong social network if the opportunities for private space are improved.

- Conflicting activities in the open outdoor areas give dwellers a feeling of crowding. This may be a reason for allowing homogeneity among homeowners to increase.
- A predominance of multifunctional areas open to the users' interpretation seems to have resulted in a situation where one group of residents have dominated in defining outdoor use, which results in crowding out other residents.
- Experience of high demographic density seems to be linked to the level of neighbor conflicts, according to respondents from families with children.
- The same factors seem to also result in indoor crowding. Residents try to avoid conflicts, and it is important that each individual has the ability to find a private space. The number of rooms has to be sufficient to cover the need for personal space, but beyond this the spaciousness of the flat resulting from open layouts should be given a high priority.
- Findings in Sjøveien support theories stating that apartment buildings and blocks of flats are less likely to give rise to crowding than concentrated small-scale housing. An important reason for this is that apartment buildings and blocks allow residents to remain anonymous.
- The advantage of living in a residential area with a tight social network appears to compensate for the disadvantages from crowding, at least during the period when a family has infants, according to Sjøveien respondents with children.

Are areas like Sjøveien able to compete with a typical detached dwelling area as housing alternatives of the future for families with children?

- The dream of living in a detached dwelling is presumably to a great degree based on a desire to realize the traditional suburban values. In order to compete, other housing structures have to supply a compelling alternative to the quest for the suburban dream. Sjøveien appears to be an interesting alternative because the area realizes several suburban core values, such as an optimal suburban localization, security, predictability, and opportunities for participation in neighborhood activities and networks.
- The spatial organization of Sjøveien gives the area a more spacious feeling than most other areas with densely built, single story housing and similar plot development. The spaciousness of Sjøveien equals the spaciousness of a traditional detached dwelling area and is an

important characteristic in evaluating the ability of the area to compete with other dwelling alternatives.

- The data from Sjøveien indicates that during the years when a family is raising infants, a considerable number of parents might prefer the dwelling alternative offered by Sjøveien rather than a traditional detached home. The area is well adapted to the needs of children and the tight social network of parents makes a positive contribution in parents' quality of life.
- With regard to families with older children, the picture is more complex, because older children are more independent. At the same time, parents who enjoyed the tight social network of parents when their children were infants may begin to feel a need for more privacy.
- The ability to add on to the dwelling is an important feature that prevents families with teenagers from moving to single family homes. A layout on two floors gives the family the ability to maintain a certain physical distance between family members.
- The parents seem to welcome a certain distance from their teenagers but at the same time they are afraid of losing control. Keeping them in suburbia is important to them. A community house that could offer leisure activities and a place for youths to gather is one possibility that has been mentioned as a way to achieve this.
- Middle-aged and older households that move from the Sjøveien area typically move into flats and row houses with similar or reduced resource demands. In order to prevent an increase in housing consumption it will be more important that the area cover the housing needs of families with older children, as this is a category that will be more inclined to choose a detached dwelling if moving.
- The conditions for privacy are generally better in vertically divided housing. But Sjøveien residents who participated in this study did not prioritize this quality. The Sjøveien area has an open character both with regard to visual and social aspects. Common outdoor areas and a high degree of collaboration influence a micro-society that is distinguished by a community orientation.
- There is a telling, contact-making effect from the way residents are grouped that results from living in the same house, and sharing a common garden, entrance and staircase. The potential for psychosocial integration that the four-family house offers distinguishes this type from vertically divided small-scale housing, detached dwellings and blocks of flats. The grouping of residents in small units offers a good foundation for social networks, participation, identification and belonging.
- As housing alternatives, both cross-divided and vertically divided types are valuable. They represent different qualities, attract different

residents and influence the development of different residential cultures. A varied offering of concentrated, high quality housing alternatives may increase the attractiveness of more concentrated housing in general as compared to detached dwellings.

The study also underscored important implications for the future design of suburban areas that are constructed from four-family houses or small apartment buildings and that are intended to be a permanent housing alternative for families:

- It is important that residential areas meet suburban values.
- Clear demarcations and distinct aesthetic characters with room for variation may help in the residents' identification process.
- An open building pattern and a low % BYA (percentage of plot covered with buildings) contributes to a more spacious feeling within the limits of a specific % TU (percentage plot development) If a building has more than two floors, the flats on the lower floors should be adapted to families with children, while the flats on the upper floors might be adapted to the needs of singles and couples.
- Community is important for parents with small children, while parents with older children are more interested in privacy. In order to design an area that could serve as a permanent housing alternative for families, the need for privacy has to be more seriously addressed than it is in Sjøveien today.
- Dwelling elasticity that makes it possible to regulate the flat size according to needs for space may be a helpful means in order to retain families with teenagers.
- A community house could make areas with concentrated housing more able to compete with detached dwelling areas with regard to the needs of families with teenagers. Common areas would offer a meeting place for teens and would compensate for the limited floor space per resident in the flats.
- In order to avoid segregation, the outdoors should be adapted to the needs of various groups of dwellers. At the same time, the design of the outdoor area should allow for opportunities for user participation and identification, qualities that are important with regard to the areas' ability to compete with detached dwelling areas.

Implications for further research:

The investigation in Sjøveien is a single case study of a specific dwelling culture. It would therefore be interesting to see if the findings in Sjøveien have validity in a broader context. A quantitative investigation with a more

extensive sample of respondents could, for example, establish how frequently the phenomena found in Sjøveien occur in other Norwegian suburban residential areas.

- The predilection for spaciousness both outdoors and indoors at the expense of protective screening is a typical visual ideal in Sjøveien. It would be interesting to see whether this ideal is widespread among Norwegian suburban dwellers.
- Among respondents in Sjøveien, a community house is seen as a way to make the area more attractive to families with teenagers. In order to test this assumption, residential areas with existing community houses should be investigated.
- The connection between common, open, multifunctional outdoor areas and the tendency towards increased homogeneity among dwellers would be interesting to examine in a larger context. Is the tendency for segregation found equally in any residential area or do the structural conditions in Sjøveien make the area especially susceptible to segregation?

1 Introduction

1.1 Acknowledgements

This thesis “ Attractiveness and density – A study of the four- family house area Sjøveien” is the result of a PhD study financed by The Research Council of Norway as a part of the research program “Dwelling and living conditions” (1998 - 2002). The original project description was developed in 1998 and was titled: “Environmentally friendly residential areas – Qualities and possibilities for development” and was formulated by researchers Eli Støa and Karin Høyland at the SINTEF Department of Architecture and Building Technique, which is a research institute in Trondheim. The study has been conducted in close collaboration with SINTEF; in this context, Eli Støa deserves credit for her incisive comments, practical advice and support during the process.

Work on this thesis was conducted from March 1999 to April 2006 at the Department of Architectural Design, History and Technology, in the Faculty of Architecture and Fine Art at NTNU. Professor Harald Høyem has been my main supervisor, and I am very grateful for his inspiring suggestions, continuous backing and patience. Professor Sven Erik Svendsen has been the second supervisor and has also given valuable advice and support.

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1.2 A sustainable housing sector

The goal of sustainable development requires limits on the ever-increasing consumption in developed countries. Total consumption in these countries, including Norway, is due to activities in many different sectors, so that the level of consumption in private sector should not be underestimated. Research shows that a great percentage of private consumption is linked to housing (Holden, 2001).

Planning and structuring of our built environment influence the degree of consumption connected with housing, such as daily transport, energy used for heating and amount of furniture and goods. Norwegian consumption of these goods and resources is very high even in an OECD context. One important reason for this is the Norwegian view of what constitutes ideal housing. The detached house is still the dominant ideal and is looked upon as the ultimate type of housing, especially for families with children. This type of dwelling is, however, the most demanding when it comes to consumption of energy and resources. It requires large plots of land and results in construction of suburbs that sprawl into the landscape. Transport by private car is dominant and important green areas are built upon. The houses tend to be large and because all the facades are in direct contact with the open air, each square meter of this type of housing requires a large amount of energy for heating.

The definition of sustainable housing used in this study is based on White paper No. 28 (1997-98) to the Norwegian Parliament. This report points out that it is necessary to develop built up areas in a way that protects green areas, biodiversity and ground water resources, while at the same time reduces transportation needs and energy consumption. The report was based on the results of the HABITAT II conference held in Istanbul in 1996, and had as its goal to determine the kinds of efforts that should be made in the Norwegian building sector in order to meet the obligations that Norway had committed to during the conference.

The housing standard in Norway is fairly high in relation to the housing standard in countries in a comparable position. The average living floor space per person was 49 m² in Norway in 1995 (Report no. 28 from the Norwegian Parliament, 1997-98, p 51). The average dwelling had an area of 112 m². In countries like France, Austria and Great Britain the average dwelling has an area of about 80-85 m². Norway's eastern neighbor, Sweden, has dwellings that average 92 m², making them considerably smaller than in Norway.

The high per-person living area contributes to a level of energy consumption in the housing sector that is among the highest in the world. One reason for this is that 59 % of the stationary energy consumption in Norway's housing stock is used for heating, and the amount of energy used for heating is closely connected with the living area. The relationship of the dwelling to other housing stock is also important in shaping energy consumption.

In the guide: “*Housing, energy and heating*” Høyem and Hestnes calculated that a detached one-family house, a center section row house unit and a center section apartment flat required significantly different amounts of energy for heating. All the dwellings were same size, 118 m², and were built in Hamar in eastern Norway in accordance with the 1995 Norwegian building regulations. While the detached dwelling demanded 14 780 kWh per year for heating, the row house demanded just 11 100 kWh and the apartment flat even less; just 6 540 kWh (Hestnes & Høyem, 1995). Detached single-family houses and farmhouses constitute 59 % of the Norwegian housing stock. Along with the large per-person living area, the preponderance of single-family homes is an important reason for Norway’s high stationary energy consumption levels.

Sustainable development in the housing sector in a Norwegian context will require a reduction in the average dwelling size. At the same time, Norway has to be more conscious concerning the use of land for housing. Agricultural land is a scarce resource in Norway that today’s inhabitants should avoid developing for housing, to guarantee that there is land for future generations. The country has made considerable investments in infrastructure, particularly after World War II. New building projects should be erected inside existing built-up areas to ensure the best use of this infrastructure. Increased housing density in existing developed areas should be preferred to continuing sprawl. Norway is a sparsely populated country; a detached house surrounded by green with plenty of indoor and outdoor space has long been regarded as a benefit most people would like to be able to enjoy. Changing this attitude may be a difficult task. The great challenge in the future will be to develop high-density residential areas that are attractive to potential residents.

Increasing the density of existing areas is also important with regard to the consumption of energy for transportation. Transport was particularly important in Norway during the 1990s when sustainable development of cities was a hot topic. One reason for this was the influence of the NAMIT project (Næss & et al., 1992). NAMIT can be translated as “Nature and environmentally friendly settlement development.” The background for the project was the work of the Brundtland Commission, which recommended that economic, social and ecological considerations be integrated to achieve sustainable development. In order to be prepared for the expansion of industry in Third World countries, industrialized countries have to reduce their energy consumption by 45%. According to NAMIT, consumption of fossil fuels such as petrol, gas and oil needs to be decreased. The combustion of fossil fuel produces large amounts of

CO₂, a greenhouse gas that is contributing to changing the climate of the entire planet.

In Norway, private cars are one important source of CO₂ emissions. The car fleet is growing rapidly, and in 1992 when the NAMIT report was written, 80% of all transportation in Norway was by private car. Because of the segregation of different activities, the distances between dwellings, workplace and sites for recreation can be considerable. In addition, sparsely populated residential areas are very often composed of single-family detached housing, which has resulted in a scattered population that makes it difficult to offer effective public transportation. The ability to offer other neighborhood services, such as post offices, banks and shops also requires certain population densities. Thus, inhabitants in dispersed areas have become highly dependent on private vehicles for transportation.

In order to prevent continued development in an unsustainable direction, the NAMIT project recommended an action program that suggested increasing densities in existing built up areas, concentrating building structures and improving the public transport system.

1.3 Aim of the study

As already described, Norway's high percentage of detached dwellings is one of the most important reasons for the high consumption of energy and other resources that results from the Norwegian housing sector. Despite a general societal trend towards embracing urban values, the detached single-family home remains the most popular housing alternative in Norway.

Families with children are particularly responsible for the high demand for detached housing. Despite an attempt to make detached housing areas more compact by exploiting the plot as much as possible, detached housing still cannot compete with more concentrated building structures when it comes to demographic density and efficiency of resource use. With this as a background, the goal of this research project was to develop knowledge about dwelling types that are more concentrated than traditional detached dwellings, but that are attractive to families with children.

In short this means that the use of land must to be more efficient, and that the size of each flat should be reasonable. The per-person living area will

have to be limited, and concentrated housing where dwelling units are assembled should be preferred.

PART 1:

BACKGROUND AND RESEARCH QUESTIONS

The purpose of this section of the thesis is to provide background information for the research problem and to give a brief review of the historic development and present situation in the Norwegian housing sector. The section concludes with an accounting of the choice of the case study area, along with a list of research questions and a description of the research method.

2 The Norwegian housing sector at the end of the 20th century

2.1 The Norwegian housing situation in 1995

In 1995, Norway Statistics conducted a survey of the country's housing conditions. The purpose was to present an overview of the most important aspects of and changes in housing conditions. Housing surveys similar to the 1995 survey were conducted in 1967, 1973, 1981 and 1988. The old surveys offer a valuable opportunity for making comparative studies tracing the development of the Norwegian housing sector.

The size of the average Norwegian dwelling increased by 27% from 1973 to 1995. In 1973 the average dwelling for all households was 88 m². By 1995, however, the average dwelling area was 112 m². The development showed clear differences with regard to type of household. Couples with children, for instance, led this development with an increase in living area by 39% on average during the period, and by 1995 used 142 m² of living space. Single people and couples without children were close behind with respectively a 38 and 33% increase. Single-parent households on the other hand saw more modest development. In 1995, the average single-parent household used 102 m² of living space, which in fact was the same as in 1988, and 7 m² less than in 1981. The total growth for this group was 13% for the whole period.

Other factors that influenced the size of dwelling area were location of residence, household income and educational level. Living in sparsely populated areas made spacious housing more attainable. High education and high income also allowed for a larger dwelling.

The spaciousness of the dwellings in the survey was measured by the relationship between the number of rooms in the dwelling and the number of persons in the household. If the dwelling had at least as many rooms as the number of persons in the household, the spaciousness was called "normal." If there were more individuals than rooms, the dwelling was considered crowded, and if the number of persons exceeded the number of rooms by at least two it was labeled "very crowded." One-person households were considered to be crowded if the dwelling had only one room. The dwelling

was considered “spacious” if the number of rooms exceeded the number of persons by at least two, and very spacious when there were at least three rooms in excess.

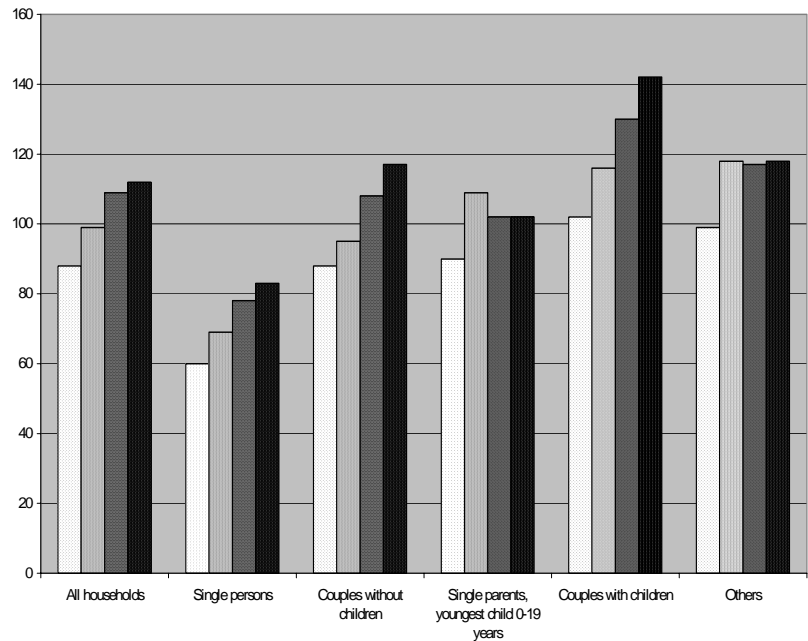


Fig 2.1. Average size of dwelling, by type of household, in square meters. The first column shows areas in 1973, the second column shows areas in 1981, the third column shows areas in 1988 and the fourth column shows areas in 1995.

The results from the survey showed that just 1% of all households lived in very crowded housing in 1995. Five percent lived in a crowded dwelling, while 28% lived in a normal dwelling. Nineteen percent lived in a spacious dwelling and as many as 48% lived in a very spacious dwelling. Living in a crowded or very crowded dwelling was most common among single persons younger than 45 years old. Nineteen % of all households in this group did not have sufficient space. Another group living in less spacious housing than the average were couples with children aged 0 to 6 years. Eleven % of those families lived in crowded or very crowded housing. For all other groups of households, the percentage that lived in crowded housing was below or about average.

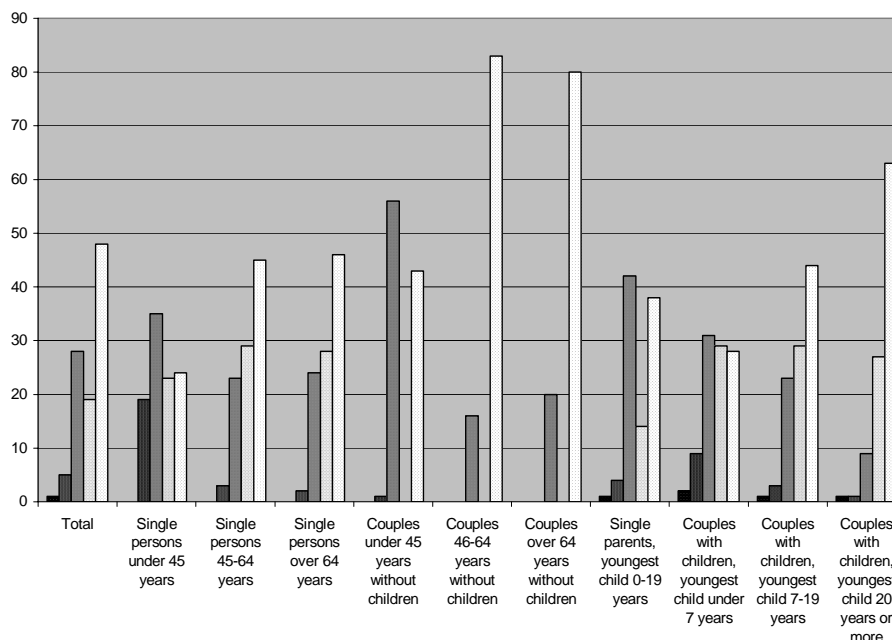


Fig. 2.2 Housing spaciousness, by type of household. The first column shows the percent of households living in very crowded housing, with the second column showing crowded housing, the third column normal housing, the fourth column spacious housing and the fifth column very spacious housing.

Living spacious or very spacious housing was quite common. Middle-aged and older couples commonly lived in spacious or very spacious housing. Eighty-three percent of all couples without children and aged from 46 to 64 years lived in very spacious housing, while for elderly couples that number was 80%.

In 1995, 60% of the total Norwegian population lived in a detached one-family house or in a house on a farm. Twenty percent lived in other types of small-scale housing like attached houses, row houses or four-family houses. Twenty percent lived in blocks of flats or other types of buildings, a category that includes connected large dwellings, combined houses and temporary dwellings. In a comparison of the percentages of different types of households, among couples with children aged 0 to 19 years, 71% lived in a detached dwelling or in a house on a farm. Among couples without children, the percentage in these categories was 64 %, which is also above average for the population as a whole. Single households and single parents were not so

well represented in those who owned detached homes, with respectively 45 and 43% living in a detached house or a house on a farm.

The popularity of other types of small-scale housing was highest among the single parents. 31% of all households in this group lived in different types of small-scale housing, either vertically or horizontally (including cross) divided. In the other household groups, the percentage varied from 18 to 22 %.

Blocks of flats, connected large dwelling houses, combined houses and temporary dwellings were mostly inhabited by single people. As many as 33% of all households in this group lived in a flat. Single-parent households were also well represented, with 26% living in this type of housing. The percentage for couples without children were slightly lower than the average, at 17%. Couples with children on the other hand were almost absent from this type of housing. Only 8% of all households in this group were living in a flat.

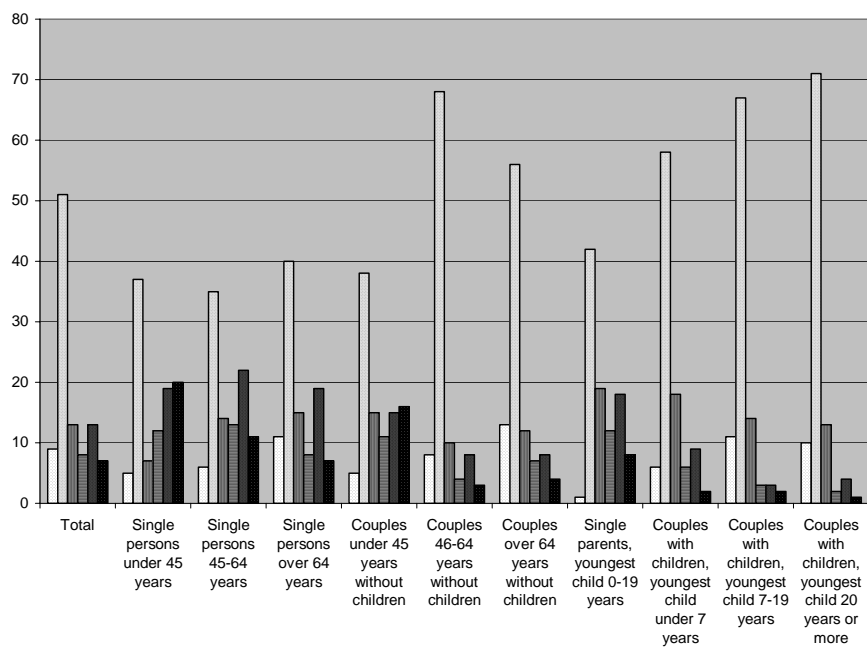


Fig. 2.3 Type of household and type of house, in percent. The first column shows houses on farms, the second detached one-family houses, the third vertically divided small housing, the fourth horizontally divided small housing, the fifth detached block of flats and the sixth connected large dwelling houses.

2.2 The growth of the average housing size

The statistics show that the average housing size has increased by 27% from 1973 to 1995. However, the tendency to increase per person housing area started as early as immediately after World War II. The main reason for the growth was the strong increase in general prosperity in post-war Norway, but there are other reasons behind the growth as well. Studies of the housing situation for Norwegian families in the years before 1945 had underscored the importance of spaciousness in housing. When reconstruction of dwellings became an issue after the end of the war, professionals from different disciplines advocated that the new family flats should have three rooms, and a kitchen and bathroom as a minimum standard (Brantenberg, 1996). As a result of this recommendation, Norway took the lead in Scandinavia in terms of the development of a housing standard. Three and four rooms soon became the standard instead of one and two rooms, which previously had been the customary number of rooms in flats built before the war. This improvement was a result of conscious priority-setting by the authorities, because the period immediately after the war was marked by a lack of materials and economic resources.

With this as a start, the number of rooms and the average housing size continued to increase during subsequent decades. In the 1950s, most family flats had four rooms. The rapid growth in prosperity in the 1960s and 1970s brought even stronger expectations in the population with regard to standards and sizes of flats and houses. Until this point, the purpose behind the construction of new housing projects had mainly been to address the deficiency of housing that had occurred during the war. Now the time had come to indulge in the fruits of a successful national economy. For the first time in history, the average Norwegian could enjoy a spacious and well-equipped dwelling.

But as can be seen in the statistics, the increase in dwelling size and number of rooms did not stop. In 1973 the average dwelling area in Norway was 88 m². This area is greater than the size of the average dwelling in 1995 in countries like France, Austria and Great Britain, and close behind the average size of a Swedish dwelling in 1995, which was 92 m². In 1995, however, the average size of a Norwegian dwelling had increased to 112 m². It seems relevant to ask how this great difference between Norway and the other countries could occur.

Norway after World War II was not a rich country in a European context. During the post-war period, the country benefited from the general growth in

prosperity that took place in all parts of the western world. However, Norway lagged behind Sweden and Denmark with regard to wealth, at least until the middle of the 1970s. The discovery of oil and gas in the North Sea altered this picture. The rise of the oil industry kept Norway from being afflicted by the economic stagnation that struck several Western European countries from the 1970s and until the end of the century. Instead, Norwegian prosperity continued to increase, with a concomitant increase in consumption in the housing sector as well.

In Norway, authorities had as a goal a high percentage of homeownership in the population. The number of homeowners has traditionally been high and has proved to be rather stable. Sixty-two percent of all households were homeowners in 1995, a number that is slightly above the 58% of homeowners in 1973. The number of tenants on the other hand decreased from 31% to 24% for all households during the same period.

Homeownership tends to promote housing as an investment. In Norway, private fortunes have primarily increased as a result of increased housing values. One of the positive aspects of homeownership is thus that it creates opportunities for bettering one's economic situation that is partly independent from employment income. Homeownership also encourages careful maintenance of houses and flats. There are nevertheless also negative aspects of homeownership. One of them is the tendency to increase living floor space, a tendency that is not driven by a specific need for more space, but more by a desire to increase the value of the house. In this way homeownership may be a cause of the exaggerated growth in living areas.

As is shown in the Norwegian housing statistics from 1995, living in a sparsely populated area makes a spacious detached housing more attainable. In Norway, regional policy has encouraged settlements in the districts in order to avoid further depopulation of sparsely populated areas and small settlements. Because of the plentiful supply of low-priced land, building a new, detached dwelling in sparsely populated areas is a possibility even for young families. Authorities have not questioned this trend, as it is seen as a means to maintain population numbers outside of urban areas. The politics of densification seem to be regarded mainly as an urban and suburban concern.

2.3 Different types of housing and average consumption of living floor space

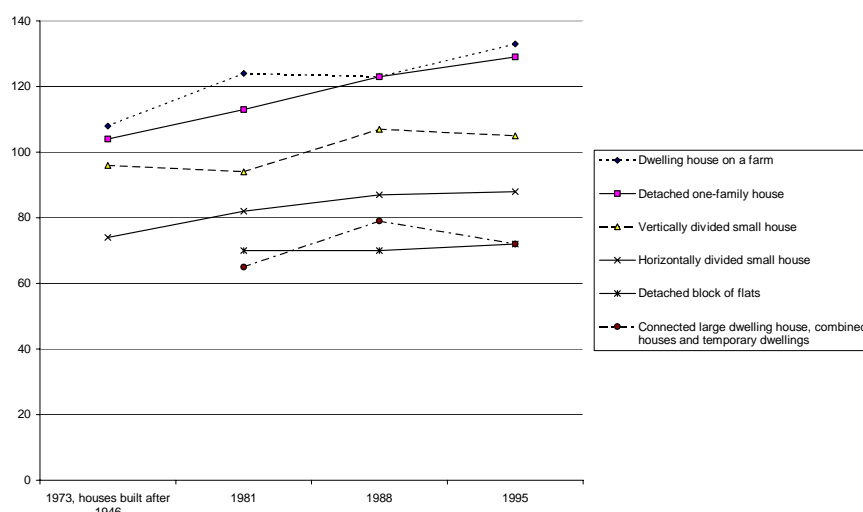


Fig 2.4. The growth in average dwelling area for different types of housing. (m^2)

As is shown in Fig. 1.4, different types of housing differ with regard to size of the average dwellings in the category. As can be expected, the size of the average detached dwelling is bigger than the size of other types of small-scale housing and flats. Detached dwellings built after World War II and measured in 1973 were 8% larger than flats in vertically divided small-scale housing. In 1995, however the gap between the size of the detached dwellings and the vertically divided small-scale housing had grown to 23%. The fact that the average detached dwelling is bigger than other types of housing and has increased its size more than other dwellings does not necessarily imply that the consumption of dwelling area per person is higher in this type of housing, however. To substantiate such a statement, statistics that show the average living area per person in different types of dwelling is necessary.

In the Survey of Housing Conditions from 1973, a statistic is presented that shows the average dwelling area per person in different types of housing. From this we can see that farmhouses and detached dwellings had the highest average living area per person. More recent statistics documenting this trend have unfortunately not been found. However, it should be possible to calculate trends. Detached dwelling sizes have grown more than the size of other types of housing in the last few decades. At the same time, family structures have changed. The average household consists of fewer people, and families with

more than four members have become less common. There are, in fact, very few large families to fill all the big detached dwellings. It seems reasonable to assume that the detached dwelling stock nowadays has fewer inhabitants than it did in 1973.

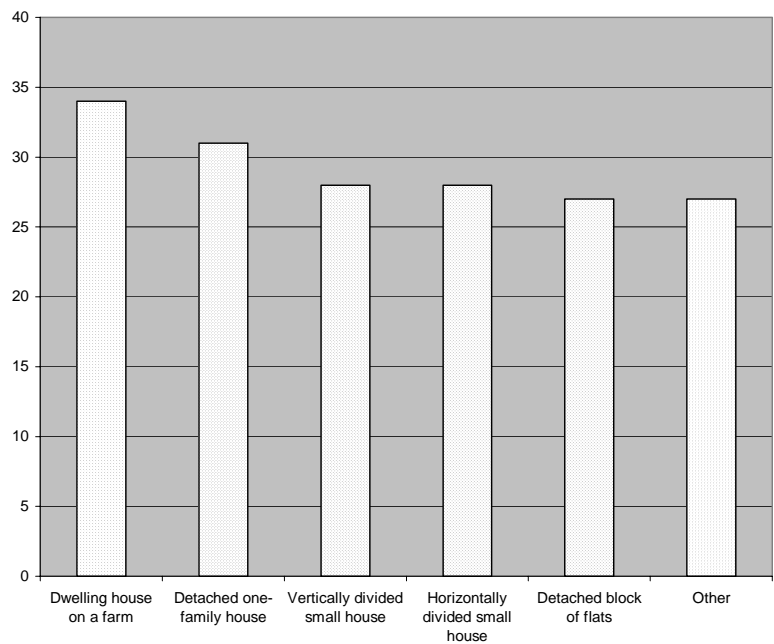


Fig. 2.5 Average dwelling area per person in different types of housing in 1973 (m²)

But what if the problems caused by the increased growth in the size of detached dwellings was solved, and the area per person was more suited to the size of today's households? This dwelling type would thus be more sustainable, but problems would remain. Among the most important is the amount of land that detached dwellings demand. When trying to increase the degree of development in detached housing areas, as was attempted in the 1980s and 1990s, the result was most often less satisfying residential areas. To be successful, detached housing requires more space than other dwelling types. To create a base for efficient infrastructure use, and to reduce the need for transportation, housing needs to be more concentrated.

The average area of a plot of a Norwegian detached dwelling was 1400 m² in 1988. In comparison, the average plot required by a row house was just 500 m², which in fact was also the number of square meters occupied by an average flat in a detached block (Statistics Norway, 1988). In any event, since

the 1980s both new detached dwellings and small-scale housing have been built on smaller plots. Detached dwellings have in many cases been built on sites with a plot about 500 m² in size.

However, this change has made it difficult to maintain the resulting quality of the residential areas. When four free facades are required, and building regulations require 8 meters between neighboring houses, the only possible location for houses on small sites will be in the center of the plot. The resulting garden areas become SLOAPs, or “Space left over after planning.” It is difficult to make narrow pieces of land workable for gardening, sunbathing or play. Residential areas that are densely built up with detached dwellings also have problems with regard to protecting the dwellers’ privacy. When all facades are surrounded by a garden area, and the distance to the neighbors in all directions is at least 8 meters, there is little opportunity to increase the distance in front of the living room windows when the plot is limited to about 500m². All spaces between dwellings must be about the same size, with no really narrow ones, but no really roomy ones either.

2.4 How the detached dwelling leads to excess consumption of living floor space

The statistics show that living in a very spacious dwelling is most common among middle-aged and elderly couples whose children having left home or are about to do so. It seems relevant to question why this study should be concerned about the dwelling preferences and needs of families with children in order to rein in excess consumption of living area. Families with children do not seem to live in especially roomy situations. The percentage that lives in crowded situations is among the highest when compared to the situation of most other households.

In order to defend this choice of target group, it is important to remember that the home is one of the most stable components in life. Although moving patterns have changed and today’s generation is less likely to stay in one place than previous generations, most people consider housing a long-term project; elderly people in particular are seldom inclined to move.

A typical Norwegian housing “career” starts out with a rented flat when the young person moves away from their parents’ home. When establishing a family, most people choose to buy a house or a flat of their own. Detached dwellings are the most common dwelling alternative for families with children living in less densely populated areas. In the cities, other types of small-scale housing are popular as a first step in owning housing. But even in densely

populated areas, most families seem to hope to someday afford a detached dwelling. The share of families that live in a detached dwelling increases with the increasing age of the children. In the category “Couples with children, youngest child under 7 years,” 58% of all households lived in a detached dwelling in 1995. In the category “Couples with children, youngest child 20 years or more,” the share had grown to 71%.

When children move out, parents are left with their spacious detached dwelling. Despite the homeowners’ own opinion of their house as a little bit “oversized,” most of them nevertheless chose to stay. A look at the statistics from 1995 shows that as many as 68% of the households in the category “Couples 45-64 years without children” lived in a detached dwelling. With regard to “Couples older than 64 years without children,” the share had decreased to 56%, which was still above the average of 51% for the population as a whole. There is good reason to believe that the high percentage of households in those two categories that live in very spacious conditions live this way because they have chosen to stay in their roomy detached dwelling after their children have moved away.

There may be many reasons for this choice. Stability may be a more important value to the elderly than to the young. Growing old often may make adaptation to new circumstances more demanding. The ability to learn may not be as strong as it used to be, and familiar, predictable surroundings may be preferred to new and more challenging ones. Emotional roots and social relations seem to become more important to preserve. Many people in the second half of their life span are mostly focused on the past and less concerned about dreams of the future. The home is an important source of stability for people of all ages, but especially the old. Moving away from the house that evokes all the good memories of raising children may be too big a step for many elderly or middle-aged individuals.

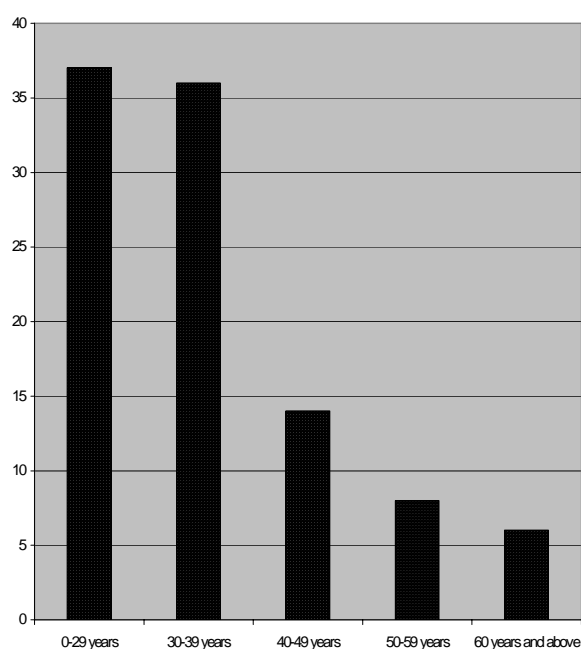


Fig. 2.6 Percentage of all households that had moved in 1997

A study of dwelling preferences in the Norwegian city of Stavanger (Barlindhaug & Gulbrandsen, 2000) showed that 37% of households that had changed dwellings in 1997 were headed by adults 30 years old or younger. 36% of the households that had moved were in the category with ages between 30 and 40 years old. For people older than 40, the number of households that had moved diminished gradually. 14% of households that had moved consisted of individuals in their 40s, while 8% of the households that had moved were persons aged between 50 and 60. Persons older than 60 amounted to just 6% of those who had moved.

This low percentage may come as a surprise, as apartment projects offering urban flats adapted to the needs of middle-aged and elderly people were the newest trend in the housing market during the 1990s. When looking at statistics, however, it becomes clear that even if the new, urban trend drew a lot of attention both in media and research reports, the number of people affected by it was not as high as might be expected.

Nevertheless, some elderly people do choose to move, and their reasons for doing so are in line with expectations. Moving was in most cases motivated by a wish for a smaller and more manageable dwelling. Seventy-one percent of all persons older than 60 years who changed dwelling moved from a detached

dwelling or a big flat in another type of small-scale housing. Fifty-seven percent of them moved into a block of flats. The tendency for older people to move showed a slight increase during the 1990s. Despite this tendency, however, the percentage of elderly households that moved was modest and resulted in only a marginal reduction in the total consumption of living area.

In this context, it should be remembered that although new flats adapted to the needs and wishes of this group have been built, the new housing still constitutes a modest share of the total housing stock. In addition, many elderly who say they would be interested in moving if a suitable flat were available, in fact choose to stay where they are after all. Emotional ties and a wish for familiar surroundings may be the factors that make them change their mind and stay in their existing dwelling.

In order to reduce excess consumption of living area it will be advisable to avoid a situation where middle-aged and elderly people, mostly couples, occupy large detached houses. Two different strategies may be helpful for this purpose. The first is to try to convince people in this situation that moving into a smaller and more manageable dwelling will be a benefit, while at the same time ensuring that the market is able to provide suitable flats that are of interest to this group. But in order to reduce excess consumption of living space among the elderly and middle-aged a second strategy may also be necessary.

By making the move into a detached dwelling less attractive for families with children, the future situation where excess consumption of living area is a problem is ultimately avoided. For most families settled in densely populated areas, the detached dwelling represents a dream that is realized at the end of their housing "career." Before moving to a detached dwelling, they have spent years in other types of housing, primarily dense small-scale housing. By the time an average family has been able to afford a detached dwelling, very often the kids have grown up, with many of them teenagers. With respect to the relationship between need for more space and the satisfaction of this need, there is a certain time delay. When this goal is achieved, it lasts for only a few years. Then the need for space is reduced. The kids move out and the parents are left with their oversized dream house.

Instead of this trajectory, it is possible to encourage housing choices that are more sustainable. By making more concentrated types of housing attractive as permanent dwellings for families with children, excess consumption of living area among middle-aged and elderly couples could be avoided. This requires treating the dwelling as a long-term project, which it actually is for most people. It also requires realizing that the problem of excess consumption of

housing space in the middle-aged and elderly has its roots in choices made earlier in life.

2.5 The dwelling situation for families with children in 1995

With regards to this investigation, families with children have been selected as target group. It should be remembered, however, that this segment of the population is heterogeneous, and the housing standard within the group shows considerable variation. As can be seen in the statistics from the 1995 Survey of Housing Conditions, there is a clear difference between the two-parent families and single-parent households. While couples with children most often seek detached dwellings, single parents are more likely to be found in the areas containing other types of dense small-scale housing. Unlike two-parent families, who have had the highest increase in living area, single-parent families have seen a very modest expansion in their living area. On the other hand, single parents seem to be less subject to household crowding than couples with children.

The goal of developing a more energy efficient housing sector involves a reduction in both the average living area and the percentage of detached dwellings in the total housing stock. The housing desires and needs of two-parent families seem to be most relevant with regard to this purpose. Making a clear separation between single-parent and two-parent households may be less useful, however. A high percentage of today's divorced and single parents will find new partners at some point, transforming the single-parent household into a two-parent family. During the same period, a considerable number of the couples in the two-parent households will split up. The line of demarcation between the two groups tends float when observed over a period of years; during the years parents live with their children they may alternate between a single-parent lifestyle and a two-parent lifestyle.

Thus, treating both types of households as parts of the target group, despite their clear differences, seems to be appropriate. However, it will be necessary to ensure that a considerable share of the households that participate in the investigation belong to the two-parent category. To achieve its goal, this study should attempt to find housing alternatives that are denser than the detached dwelling but still competitive in the family segment. Since two-parent families are the leaders in driving the demand for good-sized detached dwellings, the preferences of this group are of greatest interest.

3 The distribution of different types of housing in Norway

3.1 The composition of the housing stock in post-war Norway

Norwegian society has undergone deep structural changes in the years following World War II. Industries have changed, and the country's settlement pattern shows a clear tendency towards a more concentrated and centralized demographic structure. Urban and suburban areas have grown, while several areas in the districts have been suffering from depopulation. As a result of this development shift, the share of different types of housing has changed. Housing projects from different periods are a visible demonstration of the housing trends of their time. When looking at statistics, it is possible to detect changes that can be followed over the years. However, some Norwegian housing stock characteristics have proved to be fairly stable.

The sum total of new detached houses and farmhouses has been consistently high during the 20th century, varying from 55% in the period of reconstruction to 69% in the 1980s. However, the number of farmhouses has decreased as preferences have shifted in favor of detached dwellings in suburban detached housing areas. A peak in the new construction of detached dwellings was reached in the 1980s, before a decline in the housing market. As much as 65% of the new housing built during this period was suburban detached one-family homes (Statistics Norway, 1988). The desire for a one-family detached home had obviously not disappeared, despite the urbanization process.

The most concentrated types of dwelling, detached blocks of flats and apartments, have had an opposite development. Before the war, 24% of the new housing stock before the war was detached blocks of flats and apartments, which dropped to just 8% of new construction in the 1980s. Construction of new urban apartments has particularly dropped off. After the war, detached blocks of flats were the most commonly constructed housing type. Construction of apartment houses reached a peak in the 1960s, when 21% of all new housing was suburban apartment houses. The picture has improved a little after the housing crisis at the end of the 1980s, but these most concentrated dwelling types still have a long way to go before they once again dominate the market.

The percentage of vertically divided small-scale housing as a part of the Norwegian housing stock has increased in the post-war period. As a percentage of new construction its share has increased from 6% before 1921 to 23% in the period from 1988-1995. The growth of this type of housing is even stronger than the growth in construction of detached dwellings when looking at the whole period. With regard to horizontally divided small-scale housing (the category includes cross divided housing like the four-family house) the picture is more mixed. As a preferred category it has had its ups and downs, but by the end of the century it was in an upswing.

Despite the dominance of detached housing during the post-war period, there has been an unmistakable trend towards more concentrated dwelling types after the housing crisis at the end of the 1980s. Both vertically and horizontally divided small housing and houses with more than five flats grew in availability between 1988 and 1995.

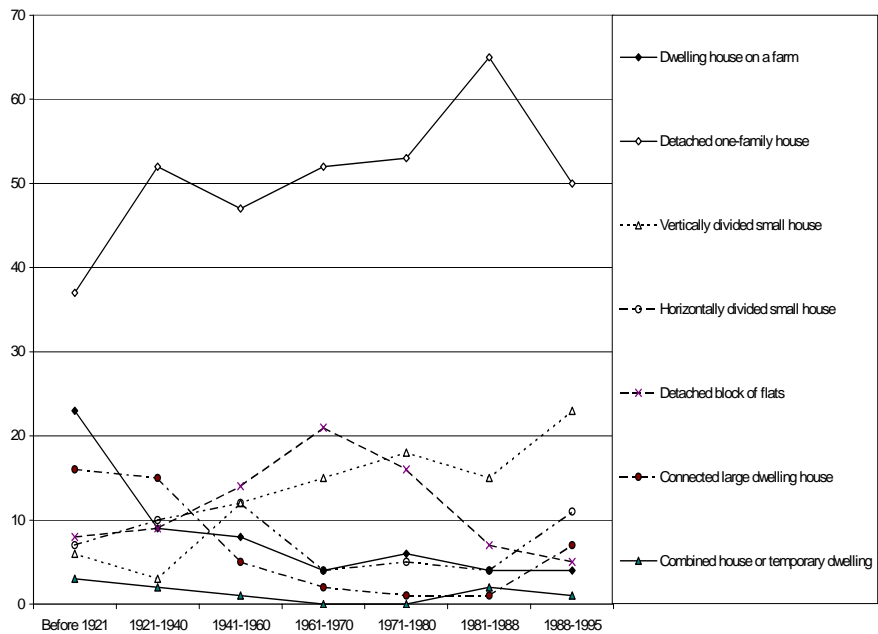


Fig. 3.1 Households, by year of housing construction and type of house, in percent (Statistic Norway, 1995)

3.2 The distribution of detached housing

3.2.1 The dream of the detached single-family house.

The Norwegian housing dream has proved to be rather stable. The traditional nuclear family in a detached single-family house with a private garden has been and still is the dream. The Norwegian survey of housing conditions from 1995 showed that 67% of all households thought that the detached dwelling or farmhouse was the most desired type of housing. This number is 7% higher than the number of households actually living in this type of housing and indicates that the demand for detached single-family houses still is higher than what is available.

Among couples aged between 25 and 35 and with children who live in Norway's biggest cities, as many as 81% preferred a detached dwelling. However, the statistics show that in densely built-up areas with more than 100 000 inhabitants, just 20% of the housing stock belongs to this category. It follows that achieving the dream may be difficult for many, particularly when demand from other homeowners is taken into account. The supply of detached dwellings is much better in the districts and small towns. In densely built up areas with 200-1999 inhabitants, 76% of all households lived in a detached dwelling or a house on a farm. Even in the towns with 20 000-99 999 inhabitants, 45% of the households lived in detached dwellings in 1995.

There are many reasons for the popularity of the detached dwelling. According to the researcher Eli Støa:

The little house surrounded by a small garden was and still is regarded as the traditional Norwegian dwelling type, and in most aspects the preferred one. It is tied to strong moral values like modesty, sobriety, good family life and willingness to work (Støa, 1996, p IV).

However, dream and reality are two different things. Norwegian society has undergone many changes in recent decades. Among the most important factors that influence Norwegian family life is the increasing participation of women in the workforce. In a typical family today, both parents have professional jobs outside the home. Maintenance of a detached house and adjacent garden may be too demanding in a busy life. Divorce has become common. Small family units with just one parent and one or two children are a growing category. For such a household, other dwelling qualities may be more important than the ones embodied in a detached one-family house.

Aside from changes in the family situation, the economy and the housing market have both changed. House prices are on the increase, especially in big cities, and it is more difficult to become a homeowner than in previous decades. Dwellings that were within reach of previous generations are out of reach of today's families. But despite these facts, it appears that the detached single-family house still is the dream, and that a segment of families with children with a decent income also has the opportunity to realize this dream, even in a big city.

3.2.2 Is the detached dwelling a traditional Norwegian housing type?

According to Støa, Norwegians regard the detached dwelling as the country's traditional housing type. (Støa, 1996) However, a look at old dwellings makes it pertinent to suggest that this statement is just partly true. Because Norway is a sparsely populated country with a limited urban history, typical urban dwelling types like different kinds of apartment buildings traditionally have constituted a small part of the total housing stock. In 1875, for instance, just 25% of the population lived in cities and towns. In 1900 the percentage had grown to 35%, but Norway still retained its mainly rural character until the post-war period. Most people lived in a house of their own either on a farm or in a small settlement. In many cases, the dwellings were connected to other buildings.

Norwegian farmhouses were typically organized around a kind of courtyard or in a cluster according to local tradition. The dwelling might be detached, or as in an area such as Trøndelag, housing was built as an extension of an existing dwelling on the farm. The resulting building that is now known as "Trønderlån," is a kind of row house with separate flats, each with its own entrance.

Norwegian rural society did not encourage the formation of villages. Along the coast, small settlements and towns with a kind of urban character were erected. In order to protect their homes from a difficult climate and to organize common work in a sensible way, the houses of fishermen, merchants, sailors and other inhabitants were connected, forming rows and streets. In view of this, the detached dwelling appears not to be the only traditional type of housing in Norway. The inclusion of other types of small-scale housing would provide a more accurate picture of Norway's housing traditions.

3.2.3 The role of detached dwellings in the post-war period.

Despite the previous existence of detached one-family dwellings, the typical suburban detached house area is mostly a new phenomenon in Norway. Old

villa areas from the end of the 19th and beginning of the 20th century can be found in several cities. The spread of areas of detached housing first began during the period between the world wars and particularly in the post-war period. This dwelling type was highly inspired from the Anglo-American culture and gained in popularity because of the general increase in prosperity during the post-war period, but also because of the predilection for American values.

A housing directorate established in 1948 developed different housing types on the basis of local traditions from different parts of the country. A preponderance of detached dwellings and semi-detached dwellings was erected in the districts. More concentrated housing was recommended for cities, however. Municipalities did not want detached single-family houses in the city center. The Norwegian State housing bank, established in 1946 to better the financial opportunities for new housing, would not finance detached dwellings on central plots in the cities. For a period in the 1950s, the construction of detached dwellings in such areas was not even allowed. Because of this restriction, the areas that had been built up with single-family housing in the big cities became a characteristic of the outer suburban fringe, while in smaller cities detached dwellings could be found closer to the center. The building stock in villages and more sparsely populated areas mostly came to consist of detached dwellings.

During the first decade after the war, architects played an important part designing new, detached single-family housing in Norway. From the end of the 1950s, architects worked on social housing. When architects withdrew from designing single-family housing, builders of prefabricated houses came to dominate the production of new dwellings at the end of the century. While their percentage of the total detached housing production was nonexistent at the end of the 1950s, it had increased to 30% by 1970. At the end of the 1980s 85-90% of all single-family houses that were built were catalogue houses.

3.2.4 Detached dwelling areas at the end of the 20th century

A peak in the construction of detached housing was reached in the 1980s housing boom. The houses grew in size while average plot sizes decreased. The reduction in plot size was due to the authorities' wish to reduce the sprawl associated with the newly built-up areas, but it was also driven by private developers' desire to increase the concentration of development to increase profits. As a result, these new areas were densely built and became less satisfying with respect to both aesthetic and housing qualities. The boom did end at the end of the 1980s. Too many oversized dwellings, most of them detached single-family homes, had been built, and prices fell dramatically.

During the 1990s, authorities tried to reduce the number of new detached houses. The reasons behind this policy are that this housing is both resource and energy intensive. Because detached single-family housing leads to sprawl and an increase in energy consumption and other resources, it is widely seen as less sustainable. The dream of the detached dwelling is still alive, however, and will be difficult to eliminate, because municipalities surrounding big cities want to attract city dwellers by offering attractive and inexpensive plots for detached housing.

3.3 The distribution of vertically, horizontally and cross divided small-scale housing

3.3.1 Low rise high density housing as the ideal housing for the working class

Inspiration from the garden city movement has been an important factor influencing the construction of small-scale housing other than the detached single-family house. In the period before World War I, a movement called “Own homes” advocated that small-scale housing should displace apartment buildings as the preferred type of housing for the working class. The movement’s arguments were based on both moral and health issues. Small-scale housing was regarded as the most appropriate housing for workers. Accordingly, row houses, four-family houses and semi-detached houses were built in order to accommodate the working class. A home and garden of one’s own was expected to lead to a healthy life in green surroundings with plenty of fresh air. Homeownership would give the workers pride and the maintenance of house and garden was thought of as the perfect means to keep the men away from political participation (Bullock & Read, 1985; Brantenberg, 1996). Another argument for the construction of small-scale privately owned housing was that this type of housing had a long tradition in Norway.

The public debate concerning what kind of housing society should offer to the working class was also influenced by the Functionalists. Functionalists differed from the “Own home” movement in that they believed in more collective solutions to housing problems. Rental housing like apartment buildings and blocks of flats would be a cheaper solution than small-scale housing projects, and would provide an opportunity for a greater number of inhabitants to benefit from the new housing construction. Functionalists believed that garden cities were too expensive for the target group. The working class could not afford this kind of housing, and as a result middle

class people inhabited most garden city suburbs. The Functionalists were listened to, and much of the housing projects erected during the period between the wars were modern, functional flats in blocks and apartment buildings (Brantenberg, 1996).

3.3.2 The role of concentrated small-scale housing in the post-war period.

After the war, trends changed. Because of the increased emphasis on national values, small-scale housing was brought back as the favored dwelling alternative for the average individual. Detached dwellings were built in towns, cities and in the countryside, while more concentrated small-scale housing was the preferred alternative for cities. In the 1940s and 1950s semi-detached dwellings and four-family houses were the main form of housing being constructed, and were built on central plots. The four-family house had become popular during the inter-war years. This type of housing offered an opportunity to build cheap three room family flats in green surroundings. Building regulations of the period allowed the construction of this kind of housing in wood, a cost-effective material that contributed to making this type into a competitive alternative to apartment housing (Noach, 1993).

Row housing emerged as a new trend in the 1950s, and it gave four-family houses serious competition. Architects who advocated row housing in the 1950s encountered tough resistance from municipalities. Four-family housing was thought of as more resource efficient and was assigned a higher priority. The increase in the numbers of rooms in the average flat during the 50s did promote the construction of row housing, however. According to leading architects of the time, the four-room flat that had become the standard family flat was easier to make functional if the living space was divided over two floors (Noach, 1993). The quest for private gardens and separate entrances also favored this type of dwelling.

3.3.3 The “dense and low” movement of the 1970s

In the 1970s, the popularity of concentrated small-scale housing reached a peak. The “dense and low” movement should be credited for this increased interest. By focusing on the social problems created by high-rise housing, architects who comprised the movement managed to convince the authorities that new high-rise construction should be limited. Until the 1960s the authorities had favored high-rise developments on the basis of economic and efficiency considerations. Now the trend was questioned, and the Norwegian State Housing Bank became less willing to fund requests for high-rise buildings. The architects promoting “dense and low” ideals tried to develop

compromise solutions that addressed both the wish for more socially stimulating residential areas and the demand for efficient and rational housing. One of the arguments in favor of dense and low housing was that the demographic densities in the areas could be similar to the densities in an average area built up with blocks of flats. The movement regarded the large, open areas typical of high-rise housing as a threat to the development of social connections among inhabitants. Eliminating the open areas in favor of a more concentrated development of the land was seen as a means to fulfill the desire for both social life between the buildings and rational development of the plot.

Structuralism emerged as an answer to the quest for rationality and efficiency in the building process. The introduction of prefabricated modular systems created an opportunity to provide cheap and flexible housing. Personalizing the dwelling and extension of the living floor space was also a possibility, since the owner was allowed to choose building elements according to his or hers own wishes. The Risvollan residential area in Trondheim, designed by Brantenberg, Cold and Hiorthøy architects, is a concrete example of this type of housing (Brantenberg, 2002).

3.3.4 Concentrated small-scale housing at the end of the 20th century

The popularity of structuralism came to an end after the 1970s. In the 1980s and 1990s, most concentrated small-scale housing areas were built on sites without any use of prefabricated elements. An important reason for this change was a widespread wish for more “genuine” housing that avoided the monotonous expression that often occurred when modular systems had been used. At the end of the century, the ideal was for residential areas to look like cozy, old-fashioned villages, not like products of industry.

The typical small-scale housing area from the last two decades of the 20th century was built from row housing in a traditional style, with a saddle roof, wood paneling and windows with small panes. As was the case with detached dwelling areas, the plot sizes decreased. In many cases the quality of the areas suffered from this reduction in plot size. Denser areas seem to require more careful planning to be successful, and this planning was most often lacking. From the 1980s to the present, the extent of subsidized social housing being built each year has considerably diminished. Private investors have dominated the market for new housing. Their main concern has been to build for short-term profit. As a result, they have lacked motivation to properly plan the projects. Architects say that the combination of dense development and insufficient planning has in many cases led to reduced quality.

Although row housing has been the dominant type of housing in this category other types have also been erected. For example, the popularity of the four-family house has been revived as a demand for cheap rental housing adjusted to the needs of young families has grown. New areas built with four-family housing do exhibit many of the same weaknesses as the new row house areas. They are mostly built for profit and are unattractive because of a lack of good housing qualities.

3.4 The distribution of apartment buildings and blocks of flats.

3.4.1 Urban apartment housing before the Second World War

In Norway small-scale housing built with wooden construction constitutes 80% of the housing stock. Apartment buildings and blocks of flats are less widespread and have less of a tradition. The first apartment buildings in Norway were barracks built in connection with the establishment of industry and mining. One good example is the gallery house in Oslo, on Sagveien 8, which was built in 1848 for employees at the Nedre Vøien spinning mill (Brantenberg, 1996). The barracks were meant for workers and their families. Barracks were also erected in the military camps to shelter soldiers. The buildings were constructed from either wood or bricks, and the flats had access from galleries or interior staircases. The number of floors was limited to three.

Because of the danger from fire, local authorities banned the use of wooden materials in the central areas of several Norwegian towns during the last half of the 19th century. In combination with a desire for cheap infrastructure, the fire restrictions paved the way for denser areas to be built with apartment buildings constructed from plastered masonry. The number of floors increased on average to four, and both middle class and working class inhabitants were housed in the new buildings, though located in separate areas of the city. Particularly in Oslo, areas of huge apartment complexes were built from the end of the 19th century. In the western parts of the city, the middle class lived in roomy flats in areas such as Frogner, Skillebekk and Majorstua. In the east, the working class lived in much denser and poorer conditions in areas such as Grünerløkka and Tøyen. At the end of the century, a glut of speculative building projects resulted in a housing boom that ended in an economic crack in the biggest towns in 1899. After the crack there was very little activity in the housing sector for the next 13 years (Brantenberg, 1996).

The apartment housing from the end of the century was fashioned according to the ideas of historicism with details drawn from the building styles of former epochs. However, when apartment buildings once more became the focus of construction at the end of the 1920s, the dominant design was altered. The Functionalists advocated apartment buildings as a rational and cheap solution for the housing needs of the working class. Detached blocks of flats in green surroundings were the ideal, although several of buildings were adapted to the urban block pattern that dominated the existing inner cities. The historical details and saddle roofs were eliminated, and allowing fresh air and sunlight into the flat was favored.

3.4.2 The role of apartment buildings and blocks of flats in the post-war period.

In addition to different types of small-scale housing, the detached block of flats also became a widespread type of housing after the war. New neighborhoods of blocks of flats were erected in the suburban landscapes outside of the biggest towns. These areas were the first real satellite towns in Norway. Among the most well-known are Lambertseter and Bøler in Oslo from the 1950s. Most blocks had three or four stories, but some high-rises with ten floors were built. However, the design ideals had changed from those of the inter-war period. After the war, these new housing blocks were given more traditional features, as was the case with other types of housing. The flat roofs and horizontal shape of the windows were replaced by saddle roofs and squared windows with center mullions.

During the 1960s the production of dwellings was industrialized. The development of new elevators and new building methods made it possible to build high-rise apartment buildings, a building type that soon spread throughout the new suburban satellites built outside the biggest cities. Social scientist and other critics attacked these new high-rise projects because of the buildings lacked the kind of surroundings that would help forge social connections. This housing type was considered to be unsuitable for families with children because of the poor connections between the flats and the outdoor areas (Brantenberg, 1996). As most people who were moving into these new developments in the 1960s were families with children, adapting the new developments to their needs was of great importance. Led by representatives from the “Dense and low” movement, architects also joined in the critique. The debate culminated with the “Ammerudreport,” a document that was produced in 1968 (Brantenberg, 1996). When the construction of new housing dropped off in the 1970s, blocks of flats were the type that was mostly discontinued.

3.4.3 Apartment building projects at the end of the 20th century

During the last two decades, several apartment housing projects have been built in inner-city areas. No dwelling type has yet been able to compete with the detached dwelling's popularity; this housing alternative has proved to be very sought after. A new interest in urbanity and urban values has been a common trend throughout all Western Europe during the 1980s and 1990s. The urban dwelling has once again become popular, and old industrial buildings and dock areas, known as brown fields, have been developed into housing and shopping districts.

What the new developments all have in common is that the housing they supply is rather expensive. There are several reasons for this. The popularity of urban areas led to increased prices for land in inner-city areas. Some of the land was contaminated because of industrial activity. Clean-up before construction of new housing was necessary but expensive.

During the 1980s and 1990s, the qualities that characterized urban living were popular with several population groups, but urban flats were particularly attractive to elderly and middle-aged individuals. The elderly as a group had the ability to pay a premium for this kind of living, and were willing to move, the combination of which created a market for new housing adapted to the needs and desires of older inhabitants. Many of these new urbanites owned detached dwellings, which they sold to finance the purchase of an urban flat. Seniors demanded high housing standards and could afford them (Guttu & Martens, 1998).

Because most of the housing projects in inner-city areas were financed by private enterprises for profit, building for this group was regarded as a wise strategy. Society as a whole was also considered to benefit from these new urban developments. Most new housing after the war had been adapted to the needs of families with children. As the demographic structure during the last few decades has shifted towards smaller households, the need for small dwellings has become clear. By making it possible for small households to move from big to smaller dwellings, the demand for more sustainable housing has also been met.

3.4.4 Conclusion

Despite the extensive urbanization in Norway after World War II, small wooden houses continue to dominate the housing stock. Single one-family houses are the most sought after, especially by families with children. The detached house is frequently regarded as the traditional Norwegian dwelling.

Nonetheless, studies of old Norwegian settlements show that more concentrated small-scale housing with a collection of dwelling units were also widespread in traditional societies. In spite of this, the detached dwelling is the most popular housing type for families, but other types of concentrated small-scale housing are also gaining in popularity in this market segment. Since the decline in the housing market at the end of the 1980s, the different types of concentrated small-scale housing, both vertically, horizontally and cross-divided, grown in their share of the housing stock, while the percentage of detached dwellings has dropped.

Vertically divided small-scale housing, represented by row housing and semi-detached houses, have been the most popular of the different types of concentrated small-scale housing. Construction of horizontally and cross divided housing types such as four-family houses and horizontally divided duplex types peaked after World War II, but dropped off in popularity because of an increased emphasis on the homeowners' need for a private garden and entrance. In addition, the desire for more bedrooms favored a two-story layout on a limited area. At the end of the 20th century, the popularity of the four-family house and other cross and horizontally divided types has been revived. One reason for this is presumably the demand for cheap and small flats adapted to the need of families with small children, but other characteristics of this housing type, such as common outdoor areas, may also be of importance.

The most concentrated housing types, apartment buildings and blocks of flats, are relatively new housing types in Norway. The Functionalists emphasized the benefits of these types, and the detached blocks of flats were somewhat popular from the interwar period and until the end of the 1960s. Then this type of housing fell out of favor because critics claimed that the design of the housing encouraged resulted in social problems and was unsuited to the needs of families with children. The popularity of the suburban detached block of flats has fallen off as a result of this, but by the end of the 20th century the production of urban apartment buildings had increased. However, these are mainly adapted to the needs of childless households, and have become particularly popular among seniors. Families with children continue to retain their housing in suburban residential areas that have built out of detached dwellings or different types of concentrated small-scale housing.

4 Norwegian housing research of relevance to the project

4.1 Research on dense vertically divided small-scale housing

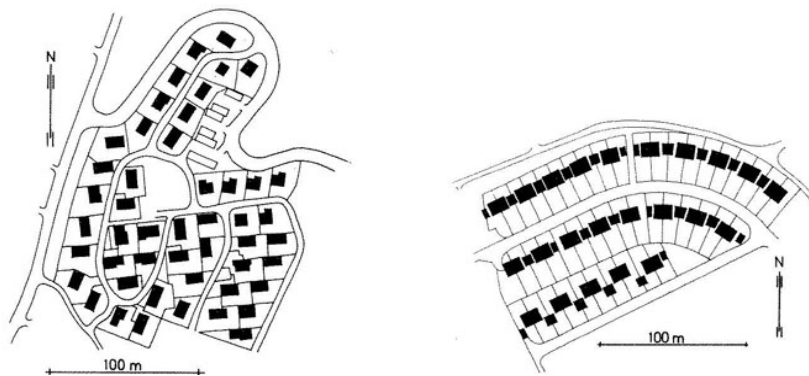


Fig 4.1 This illustration shows two different building patterns, with the first a pattern of detached unit, while the second has a linear pattern that the researcher indicates should be preferred (*Bedre småhusbebyggelse*, Jon Guttu, NBI, 1983).

The Norwegian authorities' desire for denser housing has existed for several decades. An important reason for this is that agricultural land is a scarce resource in Norway, with only 3% of the total land area considered suitable for agriculture. A large proportion of this land is situated near or even within the built-up areas in Norwegian cities and villages. With the detached dwelling as the dominant type of housing, agricultural land has been in danger of being lost because of land used by the detached houses. Thus, already by the 1970s, research projects were being conducted to develop strategies for building denser housing.

However, solving the problem by building blocks of flats instead of detached houses was not on the official agenda. The group with the biggest need for new housing in the post-war period until about 1990 was mostly young families with children. Among this group, a block of flats was not a popular alternative, as families wanted easy access to the outside, with plenty of room inside and outside the dwelling. The detached dwelling on the other hand

complied with their desires. Finding a substitute type of housing that satisfied both family needs and the country's official land use policy was thus necessary.

Norwegian small-scale houses are usually wooden buildings. Because of the danger of fire, detached dwellings are required to be situated at least 8 meters from the neighboring house. But it is possible to reduce this distance if the structure's end walls are built from fire-resistant materials and do not have windows. The higher densities from such an approach require more detailed planning if the residential area is to succeed. In response to this demand, researchers wanted to develop concepts for row housing, linked housing and dense single-family housing that enabled the housing to retain many of the qualities that are usually associated with the traditional detached house. Among the most important were a screened private garden and the ability of the homeowner to influence the design of the house.

Jon Guttu and Jens Bjørneboe worked with NBI and NIBR research institutes, and were among the most influential researchers on this topic. Their work includes several evaluations of experimental housing projects that were densely built with small-scale wooden housing. On the basis of the evaluation, design guides treating the subject on a more general level were established (Guttu, 1979, 1980, 1983; Bjørneboe, 1983, 1985). The preferred building pattern was comprised of linear rows of houses with a limited distance between each unit in the row but larger distances between the different rows. The linear structure, with deep, narrow plots, simultaneously allowed for gardens with desired privacy and made possible a type of housing that consumed far less land than the traditional detached dwelling. It also made for cheaper infrastructure costs, because the reduced distance between the housing units required fewer meters of road, electric cables and water and drainpipes per unit.

The recommended linear structure made a typical clear differentiation between the front and the backside of the houses. The façades was directed toward the common access road, playgrounds and common areas. This side had a public character. The back of the house faced other houses' backs. Because the distances between the rows were generous and the rows were separated by continuous greenbelts, the privacy of the back lots was guaranteed. The researchers underscored the need for a clear distinction between private and public areas, in part because it could limit neighborhood conflicts.

4.2 The housing culture of the detached house areas from the 1980s



*An example of the detached homes that were built during the 1980s.
(Photo by Eli Støa)*

Despite the efforts of researchers and authorities, the traditional detached housing areas flourished, and the houses grew even bigger. Prefabricated houses enjoyed prosperous times, while the role of architects and planners were minimized. In order to prevent sprawl, municipalities put limits on the average plot size. The success of this strategy is debatable. The physical density in these areas became noticeably higher and because they lacked proper planning, many areas became visually chaotic.

In her thesis “Dwellings and culture,” researcher Eli Støa described Norwegian housing developments from the 1980s that were built with detached dwellings. Her goal was to map out the reasons for the spread of this housing alternative. What were the desires and expectations of the new house owners that motivated the purchase of plots in suburban areas where new catalogue houses were to be built? (Støa, 1996).

On the basis of in-depth interviews with 14 inhabitants of these detached housing areas, Støa concluded that the single-family houses seemed to fulfill most of the inhabitants’ vision of a good home. The following reasons were the most influential in choosing to build a catalogue house in the areas:

1. The dream of building one's own home
2. The desire for suitable surroundings
3. The desire for an acceptable design
4. The ability to participate in construction and design

The detached single-family home was associated with freedom, privacy, control and a happy family life. Building one's own house was regarded as something that "everybody wanted," which allowed for a natural and morally acceptable way of living. Living in natural surroundings close to the countryside was also a highly valued. Qualities like daylight, openness and a good view were important when selecting a site. A certain distance from the neighbors was desired, which also provided an opportunity to have a more private garden.

The social homogeneity of the neighborhood was considered to be an advantage, allowing for peace, quiet and safety in the area. A safe and predictable neighborhood was especially important with regard to the security of the children. However, close neighborhood networks did not seem to develop. Most residents chose to stay with their established networks.

Although based on a standard design, most of the houses were altered according to the owners' wishes before they were built. Nevertheless, to the eyes of someone unfamiliar with the area, the houses' similarities seemed to be more striking than the individual differences. The dwellers wanted their houses to have a "personal stamp," but not to be too special, because something that was too different would be regarded as snobbery. Variation and complexity were appreciated within certain limits. It was important to the owners to state that the house was "not a catalogue house any more" but a result of their personal choices. Participating in the building process became an important part of the personalization process.

In the opinion of Støa the detached house areas lacked distinct hierarchies between public and private, sufficient distances between dwellings, and adequate screening. The areas also seemed to be too densely built up to satisfy the owners' desire for openness, daylight and a good view. Residents, however, said that the high-density development did not bother them, and that their privacy was maintained. Their interpretations of the concepts *privacy* and *openness* clearly differed from the more usual definitions used by architects and planners. The residents were able to build light and openness into their housing in spite of the high physical density of the units by avoiding high and dense physical outdoor screening like fences, walls, large trees and bushes. The houses had many and large windows, which were preferably oriented towards a direction with a nice view.

Privacy was addressed in several ways. The personalization of the design and building process might be regarded as defining one's own territory in the neighborhood. Thresholds between public and private areas were carefully marked. The means for this might be modest, such as flowers, stones, small fences or steps. The message sent by the symbolic boundary markers was clear, however. Also of great importance in maintaining a feeling of privacy were the main wooden terraces. These terraces served as a transition zone between the private and the public areas and offered an opportunity to maintain neighborhood relations on an informal level. The terraces, which usually were orientated toward the public street, offered a precious opportunity to see and be seen, thus allowing for a public space in an area that was primarily private. Finding the right balance between openness and privacy was of essential importance in order to avoid conflicts. Physical, aesthetic and social housing qualities depended on this delicate equilibrium (Støa, 1996).

4.3 Research on inner-city developments



Nedre Elvehavn in Trondheim. A typical example of an urban development project from the 1990s.

From about 1990 onwards, sustainability has been an important concept for researchers. Land protection is still an issue, but in a larger context. It is not just agricultural land that is considered precious, but also green areas that allow for a variety of biological species. To protect precious and vulnerable areas from being built up, higher building densities on land less worthy of preservation has been advocated. Higher density is also regarded as a means to reduce transportation needs within the built-up area. The NAMIT project, described earlier (Næss, 1992), was an important inspiration for investigations into higher density housing. However, the scope was mainly for city planners.

The urban block of flats inside or near to the city center was given a great deal of attention as a more sustainable type of dwelling. Living in inner-city areas tends to reduce transport by private car and flats tend to be smaller and less demanding to heat than both detached, semi-detached and row houses.

To map residents' satisfaction with their new inner-city development flat, a project entitled "*Central urban dwellings*" was conducted in 1996-98 by researchers Guttu and Martens from NIBR (Guttu & Martens, 1998). Aside from investigating housing qualities, the composition of residents, their former and prospective housing and motivation for moving into the new areas were also topics of interest.

In the inner city projects that were investigated, just a few of the inhabitants were families with children. Only 8% of the dwellers were under 19 years old, as compared to 25% in the society as a whole. The predominance of the elderly was striking. The households were small, consisting of 1,7 persons on average. About half of the inhabitants, most of whom were at least 50, had moved from a detached single-family home on the outskirts of the city. The reason for moving was a desire for a smaller, more practical dwelling. Younger people, some of them with children, had moved into the new developments in order to improve their housing standard. The central location, with service and shops in the neighborhood, was of importance to all groups.

The residents were by and large satisfied with their housing and the urban surroundings. Complaints most commonly revolved around traffic noise and pollution. Almost 50% considered this as a problem. Between 20 and 30% also commented on the lack of green areas, the noise from city bustle, and concerns about crime as problems in the area.

Most households that expressed a desire to move were families with children. 50 % of the respondents aged between 20 and 30 years wanted another dwelling. Families planned to move because of several reasons. The most important ones were that the flats were too small, the inconveniences caused

by traffic and the quest for green areas and playgrounds for the children. The high housing prices, combined with the lack of wealth among young people, many of whom had children, meant that this group most often occupied the smallest flats in the researchers' sample. Although enthusiastic about the central location, most of them preferred cheaper, more spacious housing on the outskirts of the city than a small expensive urban flat.

Because they had less money many families with children lived in the projects with the lowest costs. However, these developments tended to be the ones most characterized by inconveniences such as pollution, noisy and dangerous traffic and lack of green areas. The families that wanted to stay in an urban setting were usually able to afford housing in a nicer area. Most often they did not live in the most urban areas, but had found a flat in the residential areas on the edge of the city center. These areas were less densely developed than the inner city and were mainly characterized by concentrated small-scale housing.

4.4 Implementing a policy to increase housing densities

From the last decade of the 20th century it has been a stated political goal in Norway to locate new building projects within existing built up areas instead of contributing to sprawl outside of the urban areas (Saglie, 1998). This policy to increase housing densities has been based on a desire for more sustainable development of built up areas, under the assumption that densely populated urban areas are more energy and resource efficient than suburban sprawl and satellite towns.

In her 1998 thesis, "Density and town planning," Inger-Lise Saglie investigated the concept of *density* with regard to its role in the discussion of the compact city solution. The question of her thesis was whether the compact city model would lead to more sustainable urban development rather than suburban or exurban growth, and whether this model was applicable in a Norwegian context.

The concept of *density* is closely related to the concept of *space*. In relation to an abstract concept of space, the concept of density is interpreted as a measurable parameter that may be represented by a certain number of flats or people per unit area. In relation to a social or relative space concept, the density that is actually experienced by users is more meaningful to investigate. While abstract space is the space of architects and planners, social space is the spatial concept that is used by geographers and sociologists and is supposedly closer to the layman's experience of his environment. According to Saglie, the different interpretations of density may lead to a discrepancy between

architects and residents with regard to the perception of built environment. To bridge this gap it might be advisable that architects and planners also consider the user's perspective.

With respect to the sustainability of the compact city, Saglie mostly bases her discussion on empirical investigations and theories created by other researchers in the field. Her major contribution is the discussion of density in new housing projects as experienced by residents. Her empirical material consists of interviews with residents in five new developments in the town of Skien. The developments are of different character and located throughout the urban area.

Three of the developments are blocks of flats or apartment buildings situated within or close to the city center. The population density in the areas varies from 104 to 137 persons per hectare. The other two developments consist of small-scale housing, specifically row housing, semi-detached and detached dwellings, and are situated in a more suburban context. The row housing area is somewhat densely populated with 85 persons per hectare. The area with detached and semi-detached housing is comparatively sparsely inhabited with just 33 persons per hectare. This last development is in an existing built-up area and might as such be described as a part of a densification process, but it cannot in itself be categorized as dense, not even in a Norwegian context.

According to Saglie:

The main finding was that the experience of density did not coincide with the measured density. There is a strikingly large gap between measured density and the feeling of living densely. Actually, in all five of the investigated developments in Skien, measured densities differed from perceived density. The residents in one of the housing areas with the lowest measured density, expressed most clearly a sense of living in a dense situation, and vice versa. The dwellers in the most dense town areas expressed no feeling of living in a dense situation (Saglie, 1998, p 249).

The feeling of living densely was mainly controlled by social factors, represented by social control and noise intruding into the private sphere. Thus a resident might live in a block of flats in one of the more densely populated case areas and still argue that he had no neighbors because he felt that they did not intrude on his privacy. On the other hand a person living in one of the rather sparsely populated areas might feel crowded because it was possible for the neighbors to peep through the windows or for sound to penetrate through badly insulated walls.

Conflicting activities took the feeling of being socially crowded to an extreme. In this case the presence of others not only created a sense of being disturbed

but was actually a source of hostility and avoidance. One example was differing desires of children and elderly concerning the use of outdoor areas. While the elderly wanted a quiet place to grow roses, the children wanted somewhere to play football and other noisy games. In one of the case areas where the elderly formed the majority of dwellers, more and more families with children moved out. One of the mothers complained: “There simply isn’t room for both children and old people.”

But even if the decisive point for most dwellers were the perceived presence of other people, physical features also contributed to the experience of density. For example, a nice view or a wide, open courtyard might create a feeling of spaciousness. In many cases physical structures played a more indirect part with regard to the residents’ experience of density. Screening architectural elements might prevent neighbors from peeping and thicker insulation in walls and floors could improve the acoustic situation.

Earlier experiences also influenced the interpretation of the built environment. Compared to high density living in Oslo, for instance, the inner city context in Skien seemed quite spacious. However, if a resident had formerly lived in a detached dwelling with a big garden, new developments appeared to be rather dense.

The residents’ life phase was another important factor influencing the tolerance of high-density living. Elderly people seemed to underscore the positive effects of dense living to a greater degree than the young and middle-aged. Living close to other people gave the elderly an added feeling of security. As long as there was a certain degree of control over the kind of people who were allowed to move into the housing cooperative, most of the elderly, and especially the women, embraced the discreet social contact the neighborhood offered. They thought of it as preventing crime and as an opportunity to get help in case of sickness and accident.

The residential areas’ distance from the city center also influenced the tolerance for density. Living in an inner city development made high density more acceptable than living in suburban surroundings.

Living densely was nevertheless considered by many of the dwellers to be unsuitable in Norway. One of the dwellers commented:

“ We have a long stretched-out country. I think we need some space, we feel more free when people are not so close. Most people have had detached houses and farms. It is difficult to be more precise about it, but we Norwegians are like that. We like some space around us.” (Saglie, 1998, p 255-256)

It has been frequently stated that living in close contact with nature and having easy access to outdoor recreational areas seems to be very important to many Norwegians. Saglie's investigation supports this claim. Several of the interviewees underscored the role of nature in Norwegian culture as a place for recreation and contemplation. This wish for living in natural environments may in many cases form an obstacle to increasing the density of existing built up areas.

4.5 Families with children living in blocks of flats or apartment buildings

The 1995 Norwegian Survey of Housing Conditions showed that 13% of the total number of households lived in a detached block of flats. With regard to families with children, the share was considerably lower. Young and newly established families were most often found in a flat. 9% of them lived in this type of housing. When families were more established, they appeared to move into other types of housing, mostly detached dwellings and dense small-scale housing. Just 3% of all families with children aged between 7 and 19 years occupied a flat in a detached block. Urban apartment buildings seemed to be even less popular with families. While 7% of all Norwegian households lived in a connected large dwelling house or combined house, just 2% of the families, both the young families and more well-established families, lived in this kind of housing.

The 1996-1998 study (Central urban dwellings) showed that most families with children in the sample preferred to live in suburban areas. The reasons for this were the disadvantages of inner-city areas regarding traffic volume, pollution, crime and the availability of green spaces and playgrounds.

Achieving a more sustainable housing stock requires that the share of families both in detached blocks and urban apartment buildings be increased. There are several impediments to achieving such an objective, however. With the high price of land in inner city areas, it may be difficult to meet these needs while at the same time making affordable housing available for this group in the city center.

Detached blocks in suburban areas have a bad reputation. Many of them were erected as a part of social housing programs. Over the years, many have been stigmatized as housing for groups with economic and social problems. As Saglie detected in her study of densification projects, the tolerance for living densely increases with the centrality of the plot's location. The demand for new flats in suburban detached blocks seems to be limited in today's situation.

This types' share of the total amount of new developments has decreased from 21% in the 1960s when the type was at its highest peak of popularity, to just 5% in the period from 1988 to 1995.

4.6 High-density low-rise housing, a lifetime or a short-term dwelling solution?

One of the main reasons for the high per person living area in Norway is the fact that small households occupy large family dwellings. The composition of the housing stock is partly to blame. Norwegian housing is designed for a family structure that does not exist anymore. Most flats and houses built after the war are adapted to the needs of households consisting of four or five persons. Today's households are much smaller on average, with a great percentage of them consisting of only one or two people. People in the second half of their lives who live in a family-sized dwelling make up a sizable percentage of these small households.

The construction of more housing that is adapted to the needs of small households may help in overcoming the discrepancy between demand and supply in the market. But such an approach will nevertheless not be enough to solve this problem. As explained earlier in this thesis, most of those who are moving are rather young people. The study Barlindhaug and Hauge conducted in Stavanger in 2000 showed that more than 70% of all households that moved were composed of adults younger than 40 years. Despite a slightly greater percent of mobility among middle-aged and elderly, it appears most prefer to stay where they are. Thus the "move in time" strategy, in which families where the children have grown up are asked mature to leave their big family dwelling and move into a smaller flat, has to be supplemented by strategies develop housing that accounts for people's need for stability.

The average flats in concentrated small-scale housing are considerably smaller than the majority of detached dwellings. During the periods of life when space is most needed, namely the period when the household is a family with children, most flats in this type of housing will feel crowded. When the children have left, it is possible for the parents to stay in the flat, which limits their consumption of living area.

Concentrated small-scale housing traditionally assigns importance to the role of the neighborhood community. A large percentage of the outdoor areas is usually appropriated for common use. Housing cooperatives and similar organizations normally structure this relationship between residents. A situation that offers already established cooperation among residents can

simplify the development of other facilities meant for common use, which may contribute to a total reduction in the consumption of resources. Common areas shared by the housing cooperative may reduce the need for more spacious dwellings. When teenagers in the neighborhood have a place to meet, the family flats don't have to provide them with "recreation rooms". Functions of different sorts may also be held in common assembly rooms. These may be of private character like weddings and confirmations, or they may be parties arranged for the neighborhood community.

The importance of the community dimension in dense small-scale housing may alter residents' emotional identification with the dwelling. In a traditional detached dwelling area, the focus is on the private residence as the unit of identification. The residential area most often plays a subordinated part. In areas where housing is more densely constructed, however, important facets of the total housing situation are defined by the common facilities. This shift in significance from private to collective may also influence the emotional ties of the residents. A stronger emotional identification with the residential area may facilitate moving within the area into flats that are better suited to the household's actual housing needs. The residents retain a feeling of stability and the total living area will be better used. An important condition for such a strategy is that the area provides flats of different size and character.

4.7 Qualities in future concentrated small-scale housing.

The linear dense housing concept from the 1970s and 1980s is based on a idea that most people prefer a traditional detached dwelling, but if it is not available, they would accept a substitute that offers many of the same qualities.

This study aims to investigate whether new lifestyles have influenced choices concerned with housing. Have the ideals changed, or do Norwegian families with children still prefer a suburban life in a detached house? And if a detached dwelling is out of reach, is the alternative then to look for housing with similar qualities, or would a family be just as interested in housing with qualities that are fundamentally different than a detached single-family home?

According to Støa (1996), the ability to participate in the design and building process is one of the main reasons for preferring a detached dwelling. Participation offers the opportunity for both deepened identification with the dwelling and lowered building costs. The feeling of creating a home of one's own contributes to improving the house builders' self-esteem. In many cases, relatives and friends can also help, thus strengthening important social ties and

obligations. The degree to which more concentrated areas can offer similar opportunities are an interesting question. Is the Norwegian do-it-yourself culture confined to areas with detached housing, or does this culture also exist in areas built with more concentrated housing? Do residents in denser areas have the same predilection for self-made solutions?

The detached dwelling is considered to be the housing type that most successfully protects the dwellers' privacy. On the other hand, it has also been criticized because of this quality, thought of by many to lead to isolation. With denser residential areas as an objective, the ability to build successfully to protect privacy will be reduced. As has been mentioned earlier, Norwegian researchers have been examining this subject for decades.

As Støa (1996) herself found, determining the right balance between openness and the need for privacy is an important issue when planning new residential areas. This question is especially urgent in the planning of dense small-scale housing. On the basis of the findings in Støa's study, it might be presumed that residents see this question a little differently than professionals. In general, Norwegian architects have tended to stress the importance of clear demarcations between public and private areas, as has been demonstrated by Guttu and Bjørneboe. Architectural screening like fences and sheds, often in combination with greenery, has been used for this purpose. As a result, many areas in small-scale housing have been crowded by visual "whatnots" that might in fact have a more negative than positive function, depriving the dwellers of light, views and spaciousness.

Residents, on the other hand, seem to be more interested in maintaining the qualities of visual spaciousness, by choosing subtler and often symbolic means to protect their privacy. The concept of *privacy* was also interpreted in a more nuanced way. The informants Støa talked to did not interpret their need for privacy as a wish for total withdrawal. Instead they were concerned with their ability to regulate their contact with their surroundings. Privacy could in this connection mean that they were able to keep their personal integrity in front of others. Their big wooden terraces helped them to regulate their contact with the neighbors to a desired level. The low fences of the terrace prevented them from being invaded and at the same time it enabled them to see and be seen, participating in the public sphere of the residential area.

The cultural significance of the public and the private sphere might have changed over recent decades. According to researcher Øyvind Larsen, Norwegians have tended to attach greater importance to the semi-public sphere in the last few decades (Larsen, 2000). These semi-public areas can be a staircase in an apartment building, a courtyard and the common areas of a

housing cooperative. These areas are important factors that influence the overall impression of our housing situation.

In the past, a dwelling usually started at the threshold. These days, with our growing prosperity, we expect the areas surrounding the apartment to be pleasing as well. We have the resources and means to care for a larger area. The private sphere is still important, but it dominates our picture of the dwelling to a lesser degree. The length of time spent in the residential area is also significant when explaining inhabitants' opinions on the importance of semi-public areas. In a study of a residential area in Trøndelag, Norway, executed in 1971 and 1974, respondents were most concerned with the qualities of the flat when describing their dwelling situation in 1971. In 1974 the picture had changed. By then, the characteristics of the whole area were given the most importance (Marek & Hovden, 1983).

According to Larsen, the size of the semi-private sphere of the dwelling seems to have been reduced in Norwegian urban districts during the 1990s (Larsen, 2000). The semi-private sphere is comprised of the regions of the dwelling not only meant for the residents, but for guests as well. In most homes, this area consists of the hall, kitchen and living room, plus balcony and private garden. Larsen describes how in the first post-war decades, growing prosperity found an expression through an increase in area devoted to living space. The area that grew the most was the area of the home that is shown to other people. The home was used as a "display window," which advertised to the world our wealth and success. This development peaked at the end of the 1980s, as is clear from the oversized detached dwellings from this period. In the 1990s, the trend seemed to shift. People were more eager to use their money for other purposes than big homes to display to the world. Norwegian social life had moved beyond other arenas than home and garden (Larsen, 2000).

This slight shift in residents' focus on semi-privacy to semi-public may have important consequences for the planning of new dwellings. Together with Støa's research, this shift suggests that just focusing on privacy as the most important characteristic for housing may be a mistake. Privacy, of course, still is important, but perhaps its significance has been overestimated, at the cost of other qualities. The homeowners' interpretation and expression of privacy may also differ from what is presumed by researchers and architects.

A reduced focus on semi-private areas in the home offers opportunities with respect to the construction of more sustainable housing. A decreased in the per-person living area is one of the most important ways to achieve economic housing that also demands fewer resources. "Extending" the housing concept by including the neighborhood to create an experience of a total housing

situation seems to be the most appropriate way of planning residential areas in the future. Housing that is seen in this way allows the possibility that different spheres -- the private, semi-private, semi-public and public -- may interact and complement each other. A spacious common outdoor area may compensate for a reduction in living area, or a small living room may be outweighed by the ability to use assembly rooms in the residential area.

Inhabitants of the Disengrenda residential area have had a community house at their disposal since the area was built in 1958. Disengrenda was one of the cases examined in the study “Adaptability in dense residential areas” that was conducted by SINTEF between 1999 and 2001. In this connection, the usability of the community house was investigated (Støa & Narvestad, 2002). The study showed that the community house, Disen gård, was frequently used by various groups of residents. The residents thought of the house as an important part of the identity for the Disengrenda area (83% of all respondents). It increased the feeling of belonging among residents (77% of all respondents) and was an important social meeting place (71% of all respondents). 52 % of respondents also thought of it as offering a break from having a limited living area. Thus the community house was seen as having many of the positive impacts that the inhabitants in Sjøveien want. Nonetheless, more comprehensive studies are needed to confirm these results.

Common use of both outdoor and indoor areas may also offer challenges. Saglie (1998) found conflicts between the desires of children and the elderly concerning the use of common outdoor areas. The divergent interests of the two groups led to conflicts, which gave residents a sense of being crowded. As a result the residential area became demographically segregation. Young families moved out, while the elderly more and more became the dominant group of residents. If we assume that the residential areas of the future will emphasize common solutions over private ones, we also have to address this kind of problem.

4.8 Conclusion

The authorities’ desire for more concentrated housing has been an important topic for Norwegian housing researchers over the last several years. Both suburban and urban residential areas have been investigated with the goal of determining how to ensure crucial housing qualities when plots are developed more densely. The central research issues have been the relationship between measured density and experienced density, the regulation of neighbor contact and privacy in dense situations, the experience of spatial density versus spaciousness and how the residents’ background and life situations influence

their experience of density. Housing qualities that may enhance the attractiveness of concentrated housing have also been sought, as well as the reasons why the majority of residents, despite all governmental efforts, still seem to prefer space-consuming detached housing.

Nonetheless, the trend among homeowners is not entirely negative. Urban apartment buildings have gained in popularity during the 1990s. But this new urban flats are mainly inhabited by childless households. The qualitative investigations put a face on the statistics that show that the families with children prefer suburban residential areas with different types of small-scale housing. Important housing qualities for families seem to be safe surroundings for their children, a green environment suited for children's activities, and plenty of indoor and outdoor space. As long as suburban homes are available and parents do not see any great advantage to living in concentrated, urban flats with a central location, their predilection for suburban homes will continue. Thus, the biggest opportunity for encouraging families with children to live in smaller, more efficient spaces may come from the further development of suburban, concentrated small-scale housing. With this as a backdrop the case study for this thesis will be an example of concentrated small-scale housing in suburbia.

Housing choices have to be placed in a lifetime perspective. The choice of a smaller dwelling that uses space efficiently by today's families households with children, can lead to a more sustainable use of housing space among seniors in the future. The reason for this is that most seniors, at least today, prefer to stay in their family home instead of moving into a smaller flat when the children have left. Several other factors may also help in reducing the consumption of per-person living area. It is important to determine those housing qualities that may motivate parents to live in more densely constructed housing while raising children. A well-developed social network among dwellers may, for example, be one advantage of more concentrated housing. Flexible flats and access to attractive common space and facilities may also enhance both the attractiveness and the sustainability of the residential area.

It should also be determined whether the qualities that are usually associated with traditional detached dwellings may be implemented in areas with more concentrated housing. A greater degree of participation on the part of the homeowner may heighten their identification with the residential area and contribute to the residents' feeling of having control of their living situation. Giving residents private entrances and private gardens has been an important goal for researchers who have worked with models for concentrated vertically divided small-scale housing. It may be questioned whether this quality and

other “detached dwelling qualities” that have been selected for implementation are actually demanded by residents, or if they might be just as happy with other solutions.

The balance between privacy and community is an important issue when planning concentrated housing. It is crucial that researchers and planners understand the residents’ experience and interpretation of this balance and that researchers be able to detect cultural changes that eventually may influence this equilibrium. It will also be important to detect the interplay between the psychosocial housing qualities and other housing qualities that make up the picture of the total living situation.

Previous research has shown that psychosocial housing qualities are important with regard to the experience of density in a residential area. The experience of spaciousness versus crowding will also be influenced by the spatial structure of buildings, streets, vegetation, fences and so on. The need for spaciousness was underscored by informants in investigations conducted by Støa and Saglie and has been an important premise for models for the development of dense vertically divided housing as designed by Guttu and Bjørneboe. However, residents’ interpretations of this quality should be thoroughly investigated. Previous research findings indicate that there may be telling differences between the experience of laymen and the view of professionals with regard to this topic.

5 The Sjøveien case study area

5.1 Preliminary inquiry

A preliminary exploratory study was conducted in 1999 in order to get a better understanding of the residential areas in Trondheim that might offer an alternative to detached dwelling areas. Finding a possible case study area for the main study, and the development of research questions were the most important goals of this pilot project. All the areas in the sample were considered to be attractive to families with children in that they offered sufficient playgrounds and traffic security. Because of previous Norwegian research indicating that very few Norwegian families with children want to live in urban areas, all the cases in the study were typical suburban housing types. The demographic and physical densities of the areas were expected to be slightly above average in a Norwegian context, which means not very high as compared to the population and building densities in most other countries. These densities were expected to be considerably denser than most traditional Norwegian detached house areas, however. Population numbers from the national register and maps of the residential areas were used as data. The areas were also inspected and photographed.

The areas were built from different categories of houses, and all were considered to be medium density suburban areas that are typically attractive to families. Two areas constructed from detached houses on very small plots were included in the study in order to get a sense of how a dense detached area performed with respect to population density when compared to other residential areas with other types of buildings.

5.2 Demographic and physical density in the investigated areas

Residential area	Type of dwelling	Dwellings per ha. Plot area	Dwellers per ha. Plot area
Teglverkstunet	Block of flats, 3 floors	61	86
Ourensvei	Block of flats, 3 floors	24	47
Sjøveien	Four-family house	23	65
Moltemyra	Row house	22	70
Dalen hageby	Row house	16	44
Skårgangen	Row house	16	46
Marinevold	Duplex	31	68
Balders hage	Detached dw. (dense)	17	57
Nordgaardsvei	Detached dw. (dense)	16	54

Fig.5.1 Table showing the number of dwellings per hectare of plot area and the demographic density represented by number of dwellers per hectare of plot area in the investigated areas.

The study showed that the demographic densities in most of the areas were rather low, and that the connection between type of dwelling and population density in existing areas was not necessarily a very obvious one. Two of the three row house areas in the sample, Skårgangen and Dalen hageby, and one of the areas with blocks of flats, Ourensvei, had a lower population density than the two detached dwelling areas, Ole Nordgaardsvei and Balders hage. There is also a considerable variation between densities within each building type category. The two areas with blocks of flats have densities of 86 and 47 persons per hectare of plot land. The densities in the row house areas vary from 44 to 70 persons per hectare.

Residential area	Type of dwelling	% TU	% BYA
Teglverkstunet	Block of flats, 3floors	47%	17%
Ourensvei	Block of flats, 3 floors	29%	11%
Sjøveien	Four-family house	27%	11%
Moltemyra	Row house	34%	20%
Dalen hageby	Row house	24%	15%
Skårgangen	Row house	17%	10%
Marinevold	Duplex	24%	17%
Balders hage	Detached dwelling	29%	15%
O.Nordgaardsvei	Detached dwelling	25%	15%

Fig. 5.2 Table showing the percent of plot development (%TU) and the percent of plot covered by buildings (%BYA) in the investigated areas.

Despite a certain tendency for correspondence between demographic density, measured as dwellers per hectare of plot area, and the physical density measured as plot development %TU (total floor space as percentage of the plot area) there is no clear evidence that the two types of density coincide. The physical and demographic densities in the areas seem to be influenced by planning concepts, building patterns and type of housing, but the age of the area and the degree of mobility among residents will also influence whether the capacities of the housing is fully exploited. If the population is stable and the area is old, the aging of the residents will result in a tendency for small households, consisting of one or two persons, to occupy big family flats. The dwellings in the areas that were studied used from 54% to 76% of their bed capacity. The lack of flexibility and elasticity in the building stock makes denser development difficult.

5.3 Percentage of children in the different areas

Residential area	Type of dwelling	% Children of all residents	Average size of dwellings (including basement and attic)
Teglverkstunet	Block of flats, 3floors	16%	55 m ²
Ourensvei	Block of flats, 3floors	21%	78 m ²
Sjøveien	Four-family house	39%	75 m ² (120-140 m ²)
Moltemyra	Row house	35%	110 m ² (165 m ²)
Dalen hageby	Row house	27%	120 m ² (180 m ²)
Skårgangen	Row house	34%	90 m ² (135 m ²)
Marinevold	Duplex	26%	55 m ² (85 m ²)
Balders hage	Detached dwelling	38%	112-151 m ²
.Nordgårdsvei	Detached dwelling	33%	105 m ² (157 m ²)

Fig. 5.3 Percentage of children in the populations in the investigated areas

Many different factors may influence the number of children living in each area. In the preliminary study, the areas with blocks of flats were the least popular among families. One possible reason for this is that the flats are considered too small, but the building type may also be of importance. Marinevold, an area with semi-detached houses, has flats that are just slightly bigger than the flats in Ourensvei (if the basement is included). Marinevold has however a higher percentage of the actual group of dwellers. 26 % of the residents in this area are children, a percentage that equals the percentage of children in the city of Trondheim.

All the other areas have a percentage of children among the residents that is above average for the city at large, and thus can be considered to be especially attractive to the actual group of residents. The areas offer flats with four to five beds per flat. The floor areas vary from 112 to 120 m² (180 m² when basement is included). The percentage of children in the areas varies from 27% to 39%.

The variation in percentage of children in the different areas may be due to several factors. Among the most important are the age of the area and changing of generations of residents. In the area that is 37 years old, Dalen hageby, a new generation of families with children is about to occupy the houses. There are, however, still many older people in the area, both singles and couples. Balders hage on the contrary is newly constructed and is mainly occupied by families with small children. Sjøveien, which has the highest percentage of children, was formerly owned by the local municipality. The flats were sold to private homeowners in the beginning of the 1990s, and young families moved in.

5.4 The Sjøveien area as a case for the main study

In order to obtain a more sustainable housing stock, the residential areas for families of the future should be denser than the average detached house area of today. Blocks of flats, four-family houses and row houses are all able to cope with higher densities without being crowded. A study of not only the type but the distribution of buildings on the plot is also important. The spread houses influences the quality of the outdoor space. It also influences important housing qualities such as privacy, view, and availability of natural light in the flat. Two areas built from the same type of housing and identical %TU and BYA may perform quite differently with respect to housing qualities as a result of various building patterns. Some areas may be quite dense without feeling that way and vice versa.

As stated earlier, research has been conducted in Norway on areas with row houses and detached dwellings on small plots built in a linear pattern and with a relatively high density. The emphasis has been on the development of planning guidelines in order to design areas with housing qualities that are more traditionally found in detached dwellings, where privacy is a main concern.

However, new information concerning housing ideals (Larsen, 2000) indicates that the time might have come to build residential areas based on a higher degree of common use of space, which challenges the traditional view that

“everybody” wants a private screened garden and entrance in order to protect their privacy.

The choice of a case area for further study was based on a desire to develop a better understanding of this phenomenon. Finding a case that could successfully represent areas that offer a higher degree of collective solutions became desirable after looking at previous research in the field. In addition, the area had to be popular with families with children and had to have a potential for demographic density that was higher than in a detached dwelling area. Fortunately, such an area was found in the sample for the preliminary enquiry.

The four-family house area of Sjøveien has the highest percentage of children in the sample. None of the flats have private gardens, and the buildings all have only one entrance and a central staircase, which gives access to all the flats. There are no balconies. The four-family house requires a high degree of cooperation among the residents. Maintenance of the house and garden is a common responsibility for the families living in each house.

It is interesting to study the popularity of the area in order to get different perspectives on alternative ways of living based on values that are different from the ones usually attached to the detached dwelling. Hopefully the area can offer some insight into whether it is relevant in the context of modern-day Norway to build residential areas with cross divided small-scale houses or small apartment houses that are based on more collective principles. Particularly with respect to the housing layout and use of the outdoor areas, a willingness to value collective solutions at the cost of private gardens will be of great importance.

Building and living in a denser manner necessarily means that the share of outdoor areas per person in a residential area will diminish. If all households are going to have a private plot of their own, the result may be a crowded structure of private gardens too small to be useful for children’s play and activities. A structure without private gardens may offer more accessible and useful outdoor areas.

Another interesting area for investigation will be to see how Sjøveien residents describe their own community with respect to attractiveness and the feeling of density. It will also be of interest to see how they perceive their housing situation with respect to other areas, particularly detached house areas, but also row housing and blocks of flats. The building type most associated with the collective use of the outdoors is the block of flats. However, when looking at statistics, we find that this building type does not

seem to be very popular among Norwegian families. Sjøveien, on the other hand, is an area based on a high degree of common use of outdoor and indoor areas, but at the same time seems to be very popular. Perhaps a study of Sjøveien can help explain why households with children are sparsely represented in blocks of flats? If families with children are willing to accept collective solutions, why do they avoid blocks of flats?

5.5 Background information about the Sjøveien area



Fig 5.4 Map showing the location of Sjøveien in the context of the greater Trondheim area.

The Sjøveien area is located close to the shore of Trondheim Fjord, about five kilometers from the center of Trondheim. Surrounded by detached homes, agricultural land and green areas, the location can be described as suburban. The distance to the city center is moderate and is accessible by bus, train, private car and bicycle.

Sjøveien is a part of the special landscape area of Rotvoll manor. The Rotvoll area is described as the only true manor landscape north of Dovre and is included in the National Registry of valuable culture landscapes. This category of special landscapes is of importance because of biological, ecological and historical values. The area has a variety of botanical species and contains archeological finds (Trondheim kommune, 1996).

Over the last few years the municipality of Trondheim has worked hard to make the shore of Trondheim Fjord more accessible to the public, including the construction of a footpath along the fjord called Ladestien. Ladestien follows the coast of Østmarkneset, and makes it possible to walk along the fjord all the way from inner city areas to Nedre Charlottenlund. It is hoped that in the future the walkway will be extended to the east, to the town of Ranheim. According to existing plans, Ladestien will cross the Sjøveien area. This may bring both benefits and problems to residents. The area's contact with the fjord landscape will be maintained, but the number of strangers that wander in the area, particularly during weekends, may be undesirable high.

The area consists of 27 four-family houses that were erected by the Germans at the end of World War II. The flats were intended to be housing for German officers and their families. However, a torpedo attack sank the ship that was bringing the officers' wives and children to Norway. Because of this accident, the area was primarily inhabited by widowers, and became known as "the widower village" by Trondheim citizens.



Typical four-family house in Sjøveien



Fig. 5.5 Map of the Sjøveien area. The fjord is shown to the north (top of map) while the railway is visible to the south.

After the war, the Sjøveien area became the property of the county authorities of Sør and Nord-Trøndelag, and the flats were used as rental flats for employees at the local psychiatric hospital at Rotvoll. At the end of the 1980s and the beginning of the 1990s most of the flats were sold to private homeowners. Former renters had the first priority for purchase and some of the homeowners living in the area today have a background as renters or some connection with former employees at the Trondheim psychiatric hospital, TPS.

Demographic data from 1999 (the National Register) shows that families with children dominated the group of residents. Most of them had moved in during the last decade. 39% of the residents were children from 0 to 19 years old. 48% of the children were under 6 years old. Children between 7 and 12 years old amounted to 41% of the dwellers. The share of teenagers was low, only 11%. The share of senior residents above 50 years was very low, just 6 %.

The household size in Sjøveien varies from one to five persons. A SINTEF investigation from 2001 showed that 4% of the participating households were single person households, 39% two people households, 32% three people households, 14% four people households and 11% five people households. On average each household had about three members. 48% percent of all households had a total income above 500 000 kr. in 2001.

5.6 Physical and demographic densities, buildings and building pattern

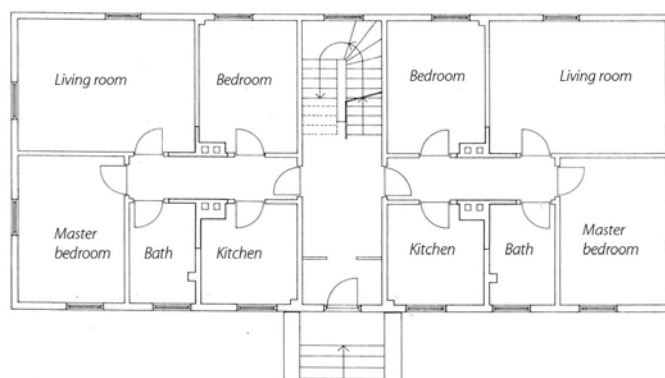


Fig 5.6 Original flats in Sjøveien before any enlargements or other alterations. Drawing by architect Eileen Garmann Johnsen.

The total land area associated with the residences is about 46 340 m². There are 108 flats in total, making the housing density about 23 dwellings per hectare. About half of the flats are their original size, or 75 m². Renovation of areas in the basement or attic has enlarged the other half of the flats, with sizes varying to as large as about 130 m².

Each four-family house has 2 full stories above the ground level. The floor area of each floor is 170 m². Each house has a full basement with windows of the same size as the rest of the house, but the basement floor areas have an understandably limited view. The size of the basement area is 160 m². The attic of the houses has a measurable floor area that is about 60% of a full floor, or 105 m². If every square meter is used, the floor area of each house totals about 605 m², including common areas.

Development of the plot, %TU, is calculated with BRA, “useable floor area”, as a basis. BRA includes all rooms in the dwelling except storage rooms. Today the degree of development of the total plot, TU, is 27%. With all the space in the buildings fully in use, which includes using the areas in the attic and the basement, the TU will be about 35%. The area covered with buildings, BYA, amounts to 10% of the total plot.

The demographic density of the area was 65 residents per hectare in 1999. The results from 2001 show no significant difference with regard to demographic density.

The houses have been constructed with high-quality materials and solid construction. The quality of the workmanship is very high and all details are perfectly carried out. The development seems to have been a prestige project for the Germans. Even today’s residents enjoy the benefits of living in an area that was originally constructed to a high technical standard.

The quality of the architectural planning and design is also first class. The neo-classical expression was perfectly mastered by the architect, and the relationships between houses and among groups of houses is well adapted to the landscape.

During her study of the houses in Sjøveien, architect Eileen Garman Johnsen found that the houses had been proportioned in accordance with classical, geometrical rules. The golden section has been used to compose the facades, and symmetry was an important instrument to achieve a group of buildings characterized by solidity, calmness and dignity. Details were carefully elaborated in accordance with neoclassical models.

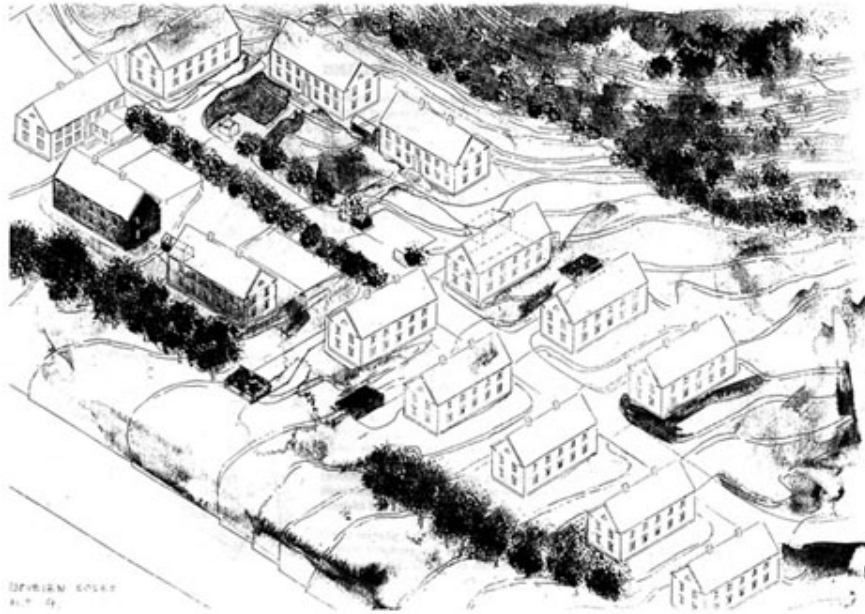


Fig 5.7 Axonometric drawing of the upper (southern) parts of the area made by architect Eileen Garmann Johnsen.

The building pattern is inspired by neoclassicism, but there are also influences from the garden city regulations of Unwin and the ideas of Camillo Sitte. In the upper region of the area a neoclassical styled plaza opens to the entering visitor. Beyond the plaza, the street through the area is flanked by four-family houses which have their gables turned towards it. In this area, axial symmetry is an important feature. In the lower parts of the area the volumes of the four-family houses surround a park area called “the triangle” in an organic manner, and the axial symmetry dissolves.

The access road in the area is organized as cul-de-sac in order to avoid through traffic. Together with the railway sub-crossing that marks the entrance to the area and the encircling green landscape, the blind alley contributes to give the community a feeling being an “enclave”, a peaceful and idyllic place protected from the dangers of the world outside.

5.7 Sverre Pedersen, the area’s architect?

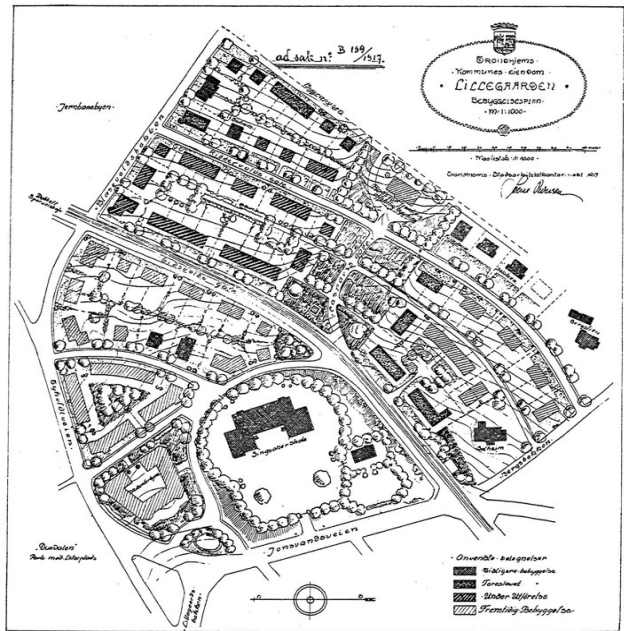


Fig 5.8 Lillegaarden haveby. Plan made by Sverre Pedersen in 1917.

Determining who was the architect responsible for the development plan and design of the houses in Sjøveien has not been easy. It is the generally widespread opinion among people familiar with the history of the area that a local professor, Sverre Pedersen, was responsible for this work. (Garmann Johnsen, 1996) The full details of the area’s development are difficult to trace, however since it was built during wartime and Norwegian archives have limited information about buildings erected by the Germans.

The neoclassical style of the houses in Sjøveien is typical of the style of many other four-family houses that were designed by Pedersen during the inter-war period. Other characteristics of the building pattern also suggest that Pedersen was the architect for the area. The architecture in Sjøveien has features in common with other period structures that were designed by the architectural office responsible for the “Regulation of burned places,” which Pedersen headed. The office was established in order to plan the reconstruction of Norwegian towns that were bombed during the first phase of the Second World War.



A typical four-family house from Lillegården Haveby.

Sverre Pedersen was born in Strinda, a municipal neighborhood in Trondheim, in 1882. He was educated as an architect in Trondheim and Hannover. In 1908 he studied city planning under Professor Hallmann in Stockholm. Professor Hallman was the leading city planner in Scandinavia in his time. He was strongly influenced by modern German city planning ideals developed by Reinhard Baumeister, Joseph Stübben and Camillo Sitte, who also came to be of profound importance to Sverre Pedersen.

From 1914 to 1920, Pedersen acted as city architect for Trondheim, and from 1920 to 1954 he was appointed professor at the Norwegian Technical University, where he taught housing design and city planning. He was the leading city planner of his time in Norway and also had a certain impact abroad. His work was particularly appreciated in Germany and in 1936 he was appointed as Doctor H.C at the Institute of Technology in Darmstadt.

Pedersen was preoccupied both with buildings, primary dwellings, and residential planning. The most influential aspect of his work, however, was in city planning. His main ideas with regards to city planning can be briefly summarized as follows:

- Every city should have a formal identity of its own that expresses local character and traditions.
- The formal expression of the landscape should be reflected and emphasized in the plan.
- All elements should be collected in a distinct architectural composition. Even while Pedersen advocated the importance of functionality, his primary aim was to ensure the inclusion of the aesthetic and formal considerations.

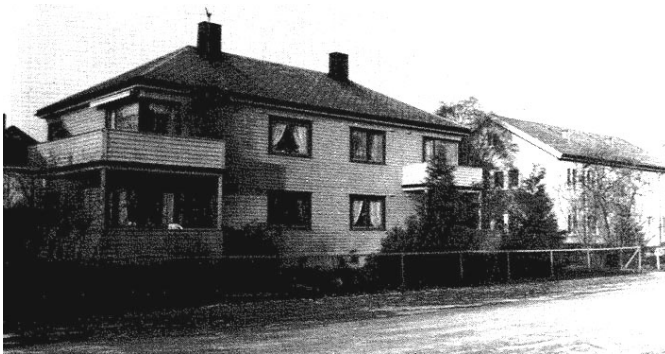
- The composition should express both local character and national values.

The inter-war plans created by Sverre Pedersen were influenced by the needs for hygiene, light and air that were characteristic of the period. He advocated the construction of apartment buildings in the central part of the cities, while the suburban areas were planned for more scattered housing that was inspired by the plans of Howard and Stübben. Pedersen was very enthusiastic about the traffic planning of Raymond Unwin. In one of the Norwegian Technical weekly circulars from 1919 he writes: “The modern cul-de-sacs of Raymond Unwin that aim to create quiet places is an architectural achievement of our time that deserves our full recognition.”

The spaces of the houses designed by Sverre Pedersen were solid and simple. He wanted clear, harmonic and symmetric forms. His goal was for both buildings and plans to create perfect forms where nothing could be altered.

The Sjøveien area illustrates many of Pedersen’s planning principles. Sjøveien has both a distinct composition and harmony with the landscape. The development is also built on a cul-de-sac , and the houses follow the principles of the influential architect.

5.8 The four-family house as a type of dwelling



Ragnildsgate 14, a typical four-family house in modern style from 1937. Architect Sverre Pedersen. (Photo Inger Kolseth, 1992)

The four-family house can be defined as a detached building over two floors with four family flats. The volume is cross-divided, which means both horizontal and vertical subdivision. Each flat has three facades with windows

(Noach, 1993). The building type was especially popular from World War I until the 1960s.

Trondheim was an important area for the development of the four-family house in Norway. Sverre Pedersen was a strong promoter for of this housing type during the interwar period. In his article in the magazine: “Den lille by” (The little Town) from 1927 he stated that the open built-up areas seemed to gain in popularity. One important reason for this was the detached buildings’ (four-family houses’) superior ability to allow daylight into the flats, which is of crucial importance in northern countries with long winters. The detached building also offers better opportunities for nice views from the flats, an attribute which also is widely appreciated in Scandinavia.

The four-family house is not very demanding regarding organization and investments. Because of houses’ limited size, they are not subject to stringent fire requirements. Building with wood is possible, and as a result the construction tends to be cheap. The type is flexible and splitting and merging of flats is possible. The structure can be erected on a 1000 m² plot in a detached one-family dwelling area, as well as in bigger groups of four-family houses on larger plots. Housing cooperatives and municipalities most commonly have executed the latter type of development. Most often the outdoor areas in the larger developments are available for use by all residents as a common property.

With respect to today’s housing situation in Norway, the four-family dwelling has had a renaissance since the 1990s. Changes in the composition of the typical Norwegian family, with an increase in single parent families may be one important reason for this, since many of the four-family house flats are smaller and cheaper than comparable housing. But many two-parent families also seem to prefer a flat in a four-family house, and the flats may vary in size and offer opportunities for expansion, as is the case in Sjøveien.

Most four-family houses are old with a design that in many ways is not up-to-date. However, there may be a lot to learn from these old buildings that in turn could be interpreted in a modern form. What would an area with four-family houses look like today? What about related types like the urban villa or small apartment buildings? To what extent does an understanding of the utility of the four-family house have relevance for related types of housing?

6 Research questions and methods

6.1 Research questions

By conducting a case study in the Sjøveien area, the project will try to shed light on the following topics:

1. What factors make the Sjøveien area attractive to families with children?
2. What is the link between the factors that contribute to Sjøveien's attractiveness and the factors linked to the community's physical and demographic density?
3. To what degree is the Sjøveien area able to compete with detached dwelling areas as a permanent housing alternative for families with children?

6.2 Case studies

In his book "Case study research, design and methods," Robert Yin (1994) describes the kinds of research questions that are suitable for a case study as beginning with the words how and why. How and why questions try to describe and explain a phenomena, whereas research questions that start with who, what, where, how many or how much, which are associated with surveys and archival analyses, try to map the occurrence of a phenomena in a population. Thus the case study strategy should be appropriate both for descriptive and theory building studies. What a case study approach can't do is count numbers, which would show how widespread a phenomenon is.

But there are other research designs that address the questions of how and why. Historical studies and experiments are also suitable for these tasks but differ from case studies in important ways. Historical studies are concerned with incidents in the past. Real life studies of contemporary situations are therefore outside this scope. Experiments are based on the researcher's ability to control and manipulate the conditions of the phenomena under

investigation. Case studies, however, offer the opportunity to study events in a context that is not controlled or manipulated by the researcher.

In his book “The interpretation of cultures,” anthropologist Clifford Geertz (1993) writes about doing “thick description,” in which he emphasizes the importance of studying phenomena in context. “We are not studying villages, we are studying in villages,” he responds when asked whether it is possible to find small societies that represent society as a whole on a micro level. A study of a phenomenon in a specific context may be interesting in a broader sense as long as the researcher manages to grasp the general features of the phenomenon and does not get trapped by the particularity of the context.

The goal of this study, “Attractiveness and density, a study of the four-family house area Sjøveien” is to discuss a broad range of questions connected to housing. Investigating the interplay between different influences is a challenge. The case study method is preferred because it more than any other research strategy provides the opportunity to investigate a complex socio-material system like the Sjøveien area. Real life context is important when the boundaries between phenomena and context are not clearly evident and there are many variables of interest (Yin, 1994).

6.3 Making generalizations based on case studies

Andersen (1997) describes how case studies can be placed in one of six categories based on how the study’s findings can be generalized. These categories are:

- Non-theoretical studies, theoretical interpretative studies
- Studies that aim to create new concepts
- Studies that aim to develop existing concepts
- Hypothesis generating studies
- Hypothesis testing studies.

The first categories are less suited to generalizations, whereas the last is the most suited to generalization.

Non-theoretical studies are not intended for the purpose of generalizing. These kinds of studies are purely descriptive; they are neither driven by theory nor do they attempt to formulate statements that have a broader application. Theoretical interpretative studies are intermediate in terms of generalization, as they are guided by theory but are not intended to make contributions to further development of theory or more general insights. A study in this

category is linked to the universe of theoretical knowledge. The study uses theoretical “input” but does not produce theoretical insights as “output.” According to Andersen’s definition, the category represents applied research, which is useful but should not be taken for true scientific work.

Studies aiming at generalization may aspire to create new or to develop existing concepts or theories. Under Andersen’s definition, only these categories should be labeled scientific; he considers a totally non-theoretical study is to be an illusion. A study must always be conducted according to some kind of concept. If not, it would be impossible to know what to look for. Even an unconscious model is a preconception. By not bring these preconceptions out into the open, the researcher fails to heighten the quality of his insights. If a study does not attempt to generalize at all, the researcher fails to make use of the possibilities that the study offers.

A case is always a case about something. A case as an actual concept implies a certain generality. Andersen does allow that some cases are mainly interesting because of their uniqueness, and therefore are worth studying. For example, a historic occasion with great implications for the future may be interesting to examine on its own. Andersen’s goal is to stress that a purely unique case is the exception rather than the rule. Most often, a search for generalities in the specifics rather than describing uniqueness will bring the researcher closer to the scientific objectives of the study.

There are different approaches to generalizing from case studies. Glaser and Strauss proposed “grounded theory” to develop concepts (Corbin & Strauss, 1998). The method advocates theoretical sampling instead of representative sampling, which is usually called for in social investigations. Grounded theory research is primarily conducted using inductive reasoning. When sampling, the researcher has to look for respondents who will provide further information on the categories and the evolving theory. This means that the details of emerging categories should shape the selection of subsequent cases in a multiple case study. Studying a phenomenon under various conditions allows the detection of how the phenomenon varies under changing circumstances. Studies conducted using grounded theory make it possible to generalize with respect to a theory but not to a population.

Robert Yin (1994) takes a slightly different approach. He says that multiple case studies should be conducted like a series of multiple experiments. By studying different cases, the researcher is replicating the study under various conditions to test the validity of initial hypothesis using deductive reasoning. Such studies allow the researcher to generalize about theoretical propositions,

but as in the case of grounded theory, it is not possible to generalize to populations.

Yin's replicating quasi-experimental method presupposes a multiple case study in order to make the conceptual leap to a theory. Glaser and Strauss also think that single case studies have the potential to be generalized. Glaser and Strauss emphasize, however, that the interplay between the inductive and deductive methods is crucial. Data have to be analyzed before new data are collected, and preliminary concepts and theories that emerge from the analysis should guide further data collection. In this way the validity of the emerging concepts is continuously evaluated.

According to Andersen (1997), a single case study is made into a study with a potential for generalizing by focusing on the factors that it shares with other cases of the phenomenon that it is a case of. The researcher has to moderate the amount of attention paid to the more unique features of the case. The breadth and richness of detail that a thorough case study offers will make it possible to distinguish between properties that the case has in common with other cases from the same class, and properties that are unique to this special case.

6.4 How should Sjøveien as a case study be classified?

The choice of case study unit is not an obvious one. A case study unit might be a person, an area, a group or an institution. Yin says that the research questions should be posed based on the main unit of the case. In embedded case studies, there might also be sub-units, but these are not the main focus of this study.

My focus as an architect is in the end houses and man-made environment. The aim of my research "Attractiveness and density, a study of the four-family house area Sjøveien" is to develop an understanding of what makes residential areas with a higher density than the traditional detached house area attractive. This means understanding how people react to buildings, building patterns and other characteristics of the physical environment. More hidden effects of the physical environment should also be sought after.

The study will primarily be concerned with a specific group of people, families with children, but the aim is not to make any general theory about the housing preferences of this group. Getting information about this topic is however of interest to the project, but not its main goal. The main unit is the residential area as a socio-material system described and interpreted through

the eyes of the inhabitants, but also with the aid of other types of data such as quantitative data from questionnaires, photos, drawings, statistics and interviews with professionals who have been working in the area.

6.5 How can Sjøveien be classified?

The Sjøveien area is most widely understood as a case of a residential area. As this study aimed to examine concentrated suburban small scale housing, it was natural to focus on the housing development as an area that had been built with a kind of housing that belongs to this category, namely four-family houses.

But is Sjøveien typical for this category? The answer to this question is both yes and no. The houses and building pattern in Sjøveien have many characteristics that are typical for four-family housing. The size of the buildings and the common staircase and entryway are all characteristics of typical four-family housing. The neoclassical style is neither very special to houses in this category, at least not in Trondheim.

What makes the area unique, on the other hand, is its favorable location by the fjord and the absence of balconies. Gardens with no private subdivisions and spacious common outdoor areas without fences and hedges are also found in other four-family house areas. The ability to enlarge the flat by improving areas in the basement or attic does not yet seem to be widespread, but there does seem to be a trend to section common storage areas so that they can be integrated into the areas of the flats.

The characteristics that make the area special, compared to most other four-family house areas, are too important to be neglected. As a critical objection, one could ask whether a study of a four-family housing development would have done better to choose a case that was more mainstream. However it may be asked whether a “typical” four-family housing development actually exists. There will always be factors that make a development different from others. The goal of finding a typical case, a microcosm that mirrors the macrocosm, finds little support among researchers today (Geertz, 1993). In support of view Andersen’s view, I believe that it is possible to generalize from single case studies if the distinction between factors that are unique and factors that are general are clarified.

As a case unit, Sjøveien is a complex socio-material system. Particularly in the first stages my research, it was important to grasp this complexity in order to clarify the distinction between originality and generality, but also in order to

be open to new phenomena and connections of importance. The later stages of the process, the development and analysis of the questionnaire, had a more limited focus.

When analyzing the case material it was important to map the reasons for the attractiveness of this actual area. It was also important to focus upon Sjøveien as a representative for four-family housing development. Data that could shed light on more general questions concerning dwellings was nevertheless not neglected. Of particular interest was material that could further illuminate the housing desires of the target group, families with children.

6.6 A single case study

The overarching goal of the project that led to this study was to develop knowledge about the kinds of housing that would be attractive to families with children and that at the same time would be more sustainable than the detached dwelling. In short this means more concentrated housing where the dwellings' use of land resource is more effective, and the size of each flat is reasonable.

Previous research works and literature on the subject show that since the 1970s, a great deal of attention has been paid to the development of vertically divided small scale housing as an alternative dwelling type (Guttu, 1979, 1980, 1983; Bjørneboe, 1983, 1985). The attractiveness of the vertically divided type was expected to be dependent upon its ability to provide "detached dwelling qualities" such as a private, protected garden and entrance.

Research from the 1990s, however, shows that values and preferences connected to housing may be changing. The predilection for the private sphere seems to be challenged by a higher valuation of the semi-collective sphere (Larsen, 2000). Concentrated housing that emphasizes the importance of the semi-collective sphere is of interest to the current research.

The four-family house is a representative of this category and has as such been selected as the subject for investigation. As mentioned previously, case studies have been selected as the most appropriate strategy in order to get the desired data to develop an understanding of this housing type. The preference for a single case study over multiple case studies, however, is not so obvious.

The choice of a single case study was mainly made because the desire for an exploratory study that would allow the discovery of interesting and perhaps unexpected connections between variables would also require an intensive

research design. Given the limitations of time and money, restricting the number of units of investigation to just one case made it possible to increase the number of variables. Particularly during the first exploratory stage of inquiry, there was an emphasis on looking for factors that would influence the research questions. Allowing a certain complexity and in-depth investigation was also a means to clarify the ways in which the case was mostly unique and the ways in which its features were of a more general character.

A multiple case study would also, under the same resource limitations, demand more focus on predefined variables that were expected to be the most influential, thus limiting the exploratory potential of the case.

However, making the most of the generalization potential of a case does demand that the case study be conducted in an implicit comparative manner. This means that discoveries from the case have to be compared to discoveries from previous investigations and existing theory. Developing scientific knowledge in a vacuum is not possible. New findings have to be related to established claims in order to give them support or lead to their downfall.

Aside from questions based on information from the interviews, the questionnaire used in Sjøveien as a second stage in the investigation also included a standardized *Housing quality evaluation*. This test was developed by Støa and Høyland at SINTEF's Department of Architecture and Building Technology, and builds on previous works on *Housing quality* carried out in the field of architectural research. The test has also been used in other Norwegian residential areas, which thus made possible a comparison of Sjøveien with other areas on some selected parameters (Støa & Narvestad, 2002; Støa, 2003; Støa, Høyland & Wågø, 2006).

What Sjøveien shared in common with other areas examined was that they were built from different types of concentrated small-scale housing. Data from the other areas were used for comparison, with the goal of setting Sjøveien in a larger context of Norwegian small-scale housing areas with regard to a predefined set of properties. As is true in Sjøveien, these other areas had distinct individual characters; none of them could be described as a "typical row house area." The ability to make more general statements based on this comparison on some selected parameters was very limited, but it was nevertheless helpful in order to establish a backdrop for the interpretation of the Sjøveien case. The other areas have been used to illustrate tendencies with regard to Norwegian suburban residents' opinions regarding housing quality and as an aid in determining which of Sjøveien's properties are of a more general character and which are the more unique ones. Each of the four areas

is only generally introduced, because it has not been intent of this research to use them to develop a multiple case study.

6.7 Combining different types of data

Case studies offer the opportunity to employ different types of data. In its early stages, this study was exploratory. By means of inductive investigation the focus was on getting an overall picture of the residential area and discovering the variables and connections that would be interesting for further study. To get a deep understanding of the area's conditions, qualitative data were collected. These data were in the form of semi-structured interviews with adult residents who belonged to the household category of families with children, and were conducted during April and May 2000. The informants were asked about what it was like to live in the Sjøveien area, and their opinions about housing on a more general level. Seven of the interviews were taped and transcribed word for word. To fill in the picture, observations in the area and informal talks with other residents were also employed. After this first stage of research, a preliminary analysis was done in order to focus further study.

To check the relevance and reliability of findings, it was necessary to gather new data. At this stage a quantitative enquiry in the form of a questionnaire was developed. The questionnaire was distributed to all households in the area, both families with children and households without children, during the autumn 2001. The results from the questionnaire gave a valuable supplement to the data from the interviews, and provided a better idea of how widespread the phenomena reported by informants was.

63% of all households completed the questionnaire. The percentage of households from different categories that had completed the questionnaire was almost identical to the household categories' share of the total population in the area. There were no tendency for young people to respond more than seniors, or that families with children were more represented in the response than singles or couples. There were respondents from every house, and no disproportionate response from respondents in a particular region of the community. Based on this information, the results were considered to be reliable.

The questions in the questionnaire tried to test whether phenomena reported by the informants really were of importance to a larger group of residents. The questionnaire sample was all households in the area. Thus this stage of the study had a more deductive character than the first exploratory inquiry. An

interaction between inductive and deductive stages of inquiry was wanted in order to develop a more reliable study with an increased ability to be generalized. The deductive testing of any clearly formulated theoretical hypothesis has never been the aim.

6.8 Collecting the data

Topics that were covered in each semi-structured interview were:

- Family information
- Housing choice
- The development of the Sjøveien area since the family moved in
- The situation of both grown-ups and children in the area
- Neighborhood relations
- The location of the area
- The outdoor areas
- The design of houses and flats
- Transformation of houses and flats
- Aesthetic and affective evaluations of the area
- The informants' previous and prospective housing
- The relationship between the residents of the area and the surrounding community

Questions about demographic and physical density were avoided in the first stages of the interviews. Because I did not want to influence the informants' opinion about these matters, I conducted the interviews with the hope that more general questions would lead the informants to talk about these issues on their own. Most did. More direct questions about density were posed to the few who did not address the topic.

This tactic may seem contrived, and most social scientists would say it is impossible not to affect informants. Just the fact that a researcher is doing an interview will in itself influence informants' statements. This is of course correct, but some questions posed by a researcher can be more leading than others. The concept of density, both demographic and physical, has a negative connotation for many people. Introducing it may mean introducing an unnecessary coloring of the informants' picture of the area.

The concepts of housing quality and housing values were not introduced in the interviews. The reason for this was a desire to let the informants use their own concepts when talking about their home and their residential area. Informal conversation was determined to be the best medium for understanding the

informants' own sense of their housing situation. Professional terms were avoided as much as possible.

Unfortunately the questionnaire did not provide the same ability to get valuable information in an indirect manner. To be certain to get relevant information, questions about concepts such as density had to be posed directly. The questions in the questionnaire covered by and large the same topics as the interviews, but the ability of respondents to answer freely was of course limited by the format. On the basis of the interviews, alternative answer categories were developed. In most cases there was also a space for answering if the response did not belong to any predefined category.

But it is obviously far more easy just to select a predefined answer than to start formulating a different and maybe more complex response. It is almost impossible to avoid having the predefined categories act as guidelines. On the other hand, it is possible to presume that most respondents would feel that a questionnaire with no predefined categories at all was more demanding and as a result the participation would be low. This would be a very unfortunate situation as the main task of the questionnaire was to test the reliability of findings from the interviews. In order to fulfill this task the sample needed to be as broad and representative as possible. Analyzing the data would also be more difficult without the use of predefined answers, and goal aim of focusing the study and testing the relevance and reliability of previous findings would not be achieved.

6.9 Initial hypothesis, a necessary guide or an unfortunate preconception?

When developing and testing a theory in a deductive manner, an initial hypothesis is a necessity. Yin states clearly that no research project should be started without a hypothesis; the hypothesis is necessary in keeping the focus of the investigation on relevant topics.

The advocates of grounded theory hold a different view; they believe it is important to avoid having an initial hypothesis. The concepts should emerge from the data in a truly inductive manner. Working with an initial hypothesis implies having preconceptions about what the case is supposed to show, and makes it impossible to be open to the evidence regarding what is really going on in the field. Grounded theory supporters also advocate keeping a sharp focus during research, but their approach is to start from a broad line of inquiry, narrowing it during analysis, rather than to start out narrowly with a well-formulated hypothesis.

However, even though a researcher might wish to eliminate all preconceptions and begin research with an open mind, this may be impossible. We always come to new situations with concepts from previous experiences and expectations. There is, however, a difference between an open mind and an empty head. Our experiences can be used as a source of inspiration if we learn to cope with them in a useful way. Corbin and Strauss (1998) stress that the important point is being able to distinguish between one's own ideas and emotions and those that emerge from the data.

Grant McCracken's book "The long interview" (1988) provides advice about separating one's own views from the views of informants. Before starting a research project, the researcher should examine his or her own attitudes regarding the phenomenon in question. I followed this advice before starting to interview Sjøveien residents. The resulting thoughts were written down as a part of a consciousness-raising process. By making my own stance concrete, views that might be taken for granted were more easily seen.

In this context, I came up with a number of expectations concerning what I expected to find. My understanding of the Sjøveien area made it reasonable for me to believe that the area was attractive to families with children. Without this knowledge the area would not have been relevant as a case for the study. Norwegian housing research from the most recent decades also provides information about phenomena that are likely to be at play in Sjøveien.

Concerning the first research question:

"What factors make the Sjøveien area attractive to the families with children?"

The main factors that were expected to contribute to its attractiveness were:

- The nice location in green surroundings close to the fjord.
- The nice green outdoor areas.
- The cozy houses with their old-fashioned design.

The possible negative or positive influence of the four-family house type was not anticipated. The type offers less privacy and demands more collaboration between neighbors than vertically divided housing or detached dwellings. This condition may have a negative influence upon attractiveness, but may also give unexpected opportunities.

With regards to the second question:

How do the factors that contribute to Sjøveien's attractiveness and factors connected with physical and demographic density interact in Sjøveien?

The expected findings were quite varied. On the basis of my own observations, the area was expected to be experienced as physically dense to a rather modest degree by the residents. However, at least with regard to the experience of demographic density, the findings were rather ambiguous. Saglie had detected in her thesis "Density and town planning" (Saglie, 1998) that the sense of in a dense situation was mainly constituted by social factors, represented by social control or the ability for people to look in your windows. Conflicts brought the feeling of being socially crowded to an extreme.

The Sjøveien area has an open building pattern that allows for air and spaciousness outdoors along with a view from all the houses. The possibilities for someone looking in a window are limited and the roomy outdoor areas could be expected to accommodate a variety of different activities without conflict. The type of the four-family house was considered to be potentially socially demanding, which in turn was the most likely source of conflicts and consequently, the most likely source for a feeling of being crowded.

With regards to the last research question:

"To what degree is the Sjøveien area able to compete with detached dwelling areas as a permanent dwelling alternative for families with children?"

There was no one anticipated answer to this question. Previous research shows that some areas built from concentrated small-scale housing act are a permanent choice to the residents, while others have had rather high turnover. In the latter group, there seems to be a predominance of areas with small, cheap flats inhabited by young families with small children. This description is partly appropriate with regard to Sjøveien, but qualities such as the ability to enlarge one's flats make the area more likely to serve as a permanent alternative. Whether one type of housing can compete with the detached dwelling alternative depends upon factors such as the attractiveness of the area, but external circumstances like the quality, availability and price of detached dwellings in the district will also influence the outcome.

It should be remembered, however, that despite these more or less defined expectations, no clear hypothesis was formulated as a starting point for the investigation. A true scientific hypothesis is more than an expectation about findings. It is a theoretical explanation about why the phenomena occur, and a prediction about the occurrence of the actual phenomena if certain conditions are present. The existing information about Sjøveien at the start of this

investigation was not at this level. Because of this, the research followed the strategy of using inductive reasoning during the first stages of investigation followed by deductive testing of hypothesis developed during analysis.

6.10 Choice of concepts and theoretical framework for the study

This study “Attractiveness and density, a study of the four-family house area Sjøveien” is in a field of research that is characterized by a modest degree of theorizing. Most housing research conducted by architects has traditionally been focused on description and empirical findings without any larger goal of formulating general statements. Existing concepts and theories are largely of a normative character and are more often based on the experience of the practitioner rather than on scientific investigations. In this situation, conducting a study in accordance with the deductive strategy recommended by Robert Yin would hardly be possible. The field simply does not have the theoretical framework that is necessary for producing a hypothesis for deductive study.

If the goal is to craft a study that enables generalizations, it may be necessary to create or develop basic concept. Developing concepts using the approach described by grounded theory is one approach for building the research field. Another strategy would be to look for help from other scientific fields. Integration of concepts and theories from other fields might help to create a point of departure when working in a field with a weak theoretical framework.

One possibility is to use the theoretical framework developed in the field of “Environment and Behavior Studies” (Rapoport, 1994). Several of the topics that are the focus of this study have also been the object of research in the fields of social sciences. In the 1960s and 1970s housing research and analytic works on housing quality in these fields were mainly conducted as quantitative investigations. Qualitative housing research, most often conducted by psychologists and anthropologists, became more widespread in the 1980s and 1990s. Both quantitative and qualitative investigations in these fields have resulted in concepts and theories that may be of interest for this investigation.

A strategy based on the development of new concepts following the recipe described by grounded theory would have both advantages and disadvantages in relation to this specific study. The inventors of this method encourage the researcher to let concepts emerge from the empirical data. The researcher should be open-minded when working with the case material and not force his

own theoretical models on the data. In this way the voice of the informants can emerge.

As an architect I look at housing through the lenses of my profession. This type of professionalism may be a resource when working with architectural research, but it might also be a hindrance. Professionals develop their own standards and ideals concerned with their trade. These might be more or less in accordance with the norms of laymen. In the case of architecture there seems to be a gap. Architectural research has until now been conducted based on the concepts of professionals. Understanding the layman's perspective could give the field a necessary adjustment. In accordance with this aim, it is extremely important to try to let go of one's own opinion and learn to listen to the residents. Conducting studies in an inductive manner and letting the concepts emerge from the data appears to be a sound way to achieve this goal.

However, there might also be disadvantages linked to this strategy. One important critical objection against grounded theory is that the focus on developing new concepts weakens existing theoretical frameworks for scientific fields instead of strengthening them. If a certain number of studies conducted in a specific field aim at developing new concepts, the field will be swamped with concepts that on their own may be interesting and relevant but have the drawback of not relating to each other. In this way the studies fail to make the most of their potential for building upon previous studies in the scientific field.

To define a concept means to select the pair of glasses through which we want to see the world. We are dependent on conceptualizing our experience in order to express it, but at the same time we are also boxed in by doing so. As discussed earlier, using well-known concepts might favor an accustomed way of dealing with a problem, thus neglecting new insights. As most existing concepts are based on the experience of professionals and not laymen, using them may mean to fail to see the phenomena under investigation from ordinary people's point of view.

On the other hand, conducting a study that is positioned within an existing theoretical framework using well-known concepts may be advantageous when the researcher wants to build on the work of other scientists. One of the most important principles of science is to relate your study to existing knowledge. Using a common language is a necessity if you want to communicate with other scientists, and in the world of science common concepts and theoretical frameworks constitute this language.

With regard to this study, a choice was made to favor the use and development of existing theoretical concepts rather than to create new ones. Defining new concepts was regarded as the right thing to do in special situations, but not as the rule. Only in situations where no adequate concepts were at hand were new ones created, and inventing new concepts as an aim by itself was regarded as undesirable. This choice was made because of the desire to improve the ability to relate the study to other works of research.

I attempted to overcome the potential disadvantages caused by this strategy with regard to neglecting the opinion of laymen by using the concepts of professionals by consciously designing my interview guide. The informants were encouraged to be open, and the questions that were posed were formulated in a general way. The main concepts of the study were not presented to the informants in order not to color their statements. The data from the interviews were summarized to make a description of the area that subsequently acted as a guide when choosing existing concepts that seemed to be of relevance to the case.

This study has as its focus two main concepts: *Attractiveness* and *Density*. The field of architectural research has a tradition of working with questions related to attractiveness of dwellings and residential areas. Even if the research has generated few general claims, the field has developed a set of concepts that can be used as a scientific tool for further investigations. The concepts have been used in previous studies of housing quality and will be reviewed in this thesis as a part of the theoretical framework.

Several researchers and theoreticians from different social science fields have been working with research questions related to demographic density. The experience of physical density in the built environment has also been an object of investigation, particularly in the fields of human geography and architecture. The desire in implementing this study under the umbrella of an existing theoretical framework has called for a critical survey of works on the topic, in the event that insights of relevance to the Sjøveien case can be found.

6.11 Conclusion

A case study strategy was determined to be well suited to this study because it offers good opportunities for studying phenomena in context and can capture the interplay between different variables in the complex socio-material system that constitutes a residential area. The investigation is based on a single case design. The reason for this is a desire to thoroughly explore a wide range of variables. Such a method is seen as the best way to detect potential new

influencing factors and unexpected connections. Given the same resources with regard to time and money, a multiple case design would have demanded a more narrow focus working with fewer variables. This implies more concise research questions and preferably a hypothesis.

Even though the investigation is a single case study, it still should offer some potential for generalizing. In order to fully exploit this potential, however, it will be important to place the study in the context of the actual research field by comparing findings with the results from other related investigations. With regard to a limited selection of variables, data from Sjøveien will also be compared to data from other suburban housing areas built from concentrated housing. This will be done to create a reference for the discussion on housing qualities in Sjøveien, and should not be regarded as an attempt to undertake a multiple case study.

Different types of data have been used in the investigation. Qualitative interviews, observations, questionnaires, pictures, drawings and informal talks have been used as data. These various tools have been selected to fill out the picture of the case and collect a broad spectrum of information. The study has not been guided by any clear hypotheses, but results from previous research have of course colored expectations about probable findings in the area. As much as is possible, the study's theoretical framework is based on commonly used concepts in the field of architectural research. This choice has been made because the use of identical concepts among researchers makes it easier to relate studies to each other and thereby contribute to developing the research field. The study also draws on research from the social sciences.

PART 2:

ATTRACTIVENESS

This part of the thesis will introduce concepts and categories that can be useful in the analysis of housing attractiveness. The section also presents a comparative investigation of housing qualities in five Norwegian suburban residential areas in order to provide a backdrop for the investigation of attractiveness in Sjøveien. The chapter then presents a description of the informants' picture of the Sjøveien area based on the qualitative data obtained. The last part is dedicated to an analysis of attractiveness in Sjøveien with respect to the suburban housing culture, using Jan Gehl's theories on designing social space as a point of departure.

7 Housing value, housing quality and lifestyle

7.1 Housing value

In his article from 1993 “The values of the dwelling,” the Swedish researcher Jan Erikson explains his methodology for research on housing values. Erikson takes criticism of functionalism as a point of departure for his discussion. Swedish housing design in the post-war period has been criticized for its one-sided emphasis on functional qualities, where the practical aspects of housing dominated while other aspects, such as aesthetic and symbolic qualities, have been ignored. Many works of Swedish architectural research from the last decades are reactions to the architectural poverty that may be regarded as a result of this one-sidedness.

As a first step towards more satisfying housing architecture, Erikson recommends an evaluation of the weaknesses of the functionalistic planning method. Some key questions should be asked. First of all: “Which housing values have been focused on, and which have been ignored?” Secondly: “What kinds of differences between residents have been focused on?” And lastly: “In which ways have a positivistic scientific ideal and method contributed to this one-sidedness with regard to attention?” Erikson maintains that questioning the classification systems behind the planning is crucial in order to improve housing design. He believes that functionalism’s categories have failed and should be replaced by other suitable classification systems.

Erikson’s goal is to contribute to this task; he starts by asking the questions: “What kind of values does a dwelling possess?” And: “What kind of differences between people are essential with regard to the use and design of the dwelling?” His hypothesis is that all kinds of housing values are important to all kinds of residents, but to varying degrees. Preferences concerning the definite expression of the value will also vary. Aesthetics is, for example, more or less important to all homeowners, but aesthetic tastes vary.

Erikson believes that the residents’ own opinion about their housing is what matters. Functionalism was pioneered by experts, and the resulting reductionism following from their abstract universe of ideas has plagued the layman ever since. Now it is time for the average homeowner to make their

opinions known. Only in this way it will be possible to craft a picture of the kinds of qualities that should be expected from the housing of the future.

7.2 Housing quality

The concept of *Housing values* as used by Erikson is quite abstract and research that attempts to grasp the meaning of a certain housing value may need more concrete tools in order to come away with useful information. The concept of *Dwelling quality* may be a useful tool. In this thesis I will define the concept dwelling quality in this way:

Dwelling quality represents a concrete characteristic of the dwelling or the housing environment that is assigned value by the residents. A dwelling quality may be associated with different housing values, depending upon which respondent is asked. It is also possible that a resident will assign different kinds of value to the same quality. However, most dwelling qualities are likely to be associated with mainly one specific housing value.

When using the concept in investigations, the selected dwelling qualities are supposed to be evaluated in a positive manner by most residents. It is possible, however, that a characteristic that is sought after by some residents is avoided by others. In any event, residents will attach positive values to varying degrees to a specific dwelling quality. Different categories of residents will have different preferences and residential areas will display the dwelling qualities to varying degrees.

7.3 Eriksson's classification system of housing values

To create a new typology of housing values, Erikson relies on previous theoreticians. The aspect of aesthetics has always been important in architecture. Cornell defines architecture as: "Aesthetical organization of practical reality" (Cornell, 1966). The practical-aesthetic dichotomy is basic in housing as well as in other kinds of architecture.

In their 1956 book "The use and character of objects," the Swedish brothers G & N Paulson add a new social dimension to the practical-aesthetic dichotomy. Social values are the signals that housing sends to its surroundings. The housing's physical expression allows residents to tell others who they are and want to be, and which social group they want to be associated with. Status for instance goes with the dwelling. G & N Paulson treat aesthetic and social

values as separate, a differentiation that has been a topic of discussion. Several theoreticians, including Pierre Bourdieu (Bourdieu, 1984), have claimed that taste is a matter of social belonging. As social beings we are taught to appreciate the aesthetic preferences of the group we are socialized into. When trying to climb the social ladder, people adopt the taste of the group they seek to fit into.

Erikson, however, maintains that it is possible to keep these dimensions separate. Social values appear when aesthetics is used for the purpose of relating to other people. Aesthetic values, on the other hand, are experienced independent of social situations, even if the aesthetic preferences themselves are determined by social belonging. Social values connected with housing as described by the Paulson brothers may also be described as symbolic values. The Paulson's three dimensions of housing values (practical, aesthetic and social) are then approximately equivalent to Eriksson's practical, aesthetic and symbolic values. However, these two systems are not completely identical since symbolic values also include values of a nonsocial character. One example is what is called affection values, which have a mainly private character.

Practical, aesthetic and symbolic values make up the foundation for the typology of housing values that Erikson aims to create. Practical and symbolic values describe main categories composed of sub-categories. Esthetical values, on the other hand, refer solely to the pure experience of beauty connected with the dwelling.

<u>Aesthetic values</u>	<u>Symbolic values</u>	<u>Practical values</u>
	Informative values	Physiological values
	Demonstrative values	Recreative values
	Affective values	Psychosocial values
		Practical values
		Rational values
		Economic values

Aesthetic values are separate from symbolic values in Eriksson's classification system. Eriksson believes that such a separation is possible, because a pure formal experience of beauty distinct from symbolic meanings is possible. Aesthetic theories have for the last decades shifted towards pure theories of art. The more general questions about beauty, delightfulness and sublimity have been neglected. Erikson seeks a concept of aesthetics that is not only limited to objects of art, but include ordinary objects. *The beautiful* is like *the good* and *the truthful* basic and general concepts, and in many connections these concepts are still useful.

Symbolic values are a compound of the sub-categories informative values, demonstrative values and affective values. Informative values are based on cultural signs that give information to the resident about the use of different components in the dwelling. For example, a door is given a certain form and expression to signal that it may be used as a transition link between two rooms. A person socialized into our culture recognizes these signals and uses the door in accordance with his or her expectations. A person from a culture that is significantly different from our culture may not however be able to decode the message.

Demonstrative values refer to the use of objects for relational purposes. The category is more or less equivalent to Paulson's category of social values and refers to the use of architecture as a social marker. Affective values on the other hand take on a more private character describing the characteristics of an object that evoke positive or negative associations. The affective values are purely emotional.

According to Erikson, practical values like aesthetic and symbolic values are mainly determined by culture. Humans all over the world sleep and eat in their dwelling but in different ways according to their own culture. For instance, you do not need a bed to be able to sleep, but in western society we are inclined to think that we do. The qualities that make a dwelling practical and comfortable are not a hard and fast given.

Erikson divides practical values into four sub-categories. The first of these are physiological and recreative values, which refer to our physiological and biological needs like eating and drinking.

The other group, psychosocial values, are connected with the ability the dwelling and the residential area offer with regard to taking care of needs for both socializing and private life. Researchers have used several concepts to describe the individual need for a private zone. *Privacy*, *territoriality*, *personal space* and *defensible space* are among them. The idea of private separate space itself is in many respects quite new, even in a Western context. In the 19th century, for instance, all the members of ordinary European families slept in the same room. It was only the members of the upper classes that had a room of their own. Today most people living in poor countries lack a private space as well. When privacy is desired, it has to be obtained by non-physical means.

There has been much discussion regarding the degree to which a built environment actually may influence the social life of the inhabitants. Different researchers' answers to this question vary from the supporters of design

determinism, who claim that physical structure regulates social life, to groups of social researchers who believe that physical structure has no influence on social life at all. Social researchers, architects and physical planners, however, most often take the stand in the middle. For example, Jon Lang (1987), as a representative of the large middle group, argues that social needs cannot be fulfilled directly by providing the “right” design for the built environment. It is possible, however, to influence and give better opportunities for a satisfying social life in the residential area with careful area design.

When developing his classification system of dwelling values, Erikson assumed that each specific housing value should be of importance to all kind of inhabitants, even if they belonged to different cultures. However, the interpretation of the value would differ. But can we say that the need for privacy is universal? Yes, says Erikson. The need is universal, but it is not always met by the dwelling. At the same time Erikson is very eager to underscore that the term housing values should be employed only when we are talking about values that are influenced by the placement, design and furnishing of the dwelling. As long as it is believable that a majority of the world’s population would never think that their dwelling should offer them privacy, it may seem a little bit exaggerated to talk about privacy as a universal dwelling value. If, on the other hand, the classification system’s sphere of application were limited to today’s Western society, it would be easier to defend.

Practical and rational values influence how an inhabitant cares for practical tasks in the home in an efficient and easy manner. The category is closely related to physiological and recreative values, but differs with regard to the state of consciousness of the subject. While physiological and recreative values refer to the inhabitant as a purely biological being, practical and rational values assume a consciously acting individual.

Erikson defines economic values as values concerning the resource economy of the housing. For example, energy saving installations may lead to more economical household in operation. He does not include the economic value of the housing as he has decided to restrict his classification system to use values only. This means that several value aspects connected with housing are excluded. Among the most important is the exchange value of the house or flat.

The dichotomy of an object’s use value and exchange value has engaged theoreticians since the time of Aristotle. From a practical standpoint, it is also clear that a number of house buyers primarily regard the dwelling as an investment. Erikson argues, however, that as long as a resident is living in the

dwelling he or she is not preoccupied with its price. This subject will be of interest only at the time of purchase, and may as such be excepted from his list of use values.

7.4 A classification system of housing values adapted for this study.

For the purpose of evaluating housing values and dwelling qualities in this study, a simplified and adjusted version of Erickson’s classification system will be used.

<u>Aesthetic and Symbolic values</u>	<u>Practical values</u>
Informative values	Psychosocial values
Demonstrative values	Practical and Rational values
Affective values	Economic values

The main difference here is a merging of the aesthetic values and symbolic values categories. As described earlier, the distinction between these categories has been discussed by several theoreticians. Bourdieu, for example, maintains that aesthetic taste is always a matter of social belonging and as such used as a social signal.(Bourdieu, 1984) Another relevant question in this connection is whether it is possible to determine from data if an experience of beauty is purely aesthetic, or if it is influenced by social belonging, emotions and so on. At a minimum, this will be difficult to determine from quantitative material. In order to avoid further confusion the two categories have been unified for practical reasons, which brings us back to the well-known duality: The experience of architecture as an “aesthetic organization of practical reality”.

Physiological and recreative values have been removed from the practical values category. The reason for this is that the unconscious character of these values makes them difficult to measure. By and large they may be placed in the practical and rational values category, which addresses the same values in a more conscious way.

Erikson decided to limit his classification system to pure user values. But the market value of the dwelling usually plays an important part in the household economy. The rise and fall of housing prices influences the everyday life of many families. Housing often forms the security for other forms of credit, such as a car purchase. Under these circumstances it seems inconsistent to exclude the market value of the housing from its economic values, so that this study will include the commercial value of the dwelling in this category.

7.5 Different categories of inhabitants

As described in the introduction to this section, Erikson has been preoccupied with two research questions; “What kind of values may a housing be associated with?” and “What kind of differences among people are critical with regard to use and design of the dwelling?” As an answer to the first question he created his classification system of housing values. In order to answer the second question, Erikson tried to establish a more balanced categorization system for different groups of residents as well.

Demographic and Physiological variables

Age
Household size
Household composition
Life cycle phase
Health

Social and economic variables

Gender
Income/Fortune
Occupation
Class

Cultural variables

Ethnic origin
Way of life
Mode of living
Lifestyle

The functionalist architects were mostly concerned in the variables on the top and in the middle of the list. These variables were easy to measure in a way that was in accordance with their positivistic scientific view. Cultural variables, on the other hand, are not so easy to measure.

In order to design appropriate flats, the functionalists conducted ergonomic studies of different functional rooms, such as kitchens. The resulting design was carefully worked out in a way that was designed to meet the users needs. However, evaluation of the projects showed that homeowners worked in their kitchens in ways that differed profoundly from what the planners imagined. They did not use the kitchen in the “right” manner, and the differences with regard to use did not necessarily show any covariance with the typical categories of different homeowners who were considered the norm at the time.

In reaction, concepts that aimed at describing cultural variation were developed. Under Eriksson’s categorization, three categories represent cultural differences. Way of life, Mode of living and Lifestyle seem to be overlapping

and for further discussions the concept of *Lifestyle* will be employed. Lifestyle describes the differences with regard to the mode of living that various groups have. Lifestyle is characterized by its independence of classical demographic categories such as age and household size, but is influenced by variables such as class and ethnic origin.

The kind of categorization of inhabitants that is most relevant for the analysis of a housing values will vary according to the character of the specific value. While evaluations of practical values often vary with demographic variables, evaluations of aesthetic and symbolic values are more dependent on cultural factors.

7.6 The concept of lifestyle

The French theoretician Pierre Bourdieu has been central to the development of the concept *lifestyle*. According to Bourdieu, lifestyle is typified by a person's pattern of consumption and practices of everyday life. Lifestyle affects values, culture and social behavior.

According to Bordieu, a person's lifestyle is signaled to the surroundings by *taste*. In his book "Distinction: A Social Critique of the Judgment of Taste." from 1984 (first French edition in 1979) Bourdieu states that: "Taste classifies, and classifies the classifier." As the prosperity of the average Western consumer has increased after World War II, a larger part of the households' expenditure are marked by signs of luxury and surplus consumption. Goods are no longer mainly purchased for utility purposes. More and more commodities are used for signaling social belonging and demarcating social borders.

Using housing as an example, we can say that its value has shifted from practical user value to symbolic value. When Bourdieu talks about taste, he means the aesthetics used for symbolic, demonstrative purposes. Pure formal beauty as a value in itself separates from social relations is not the subject of discussion.

Taste is an understanding of what objects are appropriate to acquire. To own the right item is not sufficient, however. Taste also demands that the possessor master the use of the item. Abundance and lack of limitations when it comes to the availability of goods makes it more difficult to "place" people in a social hierarchy on the basis of consumption. In this situation, taste becomes even more important. Real taste enables a person to identify subtle signals.

Bourdieu says that taste classifies. By displaying the right taste a person gains access to the social group where this actual taste is considered as good and desirable. There is a clear connection between taste and class as determined by education, profession and income. Moving up the social ladder may be easier if the right preferences with regard to consumption are adopted. A link between the production and consumption sphere is made. Displaying an appropriate appearance wearing the “right” clothes and talking about the “right” subjects may in fact provide you with a better job, regardless of your formal qualifications.

Taste is also an important means in the struggle between classes. The lower classes seek to adopt the positional goods of the upper classes in order to challenge their hegemony. Limited access to the relevant positional goods will stabilize the hierarchy of power, whereas easy access threatens social borders. In such a situation, taste will become even more important. The upper classes have to define new positional markers to be aspired to in order to maintain the hierarchy. In this case, knowledge is extremely important. To be an insider demands that you know exactly the secret codes that are valid at the moment. Fooling people that you belong to the better circles is in fact difficult, even with up-to-date knowledge. Real taste is embodied. If you are a cheater your voice and movements will betray you.

Bourdieu stresses the importance of lifestyle and taste not only as a way to signal class and social belonging, but also as weapons in the class struggle. A broader use of the concept lifestyle does however not necessarily include the power perspective. Several researchers refer to lifestyle simply when the aim is to describe how patterns of consumption coincide with social belonging. Items used as social markers are an important feature of this total picture. The different groups that people associate with may nevertheless live in peaceful coexistence, and climbing up the social ladder by getting access to better-off circles is frequently not a goal. People identify with and find security in their social group. Their lifestyle is an expression of their identity, but degree to which they are aware of their own social signals will vary from person to person. In many cases lifestyle is merely embodied and deeply unconscious. The concept of lifestyle may also be used by researchers who want to emphasize signs of cultural belonging other than the symbolic use of objects. Marianne Gullestad, for instance, uses the lifestyle concept in order to describe how cultural differences determine social processes (Gullestad, 1985).

Lifestyle as a term that categorizes and defines different groups of inhabitants will be of interest particularly when analyzing symbolic housing values. But the analysis of aesthetic and practical housing values may also be better

illuminated by the use of the concept. The limit between aesthetic and symbolic, demonstrative values may be difficult to trace, and even opinions about practicability may be influenced by lifestyle.

In this thesis, the concept of lifestyle will be used in a broader sense than defined by Bourdieu. The connection between social belonging, values and cultural differences will be investigated from a broader perspective. However, the use of visual markers, and aesthetics used for symbolic purposes made visible by taste, will constitute a part of the analysis.

7.7 Dwelling attractiveness.

In this thesis, dwelling attractiveness will be expressed as a positive relationship between the resident (or group of residents) and the housing (or residential area). The concept is dependent upon both subject (resident) and object (housing) in order to give meaning. When we talk about an attractive residential area the question: “Attractive to whom?” presents itself immediately. No one residential area seems to be attractive to every potential inhabitant. Different kinds of residents will prefer residential areas with different characters.

An attractive residential area is an area that displays the qualities that are sought after by its residents. An area that doesn't display the qualities that are sought after by its residents has failed, even if persons who are not living in the area think of it as attractive. It is of great importance that each specific residential area attracts residents who mostly benefit from the unique combination of dwelling qualities it can offer. Economic conditions may be an obstacle or a cause of one area's apparent attractiveness. If families with children are the main inhabitants of a residential area, it is easy to believe that this category of residents finds the area most attractive. Such a conclusion may be premature, however.

Dwelling availability is always restricted by the general framework of society. An individual acts to fulfill personal wishes, but is restricted by conditions that are beyond personal control. Money is a scarce resource for most house-hunters. This is particularly true for young people, who do not have savings and are restricted by their lack of spending power. Areas mainly inhabited by young families with children may be so because these areas offer a cheap housing alternative that the families can afford, and not because this group finds the area especially attractive.

Thus, housing attractiveness according to our definition can be described as an interaction between the resident and the residence. In order to investigate this relation, concepts that may serve as tools for developing relevant knowledge about residents and residences may be useful.

In order to describe differences between residents that will influence their housing preferences it will be useful to make use of a category system of residents. Existing systems that have been developed by other researchers working in the field of housing research are adequate for this task. This thesis will rely on the system of Jan Erikson, which has already been introduced.

The target group for this project, families with children, is a category of homeowners that is defined by demographic characteristics. Economic characteristics may also to a certain degree be influenced by demographic characteristics, as we know that most parents with children are relatively young, and that young people tend to have less income and wealth than older people. We also know that certain income groups tend to choose a certain lifestyle, but with regard to cultural characteristics we can't say that families with children tend to live a certain lifestyle or belong to a certain class. The characteristics from Erikson's categorization system that will be most influential when defining the target group will be household size, household composition, life cycle phase and to a certain degree income and wealth.

According to Erikson, demographic variables mainly influence the inhabitants' preferences with regard to practical housing values, while their preferences with regard to aesthetic and symbolic values are more dependent on cultural variables like lifestyle, class and ethnic origin. As a consequence it will be difficult to define the optimal residential area for the target group. Families with children as a category may have a set of general requirements in common, but concerning their actual choice of residential area families will differ according to their economic resources and lifestyle.

The Sjøveien area has been chosen as a case study because of its expected popularity with the target group. It is, however important to underscore that this specific area is not expected to be popular with *any* household from this category. The area's criteria of success will be that it performs well with regard to housing qualities that are generally desired among households in the category of families with children. Following Erikson's logic, this set of dwelling qualities will mainly be of a practical character since the category of residents is defined by demographic variables.

But in addition to meeting practical needs, the area must also perform well with regards to fulfilling the symbolic and aesthetic dwelling values of its

residents. With a target group that is defined by demographic characteristics it may be tempting to limit the investigation of housing qualities and values to the practical sphere, where this group is presupposed to have common preferences. Such a limitation would, however, bring us back to the situation that Erikson and other functionalism critics have been working against. Concern for practical needs only results in reductionism and will not bring us deeper into the matter of housing attractiveness.

In order to be labeled a successful residential area, the unique combination of housing qualities that Sjøveien offers has to meet the needs of an audience belonging to the target group; families with children. Observations of the area and results from the preliminary inquiry give reason to believe that the area has been popular among people from a certain lifestyle group. Further investigation will hopefully tell us more about the group of inhabitants who are inclined to choose Sjøveien as a housing alternative, and what special combination of housing qualities offered by the area have influenced their decision to live there.

7.8 A quantitative investigation of housing qualities

In order to get a sense of the attractiveness of a residential area, it can be useful to conduct a housing quality test. Støa and Høyland from the SINTEF Department of Architecture and Building Technique in Trondheim have developed this tool, which is designed as a questionnaire that lists 26 different housing qualities that residents in investigated areas are asked to evaluate. The respondents have to rate the general importance of each quality and to what degree the quality is realized to their satisfaction in the residential area.

The list's compilation of housing qualities was developed through investigations on the topic of housing quality. The works of other researchers and theoreticians, especially Erikson, have also been important in the development of the tool, in addition to guidelines from the Norwegian State Housing Bank, such as "High quality residential areas" (Guttu, 1992) or "High quality densification" (Guttu & Thorèn, 1996.) The researchers wanted to find a way to make aesthetic, symbolic, psychosocial, practical / rational and economical values concrete. The market value of the residence was included, because in the Norwegian context, housing is a major investment for most households.

The list aimed at making housing qualities concrete at different levels with regard to scale. Both the level of city district (location), residential area and dwelling unit need to be represented. The list should develop knowledge that

could be useful for the planning, design and rehabilitation of residential areas. Qualities that normally are emphasized by residents in user investigations were incorporated. In addition, housing qualities that are included in the official priority programs governed by The Norwegian State Housing Bank have been incorporated. The official target areas are: environment and energy, building design (aesthetics) and universal design. These qualities have not necessarily been prioritized by residents, but as long as the implementation of these qualities is on the official agenda, it will be interesting to see how they are ranked by average dwellers. Thus the list may be imperfect and biased in some aspects with regard to the goal of testing housing qualities in general. It is nevertheless a tool that has been carefully designed and that can provide a broad picture of relevant housing qualities.

The qualities can be assigned from 1 to 5 points by each respondent, according to the respondents' opinion about their importance. 1 point is equivalent with the description "Little or no importance," 2 points with "Some importance," 3 points with "Average importance," 4 points with "High importance," and 5 points with "Very high importance". On the basis of this point assignment it is possible to make a ranking that shows the order in which qualities are assigned priority. The same list was also used to map the degree to which residents believe that their residential area realizes different housing qualities.

List of housing qualities

1. *Buildings with a high technical standard*
2. *Practical housing*
3. *Nice social environment*
4. *Environmentally friendly architecture*
5. *Adequate protection of private outdoor places*
6. *Traffic security*
7. *Ability to adapt the dwelling in accordance with changed life situations*
8. *Varied composition of the group of residents*
9. *Vicinity to services and public transport*
10. *Proximity to public recreation areas*
11. *Usable common outdoor fields*
12. *Usable common indoor areas*
13. *Adequate accessibility for handicapped persons*
14. *Locally adapted architecture*
15. *Pleasant aesthetic general impression*
16. *Creative and exciting architectural design*
17. *Traditional architectural design*
18. *Attractive treatment of landscape*
19. *Attractive facades*
20. *Pleasant use of materials and details*

21. *“Proper” location of the area*
22. *Reasonable price*
23. *Ability to move to other housing within the area*
24. *Ability to enlarge the dwelling*
25. *Ability to rent out a studio apartment*
26. *Saleable dwellings*

The housing qualities are associated with different housing values. By using a classification system of housing values adapted to this study, the housing qualities on the list may be sorted into the following categories:

Aesthetic and Symbolic values:

Pleasant aesthetic general impression, Pleasant use of materials and details, Attractive facades, Attractive treatment of landscape, Creative and exciting architectural design, Locally adapted architecture, Traditional architectural design, “Proper” location of the area

(Proximity to public recreation areas, Buildings with a high technical standard, Environmentally friendly architecture)

Practical values

Psychosocial values:

Nice social environment, Adequate protection of private outdoor places, Varied composition of the group of residents, Ability to move to other housing within the area.

(Usable common indoor areas, Usable common outdoor fields)

Practical / Rational values:

Buildings with a high technical standard, Practical housing, Proximity to public recreation areas, Usable common outdoor fields, Vicinity to services and public transport, Traffic security, Adequate accessibility for handicapped persons, Ability to enlarge the dwelling, Ability to adapt the dwelling in accordance with changed life situations, Environmentally friendly architecture, Usable common indoor areas.

(Possibility for moving within the area, “Proper” location of the area, Good protection of private outdoor places)

Economical values:

Saleable dwellings, Reasonable price, Possibility to rent out a studio apartment

The qualities on the list represent a relatively broad spectrum of housing values. The location of the qualities in the selected categories can be debated, because a housing quality may be associated with more than one housing value and may be difficult to place in one specific category only. Qualities that can represent different values have been placed in both categories, but have been denoted with parenthesis when they are considered to be of secondary relevance. One example is the quality *Usable common indoor areas*, which may refer to both practical/rational values and psychosocial values. Such areas may make a valuable contribution to both the development of neighborhood networks and compensation for limited living area.

It can also be debated whether a quality like *Environmentally friendly architecture* is a practical quality, or if it is just as important as a social signal in the environment regarding residents' choice of lifestyle and appurtenant values. If this is true, then the quality should be categorized as a symbolic, demonstrative value. *Proximity to public recreation areas* may also have a broader value than just practical/rational. Many residents look upon the surrounding landscape as a main factor when defining aesthetic values of the residential area.

Few if any of the qualities in the aesthetic and symbolic values category can be said to express only pure formal beauty, as Erikson has insisted should be the case in order to assign a quality to this category. Aside from evoking aesthetic experiences, most of these qualities also relate to symbolic, demonstrative values. Some of them, such as *Locally adapted architecture* and *Traditional architectural design*, may also evoke affective values. The housing qualities placed in this category are not divided into subcategories because of their ambiguous meanings.

"Proper" location of the area is a quality with a multitude of interpretations, and may refer to both practical and aesthetic and symbolic values. In most cases it will describe the symbolic, demonstrative values of the location. The quality *Ability to enlarge the dwelling* is mainly of a practical character, but may also carry symbolic, demonstrative values, because a spacious dwelling may be connected with prestige. To have the ability to move to another flat in the same neighborhood may have a psychosocial value, along with being practical.

But despite these ambiguities regarding the categorizing of qualities, the use of the housing quality list and housing value classification system in more quantitative investigations may be useful. The list covers a wide spectrum of different dwelling qualities and may give an overall impression of the

attractiveness of an area. It will be used as a tool in this study in order to create a relational map of housing qualities in residential areas.

7.9 A qualitative investigation of attractiveness.

Despite the usefulness of mapping residential areas by using quantitative housing quality tests, qualitative methods will also be necessary to get a deeper understanding. An important reason for this is the wide range of interpretations and values that are attached to many of the housing qualities, and while housing values of a practical character may be quite easy to detect, the symbolic values more often tend to be hidden.

Even if the quantitative test attempts to be concrete, it is not able to elucidate the unique design characteristics that make the outdoor areas more or less attractive. And even if the residents report that the area provides a good social environment, this piece of information does not provide any information about residents' expectations regarding neighborliness and desired amount of social interaction. The test is particularly unsuited to providing useful information about housing qualities that represent emotional/affective values.

The test also has limited ability to detect the varying preferences of different categories of residents with regard to housing attractiveness. It is possible that data from the questionnaire can be used to group respondents into demographic categories, which might allow detection of variations between families with children and other households, as an example. Detecting variance between different lifestyle segments would require additional questions.

In order to get a more comprehensive picture of the housing attractiveness of a residential area, the test might include questions that map categories of residents defined by demographic, social and cultural variables. It is questionable whether investigating housing attractiveness, as the term is defined in this thesis, is a goal that can be achieved using a standardized test. Investigating housing attractiveness demands qualitative research methods to get beyond superficial general observations. A questionnaire like the housing quality test is useful as a piece of knowledge that can help to supplement the total picture, but its limitations are too serious to allow it to be the only tool for investigating housing attractiveness in residential areas.

Investigations of housing attractiveness in Sjøveien will include both quantitative and qualitative methods. However, information from qualitative interviews and observations will be given emphasis, since the relationship

between dweller and dwelling might be complex and difficult to detect using quantitative techniques. Qualitative material from other studies in the field of housing research has described interesting features of the residents' experience of their flat and residential area. Among the most striking are tendencies among informants to deal with integrated whole pictures of the area. This means that separating different characteristics of the residential area in order to evaluate them, as is done in the dwelling quality test, may be less meaningful to many respondents.

As researchers, we are dependent upon categorizing in order to develop knowledge. But when we force our categories upon laymen and ask them to give answers to our questions in accordance with our own analytic systems, the communication may fail. Thus logically organized answer categories in a questionnaire may act as an obstacle instead of a useful tool. As long as the experiences of informants are not guided by logic, we will not get relevant information from our inquiry. Better then to let the informants talk more freely and forget about the categories until the analysis is started.

8 Evaluation of housing qualities in five Norwegian suburban residential areas

As a background for the discussions of housing qualities in Sjøveien, it is of interest to examine the results of evaluations of housing qualities that have been conducted in Sjøveien and four other Norwegian suburban areas built up with small-scale housing. The evaluation was conducted in 2001 and 2002 using a list developed by Støa and Høyland (Støa & Narvestad, 2002; Støa, 2003).

The housing stocks in the five areas consist of four-family houses (Sjøveien), small apartment buildings (Reinen and Nobø), detached single-family houses on small plots (Torvetua), and row houses (Disengrenda). The areas are located in Tromsø (Reinen), Trondheim (Sjøveien, Nobø), Bergen (Torvetua), and Oslo (Disengrenda). The areas were included in the sample because of different specific qualities that made them especially interesting to evaluate. Disengrenda, Reinen and Sjøveien are characterized by varying aspects of flexibility (community house, rental flats and elasticity), Torvetua has been designed with special consideration for environmentally and energy friendly solutions, and Nobø has special architectural qualities. The response rate was about 60%.

The sample cannot be evaluated as representative of Norwegian suburban housing in general, but it does nevertheless show variation within the segment of suburban housing to a degree that makes it relevant as a reference for the further investigation in Sjøveien. The areas represent different types of housing that are widespread in Norwegian towns and villages, and are populated by different kinds of residents. The areas are located in different parts of the country and regional variations with regard to housing quality preferences should be detected.

This quantitative investigation of housing qualities will therefore hopefully give some impression of the qualities that are generally appreciated and looked upon as important, and the qualities that are generally absent or neglected in Norwegian suburban housing.

8.1 The Torvetua area



The Torvetua residential area is situated 13 km south of the center of Bergen. The area is located close to the lake known as Birkelandsvannet, in a green environment. It consists of 40 dwelling units. 34 of the houses; 27 detached houses, six semi-detached and one generational dwelling, were finished in 1998-99, while the rest were built during the winter of 2001-02.

The concept of the residential area is based on a desire to build environmentally friendly housing. The area is green and vigorous and the original vegetation and landscape has as far as possible been kept intact. The waste water was handled by choosing a closed loop flow model and the houses were given an “ecological” expression by building them solely with natural, raw materials. The size of the dwellings varies between 120 and 150 square meters, and the plots are very small, about 300 to 400 square meters. However, the common outdoor areas surrounding the four clusters of houses in the area are spacious, and the total area that is more or less used by the house groups is about 40 000 square meters.

Couples with small children dominate the area’s residents. 62% of all households belong to this category. Just 5% are single people households. The rest, 33%, are couples. Children between 0 and 18 years amount to 34% of the residents, while seniors above 50 years old represent just 10%. The average household is relatively well-off, from an economic standpoint. 62% of the respondents had a family income above 500 000 kr in 2001.

8.2 The Disengrenda area



The Disengrenda residential area was built from 1958 to 1960, and consists of 148 row houses. The area is situated at Grefsen, about 20 minutes by bus or tram from the center of Oslo. The distances to shops, kindergarten and schools are short, and Osломarka, an attractive recreation area, is within reach.

The flats have an area of 100 square meters, including the basement. The plots are generally small. The Disengrenda row houses are organized as a housing cooperative, with a similar and quite simple modernistic design, but they are not perceived as a group since they are spread among other dwelling houses in the neighborhood. The cooperative does own a common house that has a unifying function.

The group of residents in Disengrenda is more diversified than in Sjøveien and Torvetua, for example. Some of the original residents who moved into the area when it was first built still live there. They are now elderly. 34% of the residents are older than 50 years and as many as 19% are older than 67 years (pensioners). The new residents are mostly families with children. 46% of the households consist of families with children, and 29% of the residents are children between 0 and 18 years old. 48% of the households had a family income that was above 500 000 kr in 2001.

8.3 The Reinen area



The Reinen area is located eight kilometers from the center of Tromsø. The surrounding areas were developed at the end of the 1990s and the early 2000s and when completed, will offer a school, kindergarten and shopping mall in the neighborhood. The Reinen area is built of five three-story apartment walkups. Each building contains six flats. Central staircases and lifts give access to all the flats. The houses were built in 1997 and 1998. Each flat is 126 square meters, of which 32 square meters may be used as a separate flat for letting. All flats have two balconies of their own but no private garden. The apartment buildings do however share a spacious playground with a group of detached one-family houses.

Sixteen percent of the residents in the area are between 0 and 18 years, while the group of residents aged between 18 and 50 is the largest with 44 %. The group of seniors above 50 years constitutes 40% of the residents. The households in the area differ in size. Half of them are small households with one or two members only, while the other half consists of three to five persons. 44% of the households had a family income above 500 000 kr.

8.4 The Nobø area



The Nobø section B1 area is part of a larger residential estate located on an old factory site at Lade about three kilometers from the center of Trondheim. The area has good links to shopping areas, schools and a kindergarten. The distance to the fjord is short and the popular public path along the shore, Ladestien, has its point of departure just about 100 meters away from the area. The area was built at the end of the 1990s and contains six apartment buildings, with either two or three stories. The flats have balconies but no private gardens. The outdoor areas are suitable for children to play and for other outdoor activities. Each building contains 8 or 12 flats. There are 58 flats in total, with the flat sizes averaging about 70 square meters.

Households without children mainly make up the group of residents in the Nobø section B1 area. Just 8% of the residents are between 0 and 18 years old, while the group of seniors above 50 years amounts to 52% and the group between 18 and 50 years amounts to 40% of the residents. The households in the area are small on average. 57% are single person households and 37% consists of two persons. Only 6% of the households have more than two members and no one more than three. 9% of the households had an income that was above 500 000 kr.

8.5 **Housing qualities in the five areas**

Fig. 8.1. Importance of housing qualities. Average score for the samples of households from the areas. R=Reinen, S=Sjøveien, T=Torvetua, D=Disengrenda, N=Nobø. Order of ranking according to importance (average score for all areas)

	Average score for all areas	R	S	T	D	N
1. Practical dwellings	4.40	4.74	4.21	4.60	4.25	4.21
2. Buildings with a high technical standard	4.37	4.63	4.12	4.67	4.29	4.15
2. Proximity to public recreation areas	4.37	4.26	4.49	4.43	4.43	4.25
4. Traffic security	4.36	4.53	4.17	4.76	4.48	3.85
5. “Proper” location of the area	4.12	4.22	4.14	4.05	4.05	4.41
6. Reasonable price	4.08	4.21	4.06	4.19	3.96	3.95
7. Nice social environment	4.07	4.33	4.13	4.53	4.00	3.36
8. Saleable dwellings	4.05	4.53	4.11	4.24	4.24	3.13
9. Attractive treatment of landscape	4.01	3.94	3.92	4.38	3.89	3.94
10. Usable common outdoor fields	3.97	3.74	4.15	4.05	4.26	3.67
11. Attractive facades	3.92	4.21	3.96	4.24	3.58	3.63
12. Pleasant aesthetic general impression	3.91	3.68	3.96	4.38	3.81	3.72
13. Vicinity to services and public transport	3.88	4.32	3.83	2.62	4.40	4.24
14. Locally adapted architecture	3.74	3.58	3.79	4.10	3.61	3.63
15. Good protection of private outdoor places	3.72	3.94	2.96	3.81	4.00	3.88
16. Environmentally friendly architecture	3.71	3.78	3.54	4.15	3.63	3.44
17. Pleasant use of materials and details	3.56	3.95	3.78	2.91	3.49	3.69
18. Good accessibility for handicapped persons	3.55	4.00	3.94	2.95	3.31	3.57
19. Ability to adapt the dwelling to new life situations	3.51	3.42	3.94	3.62	3.55	3.00
20. Varied composition of the group of residents	3.25	3.33	3.19	3.10	3.61	3.03
21. Ability to enlarge the dwelling	3.10	2.28	3.96	3.15	3.72	2.39
22. Usable common indoor areas	3.04	3.59	3.16	2.72	3.34	2.38
23. Traditional architectural design	3.02	2.80	3.06	3.25	2.93	3.07
24. Creative and exiting architectural design	2.94	2.83	2.42	3.67	2.74	3.06
25. Ability to rent out a studio apartment	2.36	3.42	2.07	2.38	1.85	2.10
26. Ability to move within the area	2.28	2.39	2.19	1.86	2.51	2.45
Total average	3.67	3.79	3.66	3.72	3.69	3.47

The investigation of the Torvetua, Reinen, Disengrenda, Sjøveien and Nobø areas give some suggestions about the qualities that are sought after in Norwegian suburban areas. The residents in the areas were asked which housing qualities they considered to be most important. They were asked to use the list of housing qualities to prioritize the different qualities on the basis of perceived general importance.

When looking at the results of the ranking, we find that four of the housing qualities on the list have been given a score that is higher than 4 in all five areas. This means that they are considered to be of high to very high importance. These qualities are *Practical dwellings*, *Buildings with a high technical standard*, *Proximity to public recreation areas* and *“Proper” location of the area*. *Traffic security* and *Reasonable price* come close behind with a score just slightly beneath 4 in one or two of the areas, and above 4 in all the others. *Nice social environment*, *Saleable dwellings* and *Attractive treatment of landscape* also get more than 4 points on average. These qualities represent a kind of common base for the five areas and may give us a sense of the kinds of qualities that are generally desired and expected in this kind of housing. The residents prefer practical dwellings that are not too demanding with regard to maintenance. Moreover, the dwelling should be easy to sell and the price should be reasonable. Qualities that are in demand in the suburban residential area are primarily nice surroundings, traffic security and a friendly, social atmosphere. The results should however be interpreted with consideration for the actual characteristics of the five areas in the sample.

8.6 The predominance of practical values

The housing qualities that have received an average score above 4 points represent different categories of housing values. It should however be noted that the practical values seem to be of more fundamental importance to the residents than the aesthetic and symbolic values. The list of housing qualities is admittedly dominated by practical qualities, but even when taking that fact into consideration the high importance attached to qualities that are practical is striking. Under the main category of practical values the subcategories practical/rational values and economic values predominate.

This order of priority is not surprising. Research on human needs in general (for instance, Maslow’s hierarchy of needs (Madsen, 1981)) concludes that basic needs that are connected with survival (such as food, clothing and shelter) will always dominate over surplus needs (such as the need for art, education and so on). Practical needs may also be easier for the residents to define, since most individuals are aware of their basic practical needs.

A Norwegian suburban residential area therefore will not be successful if it cannot offer a practical and safe framework for the everyday activities of residents. The housing also has to be affordable in order to be of interest to a potential resident.

The preferred housing qualities share a great degree of generality. Qualities that are more specific and detailed were not considered to be that important. As an example, everybody wanted a practical dwelling, but adjustments for the needs of the elderly and handicapped were not sought to the same degree. These needs may be considered to be too specialized for an average dwelling. Flexibility, the ability to alter or enlarge the flat according to new life situations, was also considered to be of medium importance by most residents. And although most respondents are concerned with the economic aspects of housing, very few were concerned about the ability to rent out parts of the flat as a studio apartment in order to reduce housing costs.

The ranking list shows that economic values connected with housing should not be disregarded. Both *Favorable price* and *Saleable dwellings* are important qualities for residents. To most people these qualities provide a sense of economic security, to know that the sale of their house or flat will be easy if they want to move. Nobody wants to get stuck with an un-saleable home. Residents are rational and plan for their future. To completely separate user value and exchange value, as Erikson would do, seems inexpedient. Particularly in Norway, where most people are homeowners, the housing's contribution to the family fortune and total economy is of vital importance. The average resident would never focus solely on user qualities and forget about exchange value. The idea of what the housing is worth is always deep in the mind and plays an important part in housing purchase and in the evaluation of attractiveness.

8.7 Aesthetic and symbolic values

When the basic needs are satisfied, surplus needs enter the scene. Residents are not indifferent to aesthetic and symbolic values. With regard to aesthetics there are reasons to believe that the quality *Proximity to public recreation areas*, ranked number 2 with regards to importance, also reflects an appreciation of beauty for the respondents. Living in close contact with nature, having easy access to outdoor recreational areas seems to be very important to many Norwegians. Saglie (1998) and Støa (1996) are two of several investigations that found evidence to support this claim. There are practical reasons for wanting to live close to the outdoors; the possibility for recreation is without doubt important. But the beauty of surrounding landscapes should not be forgotten, along with the sounds and scents of nature. The list of housing qualities also includes *Attractive treatment of landscape* (4.01 points), which is the highest valued quality in the aesthetic and symbolic values category. Appreciation of nature seems to play an important part in the residents' experience of beauty in their residential area.

The majority of other housing qualities with regard to the aesthetic and symbolic values are considered to be of average to high importance by the average respondent. *Attractive facades* and *Pleasant aesthetic general impression* are close behind *Attractive treatment of landscape* with 3.92 and 3.91 points, ranked as quality 11 and 12 with regard to importance. However, more detailed questions about qualities such as architectural style generally get a low score. Whether the style is traditional or modern does not seem to matter that much to most respondents. There are however telling differences between the residential areas with regard to the emphasis of aesthetic and symbolic values.

8.8 Psychosocial values for different household categories

Psychosocial values are also important to the residents. *Nice social environment* is high on the priority list of most residents. The psychosocial values include housing qualities that help regulate social relations between residents and also allow for protection of the private sphere. It is interesting to note that the average resident in all 5 areas attaches only moderate importance to *Good protection of private outdoor places*. This quality has been given an average score of 3.72 points, very close to the 3.67-point average value for all qualities. Common use seems to be assigned a higher priority for outdoor areas, because *Usable common outdoor fields* was given 3.97 points on average. It should however be noted that in the Reinen and Nobø areas, these two qualities are prioritized in reversed order. What these areas have in common is a group of residents with few children. In the Nobø area only 8% of the residents are in the age group 0-18 years. In the Reinen area the percentage is 16. In comparison the percentages of children in the other areas are 29, 34 and 39 %.

Thus the data partly supports the statement of Øyvind Larsen (Larsen, 2000) who claims that the semi-public sphere in residential areas has increased in importance at the cost of the semi-private. The statement may be valid in areas dominated by families with children, or by a mixed population. Areas dominated by small households and seniors are places where semi-private areas still seem to have first priority for the use of the outdoors. It is also interesting to note that the quality *Nice social environment*, despite general high support from respondents, get a score that varies from area to area. At Nobø the score for this quality is noticeably lower than elsewhere. In any event, the main social arena appears to be the outdoor areas. *Usable common indoor areas* are generally not in demand. Maybe residents fear a formalizing of neighborhood contacts if such an offer were at hand? Meeting in the outdoors is without obligation and keeps socializing in the residential area on

an acceptable level. Another reason for not stressing the importance of common indoor areas may be the cost, which in the end have to be paid by the residents.

8.9 Conclusion

“A practical dwelling surrounded by a green landscape, built to a high technical standard, and with limited traffic” seems to be the most suitable summation of the expectations and demands that residents have for different types of dense small-scale housing in the Norwegian suburban residential areas that make up the sample for this investigation.

Functionalists have generally been criticized for their preoccupation with practical housing values. To a certain degree, however, this mapping of housing qualities supports the functionalists. Basic practical needs have to be addressed before aesthetics will be of any interest to residents. It should be noted, however, that practical needs are easier to measure because of their concrete character. Most residents will have a more conscious awareness of them as compared to aesthetic and symbolic values. And in today's prosperous society there should be no reason to neglect surplus values even if they are not of urgent interest. Additionally, the questionnaires show that it is practical values of a more general character that are important to the respondents. More detailed and specified practical qualities are given little support. When the residential area has met the demands with regards to the basic practical and economical values, the focus of its residents turns to psychosocial, aesthetic and symbolic values.

The importance of aesthetic and symbolic values varies between the different areas. But from a general perspective, they do not vary more than the practical, economical and psychosocial values. According to Erikson, preferences concerning aesthetic and symbolic values show a tendency to correlate with the lifestyle of the residents. This quantitative evaluation of housing qualities doesn't measure parameters that can give a full picture of the respondents' lifestyle. The information about residents is confined to age, household size and income. On the basis of this limited information, it is nevertheless possible to trace some variation between household and age categories, such as concerning preferences with regard to psychosocial values.

With regards to the sample of this quantitative test of housing qualities, it should also be underscored that the five investigated areas are not necessarily representative for of suburban areas. We can, however, assume that the result from the test has a validity that makes it suitable as a first look at the suburban

landscape, and that it can act as a backdrop for the further studies in Sjøveien that are based on both qualitative and quantitative methods and data.

9 Evaluation of housing qualities in the Sjøveien area

The results from the housing quality test in Sjøveien provides a first sketch of the residential area's housing qualities.

Fig 9.1.Importance and realization of housing qualities. Average score for the total sample of households in Sjøveien. (Order of ranking according to importance)

	Importance	Realization	Discrepancy
1. Proximity to public recreation areas	4.49	4.70	+0.21
2. Practical dwellings	4.21	3.65	- 0.56
3. Traffic security	4.17	3.63	- 0.54
4. Usable common outdoor fields	4.15	4.13	- 0.02
5. "Proper" location of the area	4.14	4.26	+0.12
6. Nice social environment	4.13	3.80	- 0.34
7. Buildings with a high technical standard	4.12	3.41	- 0.71
8. Saleable dwellings	4.11	4.17	+0.06
9. Reasonable price	4.06	2.87	- 1.19
10. Ability to enlarge the dwelling	3.96	3.80	- 0.17
10. Pleasant aesthetic general impression	3.96	3.96	+0.00
10. Attractive facades	3.96	3.87	- 0.09
13. Ability to adapt the dwelling according to changed life situation	3.94	3.47	- 0.47
13. Good accessibility for disabled persons	3.94	2.08	- 1.87
15. Attractive treatment of landscape	3.93	3.53	- 0.40
16. Vicinity to services and public transport	3.83	2.75	- 1.08
17. Locally adapted architecture	3.79	4.15	+0.36
18. Pleasant use of materials and details	3.77	3.80	+0.04
19. Environmentally friendly architecture	3.54	3.58	+0.04
20. Varied group of residents	3.19	2.91	- 0.28
21. Usable common indoor areas	3.16	2.33	- 0.83
22. Traditional architectural design	3.06	3.53	+0.47
23. Good protection of private outdoor places	2.96	2.40	- 0.57
24. Creative and exciting architectural design	2.42	2.00	- 0.42
25. Ability to move to other housing in the area	2.19	2.65	+0.46
26. Ability to rent out a studio apartment	2.07	2.54	+0.46

9.1 Importance of dwelling qualities in Sjøveien compared to the total sample

In most respects the list of priorities that emerges from the Sjøveien residents' questionnaires does not differ very much from the averages of the five residential areas.

The average ranking list for the five areas shows that nine qualities on top of the list get more than 4 points each. These qualities are: *Practical dwellings*, *Buildings with a high technical standard*, *Proximity to public recreation areas*, *Traffic security*, *“Proper” location of the area*, *Reasonable price*, *Nice social environment*, *Saleable dwellings* and *Attractive treatment of landscape*.

Similar to the average ranking, the list of priorities in Sjøveien also shows that nine qualities get a score that is higher than 4 points each. Moreover, these qualities are almost identical with the nine on the general top score list, although arranged in a slightly different order. With regard to sample of qualities and ranking, there are only a couple of telling differences. On the list from the total sample includes *Attractive treatment of landscape* and is ranked as quality number 9 with regards to importance. In Sjøveien, this quality is ranked as number 15. On the other hand, *Usable common outdoor fields* is ranked as number 4 in Sjøveien, while the total sample of all five areas only ranked it as number 10.

This difference may indicate that the respondents in Sjøveien give priority to the practical values of the outdoor areas at the expense of aesthetics to a higher degree than the respondents in the total sample. In this connection, it is also interesting to see that the quality *Good protection of private outdoor places* does not seem to have many supporters in the area. In Sjøveien it is ranked as number 23. On the general list it is ranked number 15. The low ranking of this quality in Sjøveien, together with the high ranking of *Usable common outdoor fields*, seems to express a conscious downgrading of privacy in the outdoors, as priority is assigned to common purposes.

Respondents from Sjøveien also diverge from the total sample with regard to the quality *Buildings with a high technical standard*. The total sample ranked it as quality number 2 while respondents in Sjøveien ranked it number 7. The age of the Sjøveien area may explain this difference. The houses are the oldest in the sample, and it seems reasonable to believe that the residents don't expect the same technical standard as in newly built areas like Torvetua, Reinen and Nobø. Additionally, because they have made the choice to move

into a flat in a nearly 60-year-old building they probably do not pay that much attention to this quality either.

The rest of the Sjøveien ranking list is also quite similar to the general one. It seems like the residents of Sjøveien are like most other residents in the total sample of the five areas with regard to housing qualities. However, there are some remarkable variations. *Ability to enlarge the dwelling* has been mentioned earlier as a special feature of the buildings in Sjøveien. This feature is sought after by the residents and is ranked number 10 on their list of priorities. In comparison, this quality is ranked number 21 on the general list. The quality *Ability to adapt the dwelling in accordance with changed life situations* is in many ways related to *Ability to enlarge the dwelling* and is also notably more in demand in Sjøveien than in the other areas.

9.2 The attractiveness of Sjøveien compared to other areas in the sample

When looking at the degree of realization of different housing qualities, the Sjøveien area seems to be closer to meeting desired qualities than the average of the five areas. Compared to the average of all areas in the sample Sjøveien seems to meet the priorities and expectations of the residents to a great degree, and should thus be regarded as attractive to its residents.

When comparing Sjøveien to the individual results from each of the other areas, however, we find that the picture becomes more complicated. It has the highest score of all five areas with regard to realization of qualities in general (closely followed by Torvetua). It also has the least average discrepancy between the requirements of the residents as expressed by ranking, and the degree of realization of qualities.

Nevertheless, a closer investigation shows that the real strength of Sjøveien is a high degree of general optimizing of qualities, both important and not-so-important ones. If we are mainly looking for “Top-score” qualities and de-accentuate qualities that are seen as of medium and less importance by the residents, the Torvetua area performs better. Torvetua has eight qualities that are given a score between 4 to 5 points, both with regard to importance and realization. In comparison, Sjøveien has only four qualities in this category. Nevertheless, comparing Sjøveien to the other areas in the sample, it is clear that Sjøveien can be described as a residential area of high quality that is generally very attractive to its residents.

9.3 Qualities that are important in contributing to Sjøveien’s attractiveness

Fig 9.2 Realization and importance of housing qualities. Average score for the total sample of households in Sjøveien. (Order of ranking according to realization)

	Realization	Importance	Discrepancy
1. Proximity to public recreation areas	4.70	4.49	+0.21
2. “Proper” location of the area	4.26	4.14	+0.12
3. Saleable dwellings	4.17	4.11	+0.06
4. Locally adapted architecture	4.15	3.79	+0.36
5. Usable common outdoor fields	4.13	4.15	-0.02
6. Pleasant aesthetic general impression	3.96	3.96	0.00
7. Attractive facades	3.87	3.96	-0.09
8. Pleasant use of materials and details	3.80	3.77	+0.04
8. Nice social environment	3.80	4.13	-0.34
8. Ability for enlargement of the dwelling	3.80	3.96	-0.17
11. Practical dwellings	3.65	4.21	-0.56
12. Traffic security	3.63	4.17	-0.54
13. Environmentally friendly architecture	3.58	3.54	+0.04
14. Attractive treatment of landscape	3.53	3.93	-0.40
14. Traditional architectural design	3.53	3.06	+0.47
16. Ability to adapt the dwelling according to changed life situations	3.47	3.94	-0.47
17. Buildings with a high technical standard	3.41	4.12	-0.71
18. Varied group of residents	2.91	3.19	-0.28
19. Reasonable price	2.87	4.06	-1.19
20. Vicinity to services and public transport	2.75	3.83	-1.08
21. Ability to move to other housing in the area	2.65	2.19	+0.46
22. Ability to rent out a studio apartment	2.54	2.07	+0.46
23. Good protection of private outdoor places	2.40	2.96	-0.57
24. Usable common indoor areas	2.33	3.16	-0.83
25. Good accessibility for disabled persons	2.08	3.94	-1.87
26. Creative and exiting architectural design	2.00	2.42	-0.42
Total average	3.38	3.66	-0.28

The main attractions of Sjøveien may be defined as the housing qualities given a score higher than 4 points with regard to both importance and realization. These qualities are *Proximity to public recreation areas*, *“Proper” location of the area*, *Saleable dwellings* and *Usable common outdoor fields*. *Nice social environment*, which was given 4.13 points with regard to importance and 3.80 with regard to realization closely follows these qualities despite a certain under-optimizing. Together with *Pleasant aesthetic general impression* (3.96

importance, 3.96 realization) *Attractive facades* (3.96 importance, 3.87 realization) and *Ability to enlarge the dwelling* (3.96 importance, 3.80 realization) these housing qualities creates the basis for the attractiveness of the Sjøveien area.

If we compare the four “top-score” qualities of Sjøveien with the average for the total sample, we find that they are identical with number 1 to 4 with regard to realization for all five areas. With regard to the qualities *Proximity to public recreation areas* and “*Proper*” *location of the area*, Sjøveien has the best realization of all five areas. With regard to *Saleable dwellings* and *Usable common outdoor fields* it is a solid number 2. The Sjøveien area also performs well with respect to aesthetic housing qualities. It cannot compare with Torvetua, which ranks a definite number 1 with regard to the residents’ satisfaction with the formal expression of the residential area, but Sjøveien is a good number 2. With regard to *Nice social environment*, Sjøveien is average in realization. *Ability to enlarge the dwelling* may be seen as an attraction that is specific to the Sjøveien area. The list for the total sample of average realization ranks it as quality number 25, and respondents in the areas aside from Sjøveien don’t pay much attention to it.

Compared to the expectations about findings in Sjøveien (discussed in sub chapter 8.8) the housing qualities that create the basis for the attractiveness of the Sjøveien area do not differ very much from the presumptions of this study. A nice location in green surroundings close to the fjord, nice green outdoor areas and cozy houses with an old-fashioned design were expected to be the main attractions. However, the salability of the dwellings was not considered to be that important in this study’s assumptions, and the importance of the social environment was not easy to perceive just from observations in the area either. Additionally, the ability to enlarge the dwelling turned out to be of greater importance than expected.

9.4 Under-optimized qualities

However, several housing qualities are under-optimized with regard to realization. Among the nine that are thought of as most important, as many as four get a score on realization that is more than 0.5 points below their score for importance. *Reasonable price* has a discrepancy between importance and realization of 1.19 points. *Buildings with a high technical standard* (-0.71), *Practical dwellings* (-0.56) and *Traffic security* (-0.54) are not satisfactorily realized either. These findings are very similar to the findings of the total sample, where the same qualities are assigned a high degree of importance, but there is a noticeable discrepancy between importance and realization.

Good accessibility for disabled persons and *Vicinity to services and public transport*, while lower on the list of priorities, are still lacking in realization. The same can be said about *Good protection of private outdoor places* and *Usable common indoor areas*, but as long as these qualities are not very important to the residents, seems inappropriate to give the deficiencies much attention.

9.5 Different household categories and their importance to residents

Fig 9.3 Importance and realization of housing qualities. Average score for the sample of households without children in Sjøveien.

	Importance	Realization	Discrepancy
1. Proximity to public recreation areas	4.41	4.52	+0.11
1. "Proper" location of the area	4.41	3.96	-0.45
3. Traffic security	4.24	3.52	-0.72
4. Reasonable price	4.14	3.05	-1.09
5. Practical dwellings	4.09	3.61	-0.48
6. Saleable dwellings	4.04	4.18	+0.14
7. Buildings with a high technical standard	3.95	3.26	-0.69
8. Usable common outdoor fields	3.91	3.68	-0.23
8. Attractive treatment of landscape	3.91	3.27	-0.64
10. Nice social environment	3.86	3.48	-0.38
10. Pleasant aesthetic general impression	3.86	3.65	-0.21
12. Vicinity to service and public transport	3.83	2.62	-1.21
13. Ability to adapt the dwelling according to new life situations	3.82	2.96	-0.86
14. Locally adapted architecture	3.77	4.00	+0.23
15. Attractive facades	3.68	3.61	-0.07
16. Environmentally friendly architecture	3.64	3.32	-0.32
17. Good protection of private outdoor place	3.50	2.17	-1.33
17. Pleasant use of materials and details	3.50	3.36	-0.14
17. Ability for enlargement of the dwelling	3.50	3.35	-0.15
20. Varied composition of the group of residents	3.14	2.70	-0.44
21. Usable common indoor areas	3.00	1.86	-1.14
22. Good accessibility for handicapped persons	2.96	2.13	-0.83
23. Traditional architectural design	2.86	3.39	+0.53
24. Creative and exiting architectural design	2.48	1.95	-0.53
25. Ability to move to other housing in the area	2.09	2.00	-0.09
26. Ability to rent out a studio apartment	1.96	2.23	-0.27
Total average score	3.56	3.15	-0.41

Fig 9.4 Importance and realization of housing qualities. Average score for the sample of households with children in Sjøveien.

	Importance	Realization	Discrepancy
1. Traffic security	4.63	3.54	-1.09
2. Proximity to public recreation areas	4.46	4.70	+0.24
3. Nice social environment	4.37	3.89	-0.48
4. Ability to enlarge the dwelling	4.27	3.59	-0.68
5. Buildings with a high technical standard	4.24	3.32	-0.92
5. Practical dwellings	4.24	3.52	-0.72
5. Usable common outdoor fields	4.24	4.28	+0.04
8. Attractive facades	4.16	4.02	-0.14
9. “Proper” location of the area	4.11	4.44	+0.33
9. Pleasant aesthetic general impression	4.11	4.22	+0.11
11. Saleable dwellings	4.09	4.65	+0.56
12. Pleasant use of materials and details	4.04	4.04	0.00
13. Favorable price	4.02	2.67	-1.35
14. Ability to adapt the dwelling according to new life situations	3.96	3.54	-0.42
15. Locally adapted architecture	3.85	4.17	+0.32
16. Attractive treatment of landscape	3.80	3.61	-0.19
17. Vicinity to services and public transport	3.63	2.59	-1.04
18. Environmentally friendly architecture	3.44	3.56	+0.12
19. Usable common indoor areas	3.34	2.41	-0.93
20. Good accessibility for handicapped persons	3.26	1.96	-1.3
21. Varied composition of the group of residents	3.17	3.02	-0.15
22. Traditional architectural design	3.10	3.46	+0.36
23. Good protection of private outdoor places	2.70	2.33	-0.37
24. Creative and exiting architectural design	2.36	1.95	-0.41
25. Ability to move to other housing in the area	2.18	2.86	+0.68
26. Ability to rent out a studio apartment	2.18	2.59	+0.41
Total average score	3.69	3.42	-0.27

Households without children show a general tendency to assign qualities a lower score both with regard to importance and realization than households with children do. On average, a specific housing quality gets a 0.27-point higher score in realization from families with children than from other households. Regarding importance, the difference is smaller, only 0.13 points. As a consequence, the degree of discrepancy between importance and realization of dwelling qualities is about 50% larger for the sample of households without children than it is for families.

Moreover, households without children assign “top-score” qualities much lower scores. Seven qualities are assigned a score of 4 to 5 points both with regards to importance and realization by respondents from families with children. In the sample of households consisting of single persons and couples only two are scored this way. The “top-score” qualities the two groups share in common is *Proximity to public recreation areas* and *Saleable dwellings*. The households with children also give a “top-score” ranking to *“Proper” location of the area*, *Usable common outdoor fields*, *Pleasant aesthetic general impression*, *Attractive facades* and *Pleasant use of materials and details*.

9.6 Different household categories and their evaluation of realization

The differences with regard to evaluation of the housing qualities previously discussed seems partly to be that the families with children generally have a more positive attitude to the area and because of this gives a higher score to the realization of most of its qualities. The “extra” number of points given to the qualities *“Proper” location of the area*, *Usable common outdoor fields*, *Pleasant aesthetic general impression*, *Attractive facades* and *Pleasant use of materials and details* from the respondents from families with children does exceed the average by 0.27 points. With respect to *Usable common outdoor fields*, *Pleasant aesthetic general impression* and *Pleasant use of materials and details* the “additional” number of points even exceeds 0.5.

The responds from families with children also attach higher importance to these qualities. Thus we may see more specific differences with regard to priority and the experience of housing qualities between the two household categories, and not just a generally more positive or negative attitude towards the area. It seems reasonable that respondents with parental responsibility are happier with the open structuring of the common outdoor fields in Sjøveien than respondents without children. Why they are more content with the realization of the aesthetic qualities of the area on the other hand, seems more difficult to interpret without more explicit and thorough knowledge of the area. More information about the residents’ lifestyles might provide some clues.

9.7 Different household groups' evaluation of aesthetic and symbolic values

There are also telling differences between the two household categories concerning importance to aesthetic housing qualities. The most important aesthetic quality among respondents from childless households is *Attractive treatment of landscape*, which they rank number 8. Parents rank this quality number 16. One major reason for these different priorities may be that the parents regard *Usable common outdoor fields* as a very important quality, and there may be an inherent conflict between the two qualities that prevents a full optimization of both.

The parents pay more attention to *Attractive facades*, which they rank 8th, while the respondents without children rank it number 15. *Pleasant use of materials and details* also gets a high score with regard to importance among parents and is ranked number 12, while the childless group ranks it number 17. With regard to other aesthetic qualities, however, there are no telling differences. Thus it seems like the qualities that are connected to the general aesthetic appeal of the houses are important to parents, while the childless group pays more attention to the aesthetics of the landscape.

9.8 Different household groups' evaluation of psychosocial values

As has been previously discussed, Sjøveien area respondents differ from the total sample from all five suburban areas with regard to two housing qualities that may represent psychosocial values. *Usable common outdoor fields* is ranked as number 4 in Sjøveien with regard to importance while the total sample only ranks it number 10. *Good protection of private outdoor places* does not seem to have many supporters in Sjøveien, where it is ranked number 23. On the general list for all areas it is ranked number 15. But this emphasis on community values at the cost of privacy in Sjøveien doesn't necessarily win equal support from all categories of residents.

If we look at the priorities of households with and without children in Sjøveien, we find that there are remarkable differences both with regard to these two qualities and other qualities that may represent psychosocial values. *Usable common outdoor fields* is ranked as number 5 by the parents while the childless group ranks the quality 8th. *Good protection of private outdoor places* on the contrary is ranked number 17 by the childless group, while parents rank it almost at the bottom of the list as number 23. *Nice social*

environment, the psychosocial quality that is generally considered to be most important by the residents in this evaluation, is ranked number 3 by parents while respondents from households without children rank it number 10.

If we take a look at to the general trend in housing quality preferences in all five suburban areas, we find that this result may not come as a surprise. In the Nobø area, most residents are households consisting of just one or two persons. In this area the quality *Nice social environment* get a lower score than in the other areas and is ranked as quality number 10 with regard to importance. The quality *Good protection of private outdoor places* on the other hand is most in demand in the Nobø and Reinen areas, which are both characterized by the predominance of small households and few children. Thus there is reason to believe that households without children are not dependent upon a well-functioning neighborhood network to the same degree as families with children, and that they generally tend to give higher priority to privacy.

9.9 Different household groups' evaluation of under-optimized qualities

Splitting the group of respondents into two samples, or households with and without children, contributes to a further differentiation in the respondents' experience of Sjøveien's missing attributes. Both groups are roughly equally discontent with the *Vicinity to services and public transport*. The households without children do rate this quality as being more important than families do. The lack of *Traffic security*, however, seems to be a bigger problem for parents than other respondents. *Reasonable price* is also regarded as more a problem by parents.

Ability to enlarge the dwelling (ranked as number 4 by parents and number 17 by other households) is not surprisingly more sought after by families than by small households. Despite the area's opportunities for expansion, the respondents from households with children think that the quality is under-optimized. Even if the *Ability to enlarge the dwelling* is not seen to be lacking by respondents without children, they are not totally satisfied with the flexibility of the flat. But in their case, *Ability to adapt the dwelling according to changed life situations* is more desired.

The respondents from households without children also think that the quality *Good protection of private outdoor places* is under-optimized. The difference between the household categories regarding opinions of this quality is not striking, but the households without children attach more importance to the

quality. There is also a remarkable difference between the two groups with regard to the quality *Attractive treatment of landscape*. While the parents don't see this quality as under-optimized in the area, the respondents without children do. Aside from the fact that their need for aesthetic satisfaction is not met, this sense that the quality is lacking may also be seen in relation to the need for better protection of privacy in the outdoor areas on the part of respondents without children. The building pattern and landscape in Sjøveien is open. More vegetation could perhaps be a means to better protection of privacy outdoors.

9.10 Conclusion

Based on the quantitative test of housing qualities, we find that parents in Sjøveien want to live in a residential area with high degree of *Traffic security* located in *Proximity to public recreation areas*. The area should have a *Nice social environment*, and *Usable common outdoor fields* should be given a high priority. With regard to the buildings, this group wants *Practical dwellings* in *Buildings with a high technical standard* with an *Ability to enlarge the dwelling*. The differences with regard to the preferences of the total sample of respondents from the five suburban areas are not striking, but the parents in Sjøveien stress the importance of practical and psychosocial qualities that influence performance on the neighborhood level like *Nice social environment*, *Traffic security* and *Usable common outdoor fields*.

Their responses also show that they feel the area offers *Saleable dwellings* in a residential area with *Usable common outdoor fields* located in *Proximity to public recreation areas*. According to parents, other desired qualities are only partly satisfactorily realized. *Traffic security* and *Buildings with high technical standard* is particularly under-optimized (1.09 and 0.92 discrepancy). But *Nice social environment*, *Practical dwellings* and *Ability to enlarge the dwelling* are also lacking to a significant degree (from 0.48 to 0.72 points discrepancy) This does not mean that the area does not perform well with regard to these qualities; instead, the expectations and demands of the parents are high and demanding to meet.

The aesthetic qualities of the area are also of interest to parents, although they are of secondary importance compared to the qualities mentioned above. Qualities like *Attractive facades*, *Pleasant aesthetic general impression* and *Pleasant use of details and materials* are important to the parents in the general experience the Sjøveien area as aesthetically appealing and in accordance with their demands and wishes. Qualities connected with aesthetic

and symbolic values seem to make a valuable contribution to the parents' experience of attractiveness in Sjøveien.

The parents want a community-oriented residential area and underscore the importance of *Nice social environment* and *Usable common outdoor fields*. Their priorities concerning the psychosocial values and use of the outdoor areas seem to be in conflict with the priorities of respondents from childless households. Further investigation of the area will hopefully give more information about this possible conflict and its potential influence on the residential area.

10 A descriptive presentation of qualitative data from Sjøveien

The quantitative mapping of housing qualities gives valuable information about the attractiveness of Sjøveien and the other areas in the sample. In order to give a deeper understanding of this topic, however, this information obviously has certain limitations. For example, the interpretation of housing qualities is necessarily vague. We know that the respondents want *Practical dwellings*, but what does this actually mean? What kind of layout characterizes *Practical dwellings* in Sjøveien, and what are the design criteria that contribute to *Attractive facades*? Several of the housing qualities may also influence different categories of housing values. A quality like *Usable common outdoor fields* is at first glance a practical value, but it also has great implications for psychosocial, aesthetic and symbolic values. The actual meanings of the qualities and their interplay may be easier to determine from qualitative material.

The categorizing of residents in the quantitative sample is based on simple demographic variables. A qualitative investigation will improve opportunities for getting more detailed information about how lifestyles influence residents' attitudes and habits related to housing.

Aside from the research questions that concern attractiveness, this investigation especially aims to focus on physical and demographic density and the influence of these factors on the attractiveness of the residential area. Qualitative material from interviews, conversation and observations of the area will play an important part in answering these questions.

During April and May 2000 adult members of families with children from Sjøveien were asked about their opinions of the area. Most of the talks were of informal character and were documented with observation notes. However, in-depth interviews were conducted with seven of the parents, and the interviews were transcribed word for word. The interview transcriptions, informal talks with residents, and observations in the residential area made up the material for further qualitative investigation. The quotations in the text are based on the transcribed material.

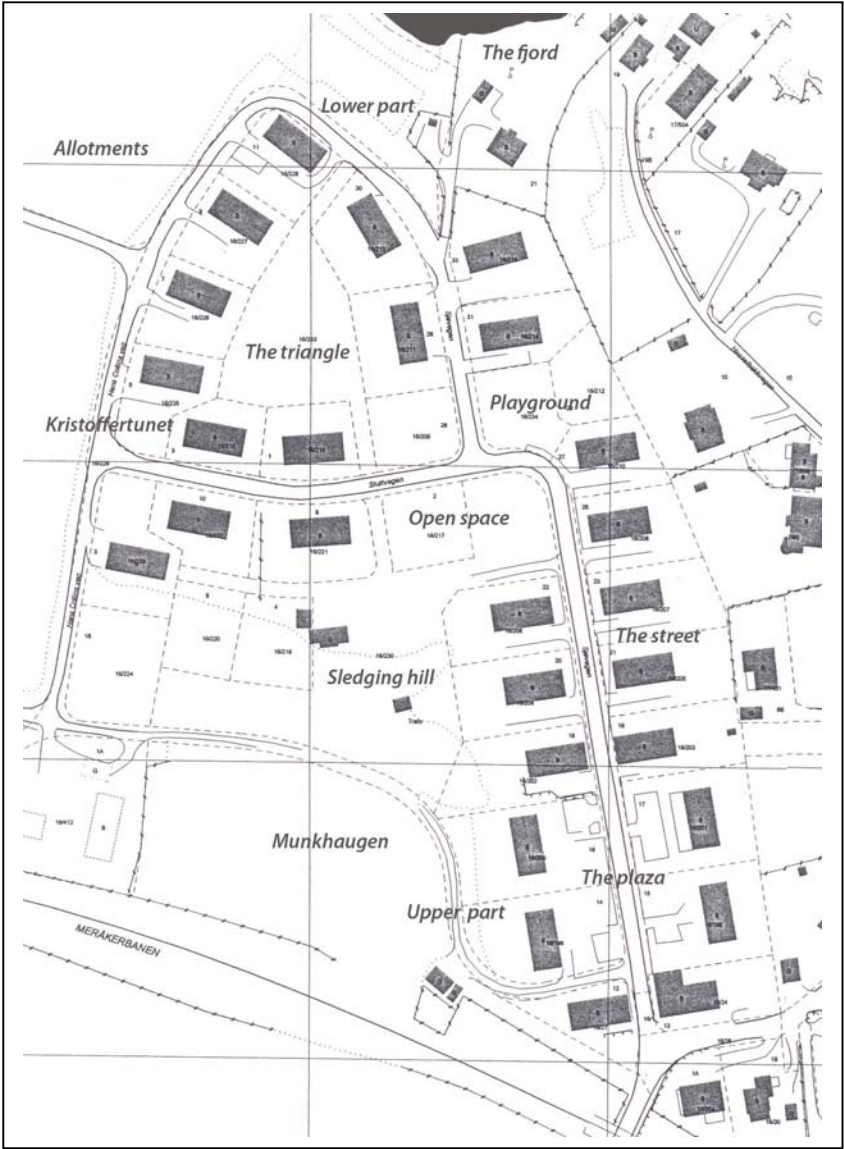


Fig 10.1 Map of Sjøveien showing important places and sub-areas.

10.1 The interviewees' reasons for moving into a flat in the Sjøveien area.

Most interviewees clearly remember their first impression of the area and why they made the choice to move into Sjøveien. They were attracted to the Sjøveien area for several reasons; among the most important were the location of the area close to the fjord, the nice spacious outdoor fields and the close social relations among families living there. The area was seen as aesthetically appealing with a nice atmosphere. The buildings were also mentioned as contributors to the attractiveness of the area, although their technical standard and original layout were considered to be less satisfactory.

"Yes, when we discovered the place here we were searching for a house, driving around the whole town. And then by accident we drove down to this area, a nice but rather shabby area then. But it was the proximity to the fjord, the well planned green outdoor areas and the houses in fact, the distance...you know the spaciousness between the houses, with a lot of light. After searching in typical row house areas, dull areas, this was something different compared to them. It was not the house, the standard of the house. The standard was actually quite bad."

"John"

"Then we came down the street here and it looked interesting. There was something about it that made us think it was... the surroundings and environment seemed to be very nice.... looked very nice you could say. It was like coming to a hidden valley where everything was in complete harmony that you just fell in love with in a way. So then we just settled down here. You felt a kind of delight from looking at the houses and you saw that they functioned together here in a way. And then there was the openness between the houses, no fences and hedges or any barrier, and it seemed to be socially well functioning too. You had openness all around you and it was dense without giving the impression of being dense, in a way. Both dense and open, you could say."

"Tom"

"We felt that we wanted to live here and that this place was OK. Close to the fjord... think it was mostly.... And the location, with forest outside and space between the houses. Peaceful, rural. Nice place to raise children. Now I maybe don't think so much about it, but when we came here for the first time and it was spacious and the fjord was quite near.....and not a lot of small demarcated gardens. I thought it was lovely. Then it was long distances to the

neighbor houses and I thought that was good because we have been in a lot of residential areas where it has been so narrow. It is nice to have some distance."

"Sara"

"And then we met a woman who had lived in the same flat as us, and she said that we should move to Sjøveien because there was a vacant flat there. So we drove to Sjøveien in order to see it. I had visited the place before so I knew it was nice here, but my live-in partner had to see it too. He also thought it was cozy, nice for children, cozy old-fashioned houses, close to the sea and located on the right side of the town, as I use to say. These were the reasons for moving here. I remember when I came driving into the area for the first time through the sub-crossing, when the area revealed itself so to speak. So I came here and saw the windows with small panes and lace curtains and a lot of kids. It was nice and green here. I got a good feeling -- I would like to live here!"

"Suzanne"

"I fell in love totally. My sister had some friends here. So we drove down here, went for a trip along the track and met different kinds of people. And people were outside and I think it was just.... fell totally in love with the area. So the next day there was an advertisement in the paper. It was the atmosphere. People were outside, sitting on the steps drinking tea and chatting. And it seemed to be very social, very warm, human. You saw kids ran around and it was safe and it appeared to be a community where people took care of each other, as I have not experienced before. I have lived both in a flat and in a detached dwelling and on a small farm. But I have never before experienced such a community."

"Christine"

"But when we became a couple we both wanted to move to the Lade district again, close to the sea. So this place appeared in connection with some acquaintances. It was in a way Lade, and this side of the town. We knew about these areas here. I became a little frightened when I came into the houses, but not when I went down the street. It looked very all right down in the street but the houses were run-down. Inside the flats it was...Yes especially this one was awful. But luckily it was not the first impression, because everything had to be repaired. So it was the outdoors that did it. That made it so that we wanted to live here."

"Anne"

"I have always wanted to live by the sea. Originally I am from the inland but have always longed for the sea. So I was very pleased to be living so close to

the sea and having such scenery outside the door and at the same time being so close to the town. I think this is the best place I can live in Trondheim with regard to the needs of my children and me. It is lovely with the open landscape. There is an unspoken right of access between the houses here since there are so few fences and hedges and people just look after each other, at least when they are outside. And there is not so much division between my things and yours. Or my things and ours. It is very open. And the kids who are constantly going in and out of different flats and visiting each other, they also contribute to establishing connections between the adults.”

"Philip"

The informants' views of the attractiveness of the Sjøveien area by and large seem to be in accordance with the results of the quantitative investigation of housing qualities. The interviews underscore the importance of the location in natural surroundings, the quality of the common outdoor fields and the community of families with children. The first impression of the area gives an important hint regarding to its attractiveness, but this cannot explain everything. The following pages will hopefully deepen the understanding of the attractiveness of the area and the lifestyle of its residents. The empirical material will be discussed later in this thesis, in light of theory and results from previous research in order to answer the research questions.

10.2 Location, “A desire for green surroundings”



Left: The houses meet the fjord.

Right: Residents at the beach

Sjøveien is located about five kilometers from the center of Trondheim. The area is surrounded by agricultural land and areas with detached dwellings. The seashore of the Trondheim fjord is close, and access to picturesque landscapes

along the shore is excellent. The quality of the location, where it is both in a green environment and at the same time close to the city center, is highly appreciated by the residents.

"I feel that I am in the countryside. I have the perfect mix of countryside and town now. I am so pleased with that."

"Philip"

All interviewees mention the area's vicinity to the fjord as an important reason for moving to Sjøveien. Both children and their parents frequently use the beach close to the area. They go swimming, fishing and sunbathe. Some residents also have their own boat anchored by the little quay beside the beach. The boat club is an important social arena for several residents.

Many informants experience the fjord side of Trondheim as the "right side" of the town. The proximity to the sea provides a nice view over the fjord and a mild local climate with shorter winter seasons than in other parts of the town.

"I wouldn't have lived in Byåsen because of the snow. The location here, down by the sea and on this side (of the town) contributes to a milder climate and a shorter snow season."

"Philip"

Several of the informants have grown up by the sea and feel attached to the Norwegian coastal culture. The fjord is also perceived as an important feature of Trondheim. Living in Trondheim means living by the Trondheim fjord. The fjord is attributed a symbolic role as a connecting link between the residential area of Sjøveien and the old city of Trondheim. The distance in kilometers between the two areas is not so important as long as they are connected by the fjord. When asked about where in Trondheim the informants would not like to live, the residential areas south of Trondheim, Heimdal and its surroundings, are frequently mentioned. The negative response to those areas seems to be strongly influenced by their lack of contact with the fjord.

"You might as well just move to a totally different place where it is cheaper to live. Because you are living completely out of town. You have to keep your connection to the special features of Trondheim. And it has to be within a certain distance. In fact I might not use much less time driving from Sjøveien to downtown than from Fossegrenda to downtown, but in any event, there's something about the location in relation to the town and the fjord."

"John"

The open character of the landscape surrounding the fjord is also seen as an attraction by the interviewees. The nature trails along the Lade shore run through the outskirts of the area and are used by many residents. Leading into public recreational areas, these trails offer rich possibilities for experiencing the nature along the fjord. However, the trails also bring traffic, both pedestrian and car, into the area, thus representing a certain strain on the residents.

Many of the residents interviewed mention the quality of living in a rural area but still being close to the city center. The agricultural areas are not open to public traffic, but the kids enjoy looking at the animals in the fields and the atmosphere provided by farming is associated with happy living in the countryside. The residents interviewed think that they get the best of both worlds. They have a feeling of living in the countryside when they pass by cows grazing along the road before they arrive at Sjøveien. At the same time the distance to the city center is only five kilometers, a distance that many of them can cover on a bicycle.

"It really is something when you are arriving by car and pass by the old Radmann building over the hill where the cows are grazing, just like in the Freia milk chocolate commercial, and then you feel like you are in the countryside. But at the same time you are so close to town that you can reach it on your bicycle."

"Suzanne"

Some of the residents certainly have a slightly different perspective on the distance to the city, and complain that the center is a little too far away, so that they have to have a car to live in Sjøveien. Most of the interviewees nevertheless support the statement that the distance to the city center is just about "right", which seems to mean that they like the residential area to be situated a little bit outside the town:

"For me the distance is all right. It is in a way outside town."

"Tom"

In this way the area becomes a little world in itself, a kind of enclave, which is overview and safe for kids. The distance to the center is welcomed as it is assumed to contribute to keeping the youngsters away from the dangers of city life.

"But if you compare this location to living closer to the city center, I think I would have become worried if I lived in the city since I have a 12 year old kid."

It would be easier for them to walk around in the center, meet their friends in amusement arcades, the city square and so on."

"Anne"

The combination of a certain distance to the city and the clear demarcation of the area and its surroundings also contribute to giving the area an identity of its own. According to one of the informants, most residents in Sjøveien have made a conscious decision about living in exactly this area. This dedication is a very valuable resource and helps create a feeling of community.

"I associate Sjøveien with the children's tale about Bakkebygrenda. (location of the stories of the Swedish writer Astrid Lindgren) I think Sjøveien is a special place because it is a little out-of-the-way, and most people who live here have made a conscious choice to do so. I think that has influenced the place as it is today. That people wanted to live here so much."

"Anne"

10.3 The outdoors; “A desire for openness”



Left: The open fields in the middle of Sjøveien as seen from Munkhaugen.

Right: From the open fields in the middle of the Sjøveien area.

The character of the outdoor areas is one of the most important attractions in Sjøveien. All of the interviewees commented on the outdoor fields as a major factor when asked about why they decided to move to the area. The most frequently cited features of the area are openness and spaciousness.

The outdoor fields are perceived as a continuation of the natural surroundings into the residential area. The open building pattern allows nature to flow in between the houses, creating a feeling of living in a park. The detached buildings do not create continuing barriers. It is possible to catch the sunlight and the view of the fjord in the open spaces between the houses. The distances between houses are also sufficient to avoid peeping from neighbors. But even though they are detached, the volumes of the four-family houses still relate to each other and form groups with different characteristics. As a result, the scale of the spaces between the houses varies from more intimate gardens to large, open fields, thus offering possibilities for a wide range of activities.

One of the informants stated that the Sjøveien area is quite densely built up without being perceived as such. A lot of people live here, but the spacious and open outdoor areas with a nice view of the fjord contribute to a feeling of having plenty of space. The open character of the green fields inside the area also harmonizes with the open character of the surrounding rural landscape of the Trondheim fjord.

Parts of the open fields are potential building sites owned by the Sør-Trøndelag county authorities. The county wants to sell the sites to housing developers. The residents of Sjøveien are engaged in fighting a development on the sites, because they think of the open fields as one of the major attractions of the area.

The Sjøveien homeowner's association has decided to forbid the construction of fences that would demarcate the plot of each four-family house. The informants are supportive of this restriction. They regard it as a positive quality that the residential area is not divided into a lot of small gardens. Both informants who grew up in small housing areas with private gardens and informants who grew up in blocks of flats support this restriction. The residents interviewed do not seem to regard the lack of private gardens as a problem for privacy.

"No, I would prefer this (common outdoor area) to a little plot of my own. Many private gardens are not bigger than a little spot. I also think it is nice to work together with others. That is an advantage. I think of the situation in my hometown. They have built a lot of new detached dwellings so the areas have become a little strained. And the houses are so close to each other. You can stand between two of them and touch both. The plots are small and often quite steep. And then you sit there and peep into the neighbor houses."

"Suzanne"

10.3.1 Vegetation in the area



Left: From "the Triangle"

Right: Parts of the fields in the middle of Sjøveien appear denuded.

The park-like quality of the area was mentioned by one of the informants as an important attraction. There are some really big trees in Sjøveien, most of them

in an area called “the Triangle”. The kids most frequently use this outdoor area as the adults think it is too shady.

“The kids also have a thick gym mattress they have stolen from the teacher's college. So a lot of children used to play there. It is not a very sunny place so no one sits there and drinks coffee or things like that. There are too many trees and shade, but it has been used for parties.”

"Suzanne"

The rest of the residential area is quite open without much vegetation except for grass and some flowers along the facades of the houses. However, there is a little forest on a hill called Munkhaugen right next to the houses.

The informants see the openness of the area as a desired quality.

“I think it is OK that we have so much open area, that there are not too many hedges and barriers and closed areas. I think it is an advantage that it is a bit free and that the kids can run around. I know someone who planted a hedge around his house down by the playground. Not to make it more private, but to make it more sheltered. For that, it is OK, but I think it is an advantage to keep the main area open, like we do with this house, where we have built flowerbeds into the hill towards the neighbors, but have placed flagstones in the flowerbeds so that the kids can walk there. That is what is good for the children, so they can move around without restrictions. Without being afraid of destroying someone's hedge, or the flowerbed.”

"Suzanne"

Only one resident says that she wants more vegetation. She believes that more trees would break the wind from the fjord and create more protected places in the outdoor areas.

“Sometimes I think the vegetation is too sparse here, that it would have been nice with some more trees. Behind and in front of our house there is nothing. There could be -- it is a bit windy here in the winter.”

"Sara"

All other informants think that there is enough vegetation. They are happy about the existing situation because the openness allows children to move freely without any hindrances. They also want the outdoor fields to give a feeling of freedom, perhaps in order to avoid the worry of having the kids running over the hedges and plants of neighbors. On the other hand, childless neighbors older than 50 are more interested in planting hedges and other kinds of vegetation that can protect them from the kids.

"We have had house meetings where neighbors have said that they would like to plant hedges and similar things in order to get some peace and quiet. When they arrive home after work they are tired and then.... But fortunately we have a rule in the homeowner's association that states that no one has the right to fence in the houses in Sjøveien. And the intention was that we should not have any fences and that the children could run around freely."

"Anne"

A new outdoor plan for the area encourages the planting of bushes that can create small, defined places in the wide, open fields as long as they are not any hindrance to free movement. So far, very few bushes have been planted.

10.3.2 The children's use of the outdoor areas.



Left: Little boy in the seesaw at the playground.

Right: Putting up a tent on the lawn is a popular activity.

One important reason for preferring large open common areas to small private gardens is the opportunities for children to play. The possibility for children to move freely outdoor was an important factor for many of the residents interviewed when they elected to move into a flat in Sjøveien. Openness, spaciousness and freedom of movement are highly valued attributes.

The parents want to offer the children varied and spacious outdoor areas for play. Their evaluations of the children's opportunities in the outdoor areas are widely positive. There are some objections, however. The wide, open field invite wild running and a high level of activity.

"Because it is so open between the houses here with vast lawns and few sheltered places you get a lot of wild playing. Lot of running and shouting and so on. So the kids get a little crazy. Wild, yes, and they stay outdoors. Like now I have to force them inside to feed them." **"Christine"**

As a result, some of the children become anxious and have problems with organizing their daily lives. School children may find this to be a particular problem. Open areas without limitations that are organized for the benefit of the children may function well for small children, but when the kids grow older the situation becomes more complicated. More restrictions on the activity of the older children may be necessary.

“But of course when you have about ten to twelve fifteen year old kids running around, then that is a horde, it is not like cute children toddling on the lawn. They come with bikes and footballs and..... It has consequences. But for a period it was like: ‘Yes, this is what we want.’”

"John"

It has also been argued that the lack of boundaries between properties means that children need more time to learn the differences between their own and other people's properties. In Sjøveien they are used to a situation where outdoor areas are common and their movements are unrestricted. Their feeling of community may be enhanced by this experience, but they also have to be introduced to the phenomena of physical limits and boundaries.

Some informants also mention that parts of the outdoor areas are a little too open and wide to meet the children's emotional need for safety and comfort. Many kids enjoy small and enclosed areas like what private gardens may offer. The large, open areas are not necessarily so easy to make the most of. Especially in the open area in the center of Sjøveien the extent of activity is quite low.

“Well I see that the children actually enjoy themselves in smaller spaces. When we visit people with gardens with hedges and so on, the children feel comfortable inside it, while the areas here are very wide and open.”

"Sara"

As the outdoor areas are regarded as relatively safe, the kids wander about on their own from an early age.

“When Maria was two (years old) I let her stay outside alone. Yes of course I was walking to the window and looked after her and so on but.... So it is very nice here in that way. And the kids feel safe. You understand? When I have to go shopping they don't want to come along. I think that is lovely.”

"Christine"

The Sjøveien area has natural borders that separate it from its surroundings. Rural landscapes meet the area to the west, and to the north Sjøveien meets

the recreation areas along the shore of the fjord. In the east a residential area with detached dwellings is located; this area is partly separated from Sjøveien by fences. In the south, the railway and a small forest bound the area. The children usually keep inside the clearly defined borders of the area. The enclave quality helps in protecting the area and is appreciated by the parents.

"A kind of natural border yes, so the kids know when they are inside and when they are outside."

"Tom"

Cooperation with regards to keeping an eye on the children also contributes to the children's safety and makes it easier for parents to let them play outside on their own from an early age. It is a goal for most informants to let their children play on their own, as they want the children to develop independence.

"The only thing I am afraid of is that she might go down to the shore on her own. But still she hasn't done that. She has a fixed area where she moves around. Then there is always someone who keeps his or her eyes open and sees the little ones if they take off -- other grown-ups or older kids."

"Suzanne"

The outdoor areas are varied and provide a lot of places that are suitable for children's activities. The children move freely on the lawns and spend a lot of their spare time outdoors, especially in the summer. The small children often play outside their own house where the parents can keep an eye on them. The steps by the entrances function as meeting places for both children and grown-ups. The lawns surrounding the houses are another popular place for smaller children to play. Playing outside a neighbor's house is also an option.

Several of the four-family houses in the eastern part of the Sjøveien area verge on an area with detached dwellings. On the eastern side of these houses, towards the border, there are also protected garden areas. These are popular places for both young and older children. The gardens east of Sjøveien numbers 19, 21, 23 and 25 are particularly popular. In addition many kids play outside the entrance of number 21. A main reason for this is that the large number of children living in this house makes it into a natural meeting place.

"The green house there is frequently visited by children. Sometimes, for some odd reason, there are much more kids there than on the playground. It may be because a lot of children are living there in the first place."

"Suzanne"

The playground is a popular place for the youngest kids. It has a sandpit, play equipment and benches where the parents can sit while watching their kids. When the playground was moved from its former shady position under Munkhaugen hill to the sunny place that it occupies now, it has been a popular meeting place for both adults and children. Munkhaugen is used as a sledding hill in the wintertime. The small kids' play in the area may be quite challenging. The sledding hill is steep and even small kids climb the trees.

The school children have a more extended radius of action. The "Triangle", a field encircled by houses in the northern part of the area, is a popular place for the older children. The "Indian forest" on top of Munkhaugen is another place created by children. The main activity here is building huts in the trees.

Badminton is one of the activities that take place in the open fields. The children also put up tents in the summer. The adults have built a basketball hoop, but it is not used very much. Playing soccer is very popular among older children. Some parents complain that other adults dislike it when kids kick footballs because of the wear and tear on the lawn. Before the playground was moved to its current position, the area was used for playing football. Nowadays there is no place for football. The activities of young and older children are in conflict, and in this case the older children are the losers.

"So about the older kids playing football, this has in fact been squeezed out of the area. Very often they are sent to a football field outside the area, on the other side of the crossing. Football has been a bit problematic. When they play outside here they are told that they can't play here because the lawn is in bad condition. Then they come home, frustrated, and say that they can't play football because of him or her."

"Anne"

The movements of school children are not restricted to the residential area, the way they are for smaller children. Older children are often found in Sjøveien's surroundings, looking at the animals at the Rotvoll farm or fishing from the hill beside the beach.

"The older children have a lot of friends and they ride their bikes around. They'll go to Rotvoll, and very often they look at the cows and the horses in the field. Sometimes they picnic in the forest."

"Sara"

10.3.3 Dangers in the outdoor areas.



Left: Cars are everywhere in Sjøveien. Picture from Stuttveien.

Right: The location by the fjord may represent a danger for children.

Most informants consider the outdoor areas to be adequately safe for their children. Among the threats that are mentioned is car traffic, especially in the upper part of the area. However, interviewees stated that drivers are more careful now than they were some years ago. Three years ago, parents organized a campaign to improve the traffic situation. One of the efforts to slow traffic involved putting baby carriages in the road to force people to reduce their speed. Children are told to use the sidewalk when they want to go from the upper part of the area down to the playground. Unfortunately there have been cars parked on the sidewalks, which hinders the children and restricts the view for the drivers.

“But I think that the cars drive more slowly now than they used to. Then we had to put baby carriages and things in the road in order to force them to slow down. But we didn’t do that last summer I think, and not this year so far. My impression is that people drive more carefully.”

"Sara"

The children also use the road for bicycling. Until a couple of years ago, the younger kids learned how to bicycle by practicing in the yard in front of the entrance to their home. Nowadays, however most of the yards have been paved because the residents don’t want so much dirt in the entrance area and staircase. As a result, the younger children are forced into the roads to practice riding their bicycles, which exposes them to dangers from traffic.

The fjord represents also a potential danger. Children who are not able to swim are not allowed to go to the beach alone. Nevertheless, sometimes they do. The parents reassure themselves that there are many other grown-ups who

keep an eye on the children, so that the fjord is not considered to be a big problem.

“But people around here are quite restrictive with the kids on one point. The kids are not allowed to go down to the shore without being accompanied by grown-ups. Only the older children who can swim have more freedom. Last summer a couple of girls went down there alone. But they got a serious scolding. In fact it has not been a big problem. Unbelievably, the children have not been so attracted to the sea.”

"Sara"

The railway does also represent an element of risk, but has so far not represented any serious problem. Other kinds of dangers, such as stray dogs or people with bad intentions, were not mentioned by the informants.

10.3.4 Outdoor meeting places



Left: The playground is a popular meeting place for both parents and children.

Right: The steps in front of the entrance door are also important places for informal contact.

Meeting places are necessary for the development of social relations. In Sjøveien there are several opportunities for meeting neighbors in an informal context where it seems natural to stop and talk for a moment. Meeting places in the outdoor areas are especially important, because they offer an atmosphere without obligation. It is easy both to get into contact with neighbors, and to retreat when the conversation is finished.

“The grown-ups often watch the children when they are in the outdoor areas, at least the small children. So the playground is in fact the most important meeting place. And then there is the voluntary work in the common outdoor areas and gardens, when people are outside doing something together,

sweeping, for instance. We do a certain amount of voluntary work on the roads, the lawn and the playground. And then there are these parcel gardens, which are also very nice meeting places in fact. It looks very cozy out there when there are a lot of people caring for their plants. I think there are quite a lot of meeting places in the area compared to most other Norwegian residential areas, which I think are rather lacking concerning this matter."

"Philip"

The stairs in front of the entrance doors play a significant part in the community's social life. Several of the informants mentioned them as important meeting places. The south-facing stairs tend to attract residents the most.

"Then we have the stairs. If you take a look you find that we have such good, solid stairs outside the houses. And if they are oriented towards the south it is as a sign of spring that people are sitting there. Big crowds (laughter) of grown-ups and yes of children that are coming and going. It feels natural to join in."

"John"

The adults enjoy sitting on the steps and drinking coffee with their neighbors. Children also join in keeping their activities close to the entrance area. Most residents gather around the stairs of their own house, but people from the neighboring houses may also join in. According to one informant the Sjøveien area has its own "stair culture." One of the first things she remembered after having moved into the area was sitting on the steps enjoying the morning sun.

"Yes the stairs are good. That is my first memory from moving in, sitting on the stairs early in the morning, when the sun passed over the roof."

"Anne"

Several other places outdoor play a part as well. Adults make contact when working in the gardens outside the houses or in the parcel gardens. The parcel gardens are an important arena because they allow people from different kinds of households to get in touch.

"We also have parcel gardens that are something else, a different kind of meeting place compared to the houses and where you live and which outdoor place you belong to. In the parcel gardens there is another "mix" of conditions. You are not there because you have children that are playing there but because you have that parcel. It's a meeting place."

"John"

The allotment gardens have been established immediately outside the area on land rented from the Rotvoll farm. Several of the interviewees reported that contact between themselves and adults without children were established there. Their shared interest in ecological gardening brings them together despite differences with regards to life situation.

“I think that the parcel gardens where people are working outdoors, where now in the summertime we are digging in the flowerbeds and meet in the common areas there in the evening sun.....People meet and talk and work and pick some lettuce and.....The meeting places there are very important.”

"Christine"

The playground is used by both small children and adults. With a sunny location and benches for people to sit, the playground has been a success both for children and their parents. The grown-ups get in contact when watching their kids and the period when the children are small offers important opportunities to establish long-term friendships.

“Very popular among the kids, the youngest of them, up to four years old. And also among the parents. Earlier we had the youngest up there below Munkåsen hill. It was a shady place. No success. Humid and wet and the sun disappeared early. Then we moved the playground down here. It was an enormous success.”

"John"

Outside many of the four-family houses the residents have established outdoor places with furniture common to all residents in the house. In some cases, these places are also shared by residents from two neighboring houses. There are also places used for bonfires. These are common to residents from a small group of houses earlier mentioned as a type of meeting place that belongs to and is mainly used by a defined group of residents living in a specific part of the Sjøveien area.

“We have a common outdoor fire place up here (on the hill south of the house). It has been used a lot for such occasions. Then lots of neighbors meet, build a fire, grill and drink beer and such things. It is very nice. So that is a meeting place for us grown-ups and also for the kids little by little.”

"Christine"

Most of the informants are content sharing an outdoor area common to residents in their house. In most cases it has not been privatized by any specific group of residents in the house, which allows all residents to feel welcomed when choosing to sit down for a while. Several of the informants

report that their need for a private outdoor place has diminished since they came to Sjøveien because the entrance stairs and the common outdoor places cover their need for places to sit down when being outdoors.

"Mainly there are the stairs, where you sit down and have a cup of coffee on the weekends or in the afternoons. And then we have garden furniture in two places out in the garden. That's it I think. I don't use the places very much. But still I don't have any need for a private outdoor place."

"Tom"

"Sooner or later I hope I will have a private veranda, but the need is not urgent. We have access to the garden from the living room through a recently installed glass door. The main point for us is not having a veranda now, in fact the need was more urgent some time ago. Or at least we thought so. But I think we have been a bit more....In fact everything is all right. The house here is very social and we agree to buy things together. We have common furniture and other things here, so it has in fact reduced our strong desire to have a private veranda – which is what we really wanted when we first moved in, and I was 20 years old and pregnant."

"Anne"

Gardening and voluntary communal work also offers opportunities for getting in touch with neighbors. This kind of work serves a similar purpose as to the ecological gardening society, which attracts people from different categories. The same can be said about the boat club.

10.3.5 Privacy in the outdoor areas



Left: Example of balcony in “the triangle”

Right: House with balconies in the upper part of the area.

Almost all the informants talked about restrictions on private activities in the outdoor areas. Total withdrawal is difficult to accomplish and it is often problematic to find a quiet place, especially in the summer.

"It is quite difficult to find anonymity. Yes, around the houses you tend to be easy prey. You may indicate if you don't want to talk to people, you can withdraw, but when new people show up they don't always understand that. It is nice and social here of course, but I tend to miss the anonymity."

"John"

Most of the residents also have a hard time letting their neighbors know that they want to be left alone. Only one of the interviewees says that she manages to give unambiguous signals to other residents when she wants privacy. Her flat is however located in a house that borders on the detached dwelling area. This means that the garden is more protected than gardens in the middle of the Sjøveien area, thus giving better opportunities for withdrawal than other gardens.

"I feel like if I sit down outside the house and try to work, people don't disturb me all the time. Of course there are sounds and people who are running around, but it is fully possible to sit down and read a book. In one way or another you have to send the message. It may of course happen that somebody comes over to say hello and chat for a little while, but then you have to say that you want to read for the moment."

"Suzanne"

But even if Suzanne means that she can limit her contact with others, she also underscores that it is important to care about the community if you are going to enjoy living in Sjøveien. One other informant says that she usually retreats to the northern side of the house alone or together with friends when she doesn't want to be disturbed by neighbors. On the southern side of the house there are usually a lot of people who gather around the entrance area.

Nevertheless most interviewees feel that they are expected to be open to contact with others when they are outdoors. This expectation is experienced as both positive and negative. One informant says that he thinks that when he is outdoors, it is OK to be social. It may seem as if a certain loss of privacy is the price people are ready to pay in order to live in an area with a strongly developed social community.

"I think that if you are staying outside then you have to be a little bit social. I don't think most people are too social. We spend all the winter inside, so why not be a little bit social in the summertime? It is important to have a nice

common outdoor place. Then people meet there for informal talk. Then it is not necessary to knock on people's doors and say: "Hello I want to visit you." You meet outside, and when you feel finished with chatting you can leave."

"Tom"

The "balcony debate" that is proceeding in the area makes concrete some of the ambivalence that occurs when residents have to make choices between community and privacy. Architectural plans for the development of the area shows examples of balconies that can be built on the outside of the existing facades. The prototype was designed because some inhabitants wanted better opportunities for outdoor privacy. As the balconies are constructed on the outside of the façade, the ground under the roof of the balcony becomes a small covered terrace. By using a door leading from the living room to the terrace, residents on the first floor get easy access to a private place on the ground.

None of the informants felt an urgent need to build balconies. Many of them felt the need for a private place had been reduced because of the common areas. The arguments against balconies are both aesthetic and social. Several of the residents interviewed think that new balconies on the outside will destroy the clear, classical expression of the houses.

"In fact I have strong opinions about that. I am not very happy about balconies both from a personal and an idealistic point of view. It has to do with the fact that we came to an area that was unspoiled, left unchanged for about 50 years, and I think it is meaningless to destroy it by building balconies. There are so many houses in Trondheim with balconies, so why can't we have 25 houses here without balconies? Because we see that the houses function very well without them. It's an aesthetic issue, too."

"Tom"

There are few means for residents to control balcony construction. Lack of internal cooperation in the houses can result in construction of balconies on one side only, altering the symmetrical facades. Residents on the ground floor are also afraid that balconies will reduce the amount of daylight in their flats. In some cases the construction of balconies has been the source of conflict between neighbors, conflict that has been difficult to resolve.

The social arguments seem however to be just as important as the aesthetic ones. Several residents say that they are afraid of losing the community culture of Sjøveien if the area provides too many private outdoor places. The community culture is seen as a characteristic of Sjøveien that makes the area

different from most other residential areas in Trondheim. Most residential areas are based on a large degree of privacy. Sjøveien, however, is different.

“And then we lose the social network because I am sitting up here and she is sitting down there, yes, everybody in the whole area is sitting on their own “warts”. And then it is like any other area with blocks of flats. We have lost the character of Sjøveien, where we are flexible, sitting close to each other, eating together. And that is what I like about Sjøveien. So of course I am against the balconies.”

"Christine"

“If you try to build detached house qualities in a collective area, I think it would have been better to really take the step and.....yes, why not buy a row house or something else that in fact offers more privacy? Then you can protect these 25 houses. There are many people who want to move into the houses here I can tell you.”

"Tom"

Balconies also mean privatizing outdoor areas on the ground, a possible development that is experienced as a negative. Even in the current situation it can be shown that the construction of doors from living rooms on the ground floors has led to the privatization of areas on the ground. Other residents in the house feel excluded from the areas immediately outside the new doors.

“The people in the flat beneath us do that. They have tended to privatize the outdoor area outside their flat. They are also the ones who are most difficult to motivate when common work should be done. But we have built an outdoor platform that the rest of us, three families, are using. We have bought furniture together that we put there. There will also be a platform built on the front side of the house. Areas should not be privatized. They are common. But because they built a stair from the living room door out to the garden last summer, and put their own furniture out there, and decorated it with flowers and such things, then they are making that little area private, aren't they.”

"Suzanne"

Several of the interviewees felt that a shift towards a greater degree of privacy would be negative. However, there were also informants who had a more positive attitude towards balconies and private places on the ground.

“Well, we are talking about balancing. When you come to a certain point you are fed up with sitting together with your neighbors. Year after year after year. Maybe you want to withdraw, and then you don't have any alternative except to go inside. You want something private and if you live on the second

floor it is difficult to get a private place on the ground. And even if it is private, people come for a little talk anyhow. We don't have any protection. That is a part of the character of the place. There are very few bushes and fences and so on and you are very visible. Public. And that has been a problem."

"John"

One informant living on the ground floor had built a new door on his own, and appreciated that he had the opportunity to create a little place of his own right outside it. Although a boundary has been erected between his and other residents' territory, he doesn't feel that this limit is too sharp or that it telling the neighbors to stay away. The domain is not absolute and there is a lot of contact across the border.

"In a way we have three stations (laughter.) We who live downstairs have the areas outside our doors close to the corners of the house. The people upstairs have the areas in the middle. It has been split up a little bit. People in the middle also have flowerbeds there. So they have sort of settled down (laughter). We also have more responsibility for the flowers close to our door. But there is no absolute rule. I see it as a small thing in fact. I wouldn't like if it was a totally consistent system. It would be dull to live here if people saw my little area as private to such a degree that they didn't come around for a chat."

"Philip"

10.4 The houses; “A desire for exterior preservation and interior alteration”

10.4.1 House features

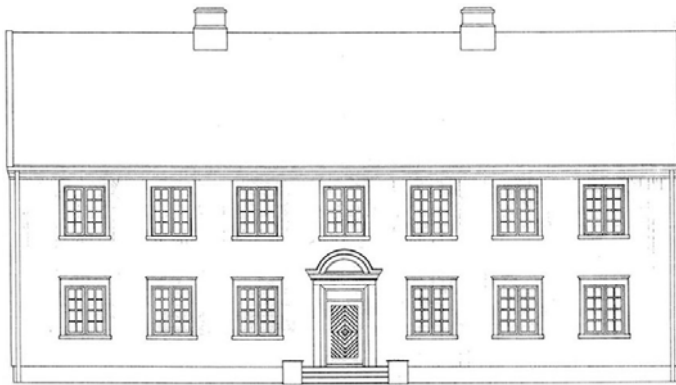


Fig 10.2 The original front elevation.

The houses themselves also played a part when the interviewees chose to move to the Sjøveien area. However, the houses seem to have been of less importance than the location and the outdoor areas. Most informants have a positive view of the houses. They are described as cozy, with a consistent total design in accordance with classical design ideals. Even though they are almost identical, small differences with regard to colors and details provide the necessary variation.

“Then the houses are identical, and there is something about their proportions that attracts me. That they are clean and solid in a way. Not such fancy-dancy houses. There is something about them that makes them pleasant I think. And then they are similar to each other. A little bit different in terms of colors. You don't need any A, B, C or D in order to know where you live. They have colors of their own and there are also different entrances and so on. There are some nuances.”

"Tom"

The similarities contribute to the identity of the area, while the differences prevent monotony and create a basis for belonging to each individual house.

The houses may not be so very exciting, but according to most informants they have their charm. More negative comments are also heard, however.

"Well, not exactly exciting. Boring oblong boxes. The windows with small panes are a little cozy anyhow. Nice that people choose to paint the houses in different colors."

"Sara"

The windows have small panes and the facades are covered with wood paneling and traditional detailing that create an old-fashioned feeling. Windows and doors are framed by beautiful molding. The details of the cornice extension on the gable wall and the shaping of the entrance area are of particular note. The stair outside the entrance door also plays an important part with regard to the social interaction in the house and the nearest neighbors.

"I think that the side I call the back (usually called front) is nice with the entryway where you can sit and put flowers and....Actually people who are passing have taken pictures of the entrance and have commented on it. Then you have the flowerbeds and the details of the houses that I like very much. And then I like this material, these broad "Trønder panels". And then there are quite a lot of windows in this house, and that makes it something special. If not there would have been too much blank surface area. There are a lot of windows. Even if they have small panes, there are a lot of them. I think the cornice over the windows is nice. That it has a profile."

"Suzanne"

The buildings are solid, and the pure, simple volumes prevent the houses from being overly ornate. The informants describe the houses with words like proud, well-proportioned and harmonic. Some residents describe the houses as expressing peacefulness, tradition and local belonging. The similarity between the four-family houses in Sjøveien and traditional Norwegian buildings is frequently underscored. Informants mention both the local Trønderlån and the typical houses from Nordland as having similar appearances.

"I associate all those windows with small panes with something old-fashioned, and the form of the houses give me a feeling of traditional construction techniques. To me they are representatives of history. A history that I don't know very well, but that I associate with the traditions of mid-Norway. Trønder houses out in the countryside."

"Philip"

The houses are a result of good craftsmanship. The original construction and materials are durable, and when the age of the buildings is taken into

consideration, the amount of maintenance work that has been needed is actually fairly limited so far.

Other positive features that are mentioned are the large windows, which provide the flats with plenty of daylight and a nice view. The generous ceiling heights in the flats are also appreciated. Originally the houses also offered spacious storage. This has however been reduced as a result of the enlargement of flats.

To some informants, the experience of the aesthetic dimension of the houses is connected with their experience of other positive values. For example, one informant says that she thinks the houses are great because there are people around them who work in the garden or enjoy the sunshine. Kids are playing everywhere and her image of this idyll includes the houses. The houses are an integral part of this experience of a totality that cannot be fragmented.

“But I think it has a lot to do with the colors. And the kids. When you see people around the houses, when they are working and having a good time. That makes me happy, and then I think that the houses here are nice.”

"Anne"

10.4.2 The revitalization of the area.



Left: "The plaza" as seen from its southern entrance

Right: "The plaza" seen from the inside.

Several of the informants had the feeling that they had participated in a collective rediscovery of an old area when they moved into their flat in Sjøveien. It was as if the area had been in a deep sleep and they had been given the means and ability to wake it up. The basic structure of the area was still intact, but the area had been neglected over the decades when the houses were rental units. The gardens were overgrown with weeds, but the first spade graft uncovered roots and tubers of old ornamental plants. The houses needed

maintenance. First of all, the houses needed painting and repair work had to be done. Informants also report that they removed old floor coverings and wallpapers in order to expose the original surface materials in the flats.

“Back in 1993 when we started to dig in the old flowerbeds, we found a lot of roots belonging to old valuable plants. Old rose bushes, tulips. They just were there. The place had been cultivated, but had been neglected later on. It needed to be revitalized. And that is exactly what has happened.”

"John"

Several residents said that the joy of discovering and renovating the area created a deep feeling of belonging. The area means much to them, but the area has also benefited from their effort. The relationship that developed between residents and their surroundings was seen as both meaningful and mutual by the informants.

“I have thought a little bit about it afterwards. The importance of having strong public owners for such a long time. The state, the municipalities and the county authority. They have done nothing with the houses. In that way they have been protected. It would have been different if there had been 50 years with private owners. Then there would have been a lot of building projects here, bays and balconies and a lot of strange things. A lot of eager owners who want to do different things. So I think that is unique. That the area has been a kind of locked up for 50 years and now has been unlocked. And I think it is a little bit unusual to participate in that. I feel a kind of joy when coming to an area like this, with those characteristics. And that I feel that I can participate in preserving and protecting it. Or at least not destroy it.”

"Tom"

The revitalization and maintenance work also had an important social aspect. The common outdoor areas were worked on in a collaborative effort among residents. Voluntary communal work brought people together and gave them an opportunity to get to know each other. The homeowner's association was established in order to take care of common outdoor areas, and to control the revitalization process. The association arranged meetings to discuss the further development of the area. The meetings also functioned as social gatherings.

10.4.3 Alterations to the buildings.



Fig 10.3 The original gable elevation

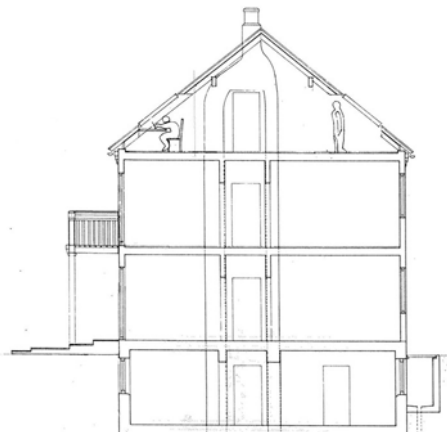


Fig 10.4 Section

When the county authorities sold the flats at the end of the 1980s and beginning of the 1990s, the area had started to decline. The lower part of the area appeared to be quite worn down. The county authorities had rented out the flats to TPS (Trondheim Psychiatric Hospital) employees and some flats had been empty. There was insufficient upkeep. The houses looked much better after painting and basic repair.

The changeover from a rental area to homeowner area resulted in the rehabilitation of the houses. The new residents felt that they rediscovered the place and that they had given it a rebirth. After a short period, residents realized that a coordination of the rehabilitation effort was necessary, and a local architect was engaged to work out a design guide for the Sjøveien area.

“A lot of families with children moved in, so it is not so surprising that things started to happen. But luckily the work with the design guide had reached a point so that it was possible to control the process. So you can't just place skylights anywhere, and the restrictions are quite strong in order to protect the overall feeling of the place. Because it has been our experience that without restrictions, people are not responsible enough. You get individual solutions that might be acceptable on a one-time basis, but if there are too many of them, the result is chaos.”

"John"

Today all the houses have been renovated. Except from new skylights and a small number of balconies, the facades of the houses have had negligible changes. The distinctive feeling of the area is still intact. Inside the flats, however, the alterations have been considerable.



Fig 10.5 The original back elevation



Fig 10.6 Altered elevation with balconies and skylights. Example from the design guide by architect Eileen Garmann Johnsen.

The design guide of the area functions as an important limit and manual regarding recommended house alterations. The guide has no status as a legal document, but building authorities are inclined to refuse building alterations that are not in accordance with the guide.

Restrictions provided by the guide mainly address building extensions and alteration of facades. The design guide does not affect changes that are made to the inside of the flats, as the owners are free to alter the layouts according to

their own wishes. Good advice is however offered. The changes to the exterior of the buildings permitted by the design guide are few. They include skylights of a specific size and in specific positions and doors between the living room and the garden or balcony. The only additions allowed to the houses are balconies and the design guide presents drawings that illustrate how to design balconies for the houses.

The restrictions and possibilities in the design guide were created as a result of a dialogue between the building conservation authorities and residents. Residents in Sjøveien, represented by the homeowner's association, hired architect Eileen Garmann Johnsen to develop a design guide for the area. The goal of the guide was to find solutions for alterations of the buildings that could be licensed by the authorities and accepted by residents in the area. The authorities have prohibited extensive transformation of the building exteriors, and the houses are protected by preservation regulations. Building regulation requirements for fire protection and building construction are also included in the design guide.

Residents who were interviewed seem to indicate that the regulations of the design guide are in accordance with the general opinion among residents on how the transformation of the area should take place. Most informants are concerned about protecting the original character of the area and support the restrictions that have been developed. The opportunity to alter their own flat according to their own wishes is welcomed by the interviewees, but when it comes to the exterior of the houses they are content with leaving it nearly undisturbed.

"I can understand the aim of that the guidelines perfectly well. The area is characterized by unity and that is quite unusual. And since I enjoy that unity of course I can understand it. If I had thought the area was ugly I wouldn't have understood it in the same way. But I think these are nice houses and a nice area so I see the goal and support protection. Luckily people are aware of it."

"Philip"

The joy and pride of the informants is evident when they show off the new, creative layout of their flats. A discussion of how they have transformed the flat and their future plans for development is a pet subject for most informants. The home as a creative project invokes a strong and genuine involvement. The fact that the design guide and the authorities have put limits on the opportunities does not seem to moderate their enthusiasm as the restrictions are seen as legitimate and are respected. The desire to protect the character of

the houses and the area is strong, and concern about possible unrestricted changes is widespread among the informants.

“But I am happy that you can’t install new window openings in the walls if you want to. It would have been really depressing if everyone could do what they wanted. And in fact I think that might have happened. That people would have done exactly what they wanted with the facades. I think it is all right that the area has kept its original look. The houses here are similar. But when I look at the areas with detached dwellings very often the houses there look all the same too because all of them are built by the same company.”

"Suzanne"

10.5 The flats: “A desire for light and spaciousness”

10.5.1 An attractive location for the flat



Left: From the cul-de-sac in the lower parts of the area close to the fjord.

Right: From “the street” in the upper and middle part of the community.

Even though some informants said that their choice of flat was mainly based on availability when they decided to move to the Sjøveien area, most informants had wanted the location of their flat to be attractive. In most cases the location of the flat was more crucial than the conditions of the flat at the time of purchase. Several criteria determine the attractiveness of the location. For example is a nice view of the fjord important.

“Well if I could have chosen my apartment I would have picked one that is located down by the sea, on the top floor. There you have kitchens with a full view over the fjord. And the higher up in the area you are, the closer you are to the railway, and the less I would have wanted to live there.”

"Suzanne"

Proximity to the beach is also popular. However, one of the interviewees underscored the importance of not being too close to the fjord. In the winter the north wind from the sea can be brutal, and the houses closest to the fjord are very vulnerable.

Vicinity to attractive green areas is also valued. Ideally, the house should be surrounded by plenty of free space with a good distance to neighboring houses. Very few want to live close to the road or railway in the upper parts of the area. The lower parts of the area are more sought after, because they

provide both proximity to the fjord and to the most attractive outdoor areas. The lower parts also have less traffic than in the upper parts of the area.

"I don't think I could feel comfortable in the same way if I was living higher up in Sjøveien. Then I would have felt trapped. Sitting in my chair on the gravel looking at all the passing cars, and having to nod to everybody. No I am very happy to live here behind the hill. The bonfire place there and....This is a very silent corner."

"Christine"

10.5.2 The adults' use of the flat

The places in the flats that are most frequently used by the grown-up informants are the public rooms; mostly living rooms and kitchens, but studies are also mentioned. The kitchen seems to play an important role in adult use of space.

"I am also happy that our kitchen is twice as big. That is something I always wanted, it is nice. The ability to be there - I often enjoy having visitors in the kitchen."

"Suzanne"

When inviting friends to the flat, it is quite normal to socialize around the kitchen table. (When I visited my first interviewee in Sjøveien I habitually went into the living room to sit on the sofa. During the interview however I discovered that the informant had planned to invite me to a cup of tea at the kitchen table. During other interviews I kept a lower profile, and waited for the host to tell me where to sit. All of them invited me into the kitchen.)

When kids are home, the parents often want to find a silent place. Appropriate places are the study or master bedroom. Some informants also use the living room or kitchen if the kids are not in these rooms. A trip in the car or visiting friends is also a possible solution. Several informants think it is difficult to find a peaceful place in the flat.

"When I am invaded by the kids I feel like if I have no place for myself. But when they have gone to bed I have my own private space in the apartment."

"Christine"

Despite the inconveniences caused by the children in the flat, the informants' attitude towards being visited by children's friends is mostly positive. They want their children to play together with their friends without too many restrictions and regret that a lack of space limits the indoor activity of the

children. In any event, parents often evict the kids when the parents have had enough of the noise and mess and think it is time for the children to find another place to play.

“When they swarm too much round me, when they make a mess of things, occupy the coffee table. They love to sit by the coffee table. It is the one table in the house that I want to be tidy, and they of course sit there, with their paper dolls and all sort of things. Well, when there are too many children in the flat and I want to do some house work, then I send them outside.”

"Sara"

10.5.3 The children's use of the flat.

The children in Sjøveien generally enjoy freedom of movement both indoors and outdoors. Older children frequently invite their friends. It's not just one or two kids who visit but most often the whole gang, which might consist of 8 to 10 kids. According to informants, the children use the whole flat when they have friends over. Particularly in the small flats of about 75 m², it can be difficult to restrict the area occupied by kids.

“All over. They use everything. Because they have so little space they always use the living room for everything. We have never stopped them. They have built huts in the living room. They often listen to music, build with Lego (bricks) and things like that. It will be easier when we can make use of the areas in the basement. Now there is a limit on how many children can visit us. There may be quite a few kids and we want the flat to be open and accessible to them and their activities.”

"Anne"

Most of the parents interviewed did not seem to want to restrict children's activity either. There are some limitations with regard to where the kids can play and what they may do. Some informants do not allow children's friends into the master bedroom, but some parents do not say anything until the kids are jumping in the bed or are actually ruining things.

“No, there are no places where they are not allowed to play, but there are certain things that they are not allowed to destroy.”

"Philip"

Some flats are more popular places than others. One informant reports that since either he or his wife was home during the day, the kids in the neighborhood had a tendency to gather in their flat after coming home from school. Last year, however, parents in the neighborhood agreed to a rule that

all kids have to go directly home after school and do their homework before they can meet their friends. The informant thinks it was difficult to be the home of the local “recreation club” and is happy about the new arrangement. Now that his home is no longer the local “recreation facility,” he thinks he has developed a better relationship with his own daughter. It is easier to talk to her when her friends are not there all the time.

Several children of informants share rooms with their siblings. Most informants do however want each child to have a room of his or her own and give this a high priority. Some parents even sleep in the living room in order to give the children their own rooms. There are several reasons for wanting the children to have a room of their own. Parents want to avoid sibling quarrels and problems when the children want to be alone with their own friends in their own bedroom.

“It was mostly because of the oldest kid that we thought it was important to give them their own bedrooms. They have different circles of friends. It makes their social lives more uncomplicated. One of them is messier than the other. We can avoid a lot of conflicts between them.”

"Philip"

They also hope that the children will spend more time together with friends in their bedroom instead of taking over the whole flat and making a lot of noise and mess. Several informants expect and hope that their children will spend more time in their own rooms when they grow older.

However, some interviewees also see positive consequences of living in a small flat and sharing rooms. Solidarity between siblings may be stronger and the kids learn to collaborate and be careful.

“I don’t want my home to be so great and splendid and big. We live in a small space, but I think we have benefited from that. The kids too. We have a lot of intimacy. The children have been forced to cooperate, both the siblings and their friends that have visited them. It has been safe and cozy, maybe too safe and cozy. We are used to living in a small space. If we lived in a larger space I think the kids would be uncomfortable. They like for us to stay close to them. I think it is about unity and getting to know each other. Not at least the siblings. By sharing a room they learn to be careful.”

"Anne"

“It may be an advantage that the houses are not so big. It makes it easier to stay in touch and keep a certain amount of control. I think that a part of the problem with teenagers today is lack of control, lack of understanding of what

they are doing and a lack of common experiences. The kids can hide away in big houses with their mobile telephones. Nobody knows where they are and they do a lot of things that the adults don't know anything about. So I think a certain crowdedness can prevent some of the negative aspects of a teenager culture that is too free and uncontrolled."

"Philip"

Giving each child a private room often motivates expansion of the flats by finishing areas in the basement or attic. Enlarging the flat also makes it possible to build additional living area to give adults and children separate sections in the flat. However, some are skeptical of such an arrangement because they believe it divides the generations.

10.5.4 The informants' evaluation of the original flats

Although the flats in themselves not were cited as the main reasons for moving to Sjøveien, they were considered to have "potential." Nevertheless, most informants said the original 75 m² flat was too small for a family.

"The original flat is too small, even though we are only three people. There are only two bedrooms and then there is this very narrow corridor that invites chaos. Except for that I am very pleased with the flat. Lots of windows. Plenty of light. It is airy now after moving the kitchen to the former master bedroom and opening up the area between the kitchen and living room. That helped a lot. I didn't like the flat when I moved in. A narrow corridor with a lot of doors leading to separate rooms. I think it was very closed."

"Christine"

The volume of the space is flexible and permits enlargement expanding into the basement or attic. The buildings also allow for merging and splitting of flats. With this in mind several of the informants decided to buy a flat in the area despite the limited size.

The positive features of the flats that residents commented upon were the generous ceiling height in the rooms, and the large windows on three facades that provide both daylight and a view. However, the original layout of the flats was described as rather unsatisfying by the interviewees. A dark and narrow corridor provided access to all the rooms. The kitchen and the living room were not next to each other, and it was not easy to move between them. The kitchen was also thought of as being too small. It was mainly meant for preparing food and had no dining area.

“One of the characteristics of the flat that I didn’t like was that you didn’t have any feeling of being in a flat. The kitchen was placed by itself in a small room. And then there wasn’t any obvious living room. You could choose what you wanted. It was sleeping rooms and a bathroom, or three separate rooms and a bath. Then you had to figure out which room should be used for what purpose. So it was very important for me to do something about that. Try to make an impression that this was a unity. That the separate rooms had something to do with each other. The most important was to eliminate as much of the corridor as possible. I pulled down as much of the walls as possible on both sides of the corridor. Just a hole is left of the old door. But that was exactly what I wanted. Break down the monotonous corridor. I also pulled down walls by the entrance door in order to make a wardrobe. So the corridor now doesn’t dominate the character of the flat.”

"Philip"

10.5.5 Alterations to the flats.

After taking over the area from county authorities, most informants were mostly concerned about giving the whole area a badly needed face-lift in order to stop further decay. After a while, however, most residents realized that they needed to upgrade their apartments to meet modern living standards. As a result, in most cases, the original layout of the flats was altered.

The informants did not seem to have thought about the fact that they actually had the ability to alter the flat. One reason for this may be that they have their roots in a Norwegian “do-it-yourself” culture, looking at altering of layouts of small wooden housing as an obvious opportunity and something that most people do. Few of the informants paid much attention to the standard and layout of the flat at the time of purchase. They were more concerned about the location of the area and the quality of the outdoor fields. The potential of the flat was still considered to be important, however. The flats could be enlarged and it was possible to alter of the layout. That they would renovate the flat themselves seem to have been regarded as most likely.

“Two extra sleeping rooms in addition to a recreation room. I think that is quite good. That was one of the reasons for why my husband wanted to live here. He saw the opportunity for enlargement in the basement. If the flat had only been 75 m² it would have been too narrow.”

"Sara"

All the informants had altered the original layout of the flat. The flats are unique and have their own distinct layout. There are, however, some common tendencies. None of the informants was very happy about the dark, long

corridor that characterized the original layout. The area by the entrance was considered too narrow and the flat lacked light in central zones, along with openness and connection between public rooms.

"I get a little bit claustrophobic coming into that corridor. That long narrow corridor. I think it is unpleasant. Even if you paint it white or whatever. Some residents have widened the corridor in the entrance area and I think the widened entryway welcomes the visitor in a quite different way."

"Christine"

Some of the flats have increased the entrance area by incorporating other rooms, completely or partly, into the corridor area. In other cases the wardrobe has been combined with a new internal staircase after improving areas in the basement or attic. In several of the flats, walls between public rooms and the corridor have been more or less eliminated. The original corridor may in fact be totally erased without leaving any traces of it.

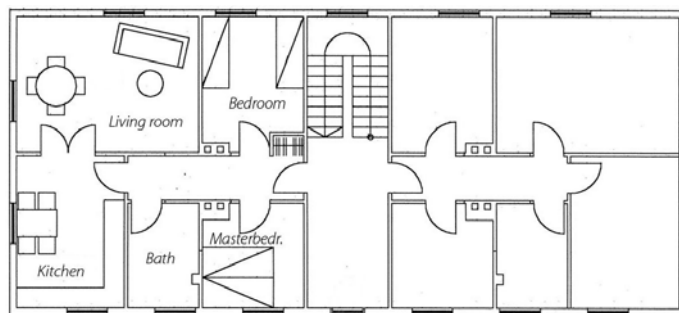


Fig 10.7 Flat with small but typical alterations. The kitchen has been moved to the original master bedroom and is connected to the living room by a double glass door.

None of the informants have kept the original 14.5 m² master bedroom, which is adjacent to the living room, as a bedroom. Most often it has been redesigned as a kitchen with a dining area, and often with a double glass door between the kitchen and the living room in order to improve circulation between the rooms. The wall between the kitchen and the living room has in some cases also been totally eliminated.

"When there is openness between the kitchen and the living room the space seems more airy. The original living rooms and kitchens were very small. The kitchen was too narrow; it was made for cooking but not for dining. We are very pleased with a more open layout."

"Tom"

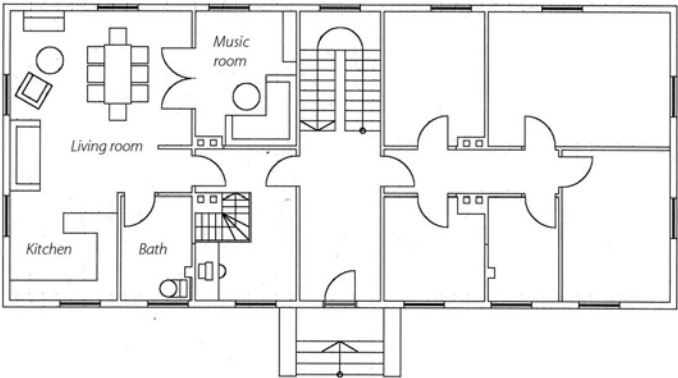


Fig 10.8 Main floor of flat on two levels. The corridor has been minimized, and the residents have designed a more open layout.

The master bedroom may also be incorporated as an enlargement of the living room. There are also examples of reduction of the area of the original master bedroom in order to enlarge the living room. The smaller room may be used by a kid or by the parents in the family.

A desire for a big kitchen with a spacious dining area seems to be widespread among the informants. The original kitchen in the flat had a size of about 9 m² and was considered too small.

"It is a little bit too small. We are five persons around the table, sometimes even six or seven. So I would like to have a kitchen that is a good place for both working and eating. We spend a lot of time in the kitchen. It would have been nice if there was room for a good-sized work counter. If the family is baking or making food together it is quite narrow. The only advantage is that everything is close at hand."

"Anne"

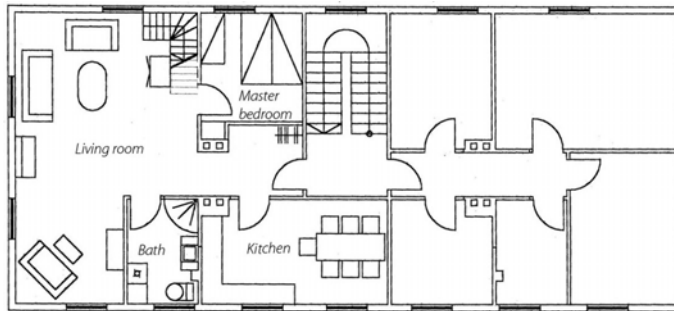


Fig 10.9 Main floor of flat on two floors. The kitchen has been enlarged by incorporating area from the staircase.

Most informants also regard it as an advantage if the kitchen is located adjacent to the living room, because it allows good circulation between the common rooms. Few informants have kept the original kitchen without enlargements or other changes.

These different renovation approaches illustrate how all the informants wanted more open and spacious layouts with plenty of daylight and a good connection between the public rooms. The same terms that had been used to describe the positive attributes of the outdoor areas; “openness and spaciousness,” were used to describe what residents wanted inside the flat. Allowing both daylight and a view into all parts of the flat are an important goal when renovating.

“I have put up some mirrors then. They contribute to an impression of better space. I am also very concerned with letting in more light. Light is one of the qualities I most appreciate in a space.”

"Philip"

When looking for a flat, the primary priority of the informants was to find a nice area with a good location and high quality outdoor areas. These are attributes that are most difficult to alter. A bad layout is considered to be something that can easily be improved as long as the inner walls are made from wood and the resident is the owner of the flat. Three free facades with windows also contribute to the flexibility of the flat, making several layouts possible.

10.5.6 Enlargement of the flats.

In connection with creating the design guide for the Sjøveien area, the common storage spaces in the basement and attic were divided up. It became possible for the residents living in flats on the ground floor to enlarge their flat

by upgrading an area in the basement beneath their flat. The residents on the second floor got the opportunity to expand into the attic. New internal staircases were added to the enlarged flats to connect the living area on the different floors. Areas formerly used as common staircase were also partly incorporated into the flats because common external entrances to the attic and the basement were no longer needed. There are examples of how the kitchen was enlarged by using the former staircase area, and how a common storeroom in the attic was created by removing the original staircase.

All informants had either enlarged their flat by improving areas in the basement or attic, or had plans to do so. Informants said the alternative to expanding the flat was moving, because of the increased need for space when children are older.

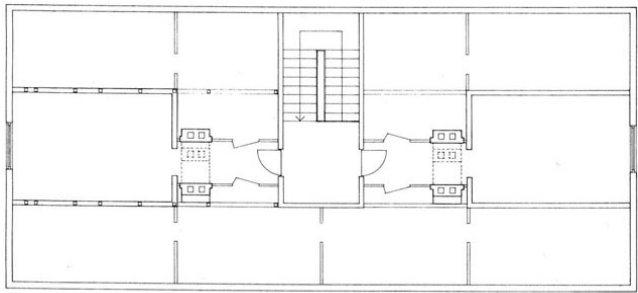


Fig 10.10 The original plan of the attic.

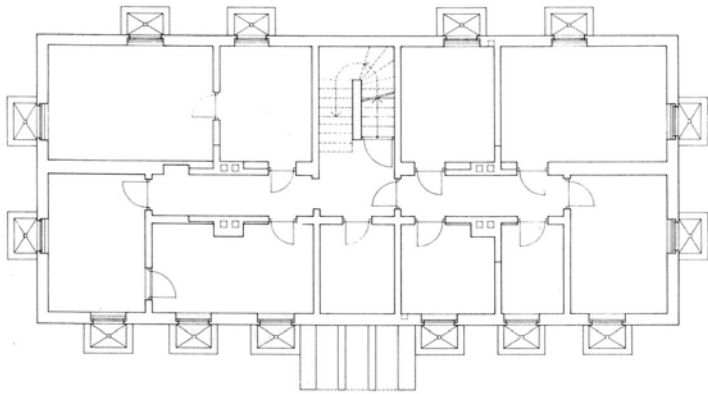


Fig 10.11 The original basement plan. Note the light wells that let light into the basement.

“Yes, I think that will be necessary in the long run. I have a daughter who will soon be thirteen and I can’t imagine that my and her taste for music will be identical in a couple of years, and I don’t want to combine them in this small area. I would prefer to move hers downstairs I think (laughter). In fact I think she will prefer that too. Keeping both her music and her friends out of my space.”

"Philip"

The ability to enlarge the flat is an important attribute that increases the attractiveness of the houses. Some informants paid attention to this feature when they decided to move to Sjøveien, and mention this possibility as an important reason for their choice. Others have found this ability to expand has become more important after having lived in Sjøveien for some time. Residents may want to enlarge the flat because of a new baby or because the children have grown older and need a room of their own. For this group of informants, the ability to expand was not necessarily a reason for moving to Sjøveien, but it has certainly become a reason for not moving away, despite the need for more space. The informants who have enlarged their flats are by and large content with the expansion.

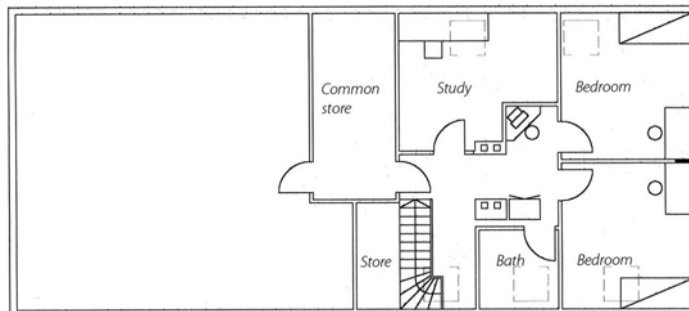


Fig 10.12 Plan for renovated attic areas in the flat. The storeroom is common to the neighbor flats.

“Well 120 m², which is about the size of the flat now, is OK for a family of four. Then everybody has their own....yes we have four rooms in addition to the living room and kitchen so everybody can go to their own room. And then we have the social areas, the kitchen and living room. Yes I think it may be the number of rooms.”

"John"

“I think it is big enough. I don’t need very much space.”

"Tom"

“It is more than enough for me. Or it is OK. It is possible to have visitors and we don’t crowd each other. It is nice!”
"Sara"

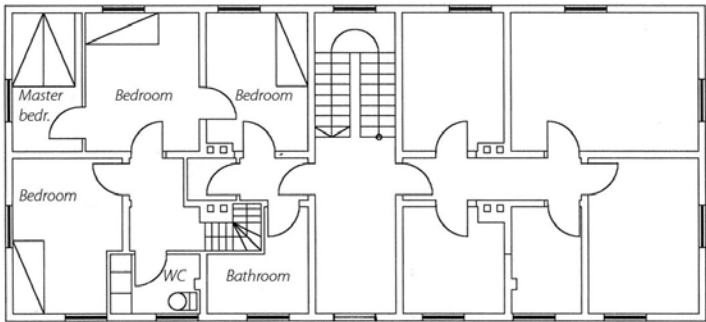


Fig 10.13 Plan for renovated basement areas. The enlarged flat has no storerooms.

Each four-family house contains about 420m² floor space area (attic included) above ground and about 150m² in the basement. The compact, simple volume allows for flats of different sizes and combinations of areas on different floors. Most houses in the area are four-family flats with or without expansion into the basement or the attic. There are, however, examples of other ways of using the space. For example, Sjøveien 13 has seven different sized flats. Some residents who have renovated the attic have made a separate flat that is let out for a period in order to fund subsequent renovation work. The common, central staircase allows for undisturbed access to the rental flat. A new, internal staircase will not be built until the attic areas are incorporated into the main flat.

The residents that use areas in the basement do not have the same ability to build a rental flat that can finance their expansion of living space. The building regulations require that a certain minimum amount of living space of a separate flat has to be above ground, and the amount of daylight in the flat has to be satisfactory.

In addition to enlargements in a vertical direction, some informants say that they also have imagined an extension of the flat in a horizontal direction, by merging two flats on the same floor. The data do not show examples of such mergers but the possibility has been considered by several informants.

In some four-family houses, the residents have chosen to build common rooms. The data show examples of both common storerooms in the attic and a common laundry in the basement.

10.6 The social environment: “A desire for community”

10.6.1 A community of families with children

The sense of fellowship among families and the good neighborhood relationships in the area are frequently mentioned by the informants as important reasons for living in the Sjøveien area. Some of the interviewees paid attention to the quality of the social life in the area before they moved in. They had information about the area from friends and acquaintances. To most informants, however, the strong feeling of fellowship is a characteristic that they mostly discovered and appreciated after having lived in the area for some time. The community is perhaps more a reason for staying in Sjøveien than a reason for moving to the area in the first place.

“It is physically open but socially close. And that was perfect when we came from another town. We had a newborn baby and appreciated the social network here. At that point, we had come from a kind of lonely life, you had only yourself and your family and very little contact with others. Because we had moved from another town and because we live as we do here in Sjøveien it was totally perfect.”

"John"

A majority of residents are in the same phase of life and about the same age. They are typically families with children and the parents are aged between 25 and 45. Many of them are single parent families, but according to informants the share of single parents does not seem to be higher than the average in the Norwegian society. 39% of all residents in Sjøveien are children between 0 and 19 years. In comparison, this age group represents 26% of the total population in the city of Trondheim. The informants experience the Sjøveien area as a very good place to live with children because it provides security, lots of playmates and a community based on parenthood. The well being of their children weighs heavily in favor of remaining there.

“I think this is perfect. I can't think of a better place to live for the children.”

"Philip"

Several informants had had experiences in residential areas without much social contact before they came to Sjøveien. Some of them had also moved from elsewhere in the country and needed to establish social ties. Caring for children tied them to the area and limited their geographic radius of action. In this situation, the local network came to play an important role. Several of them met nearly all of their social needs by cultivating contacts in the area.

This opportunity was regarded as an important advantage, in view of their busy everyday life, which offers limited time and opportunity for seeking out other social arenas.

"The problem is our very busy daily life. We arrive at home at five o'clock. And then there is dinner, and there is this and that and homework and maybe some leisure activity. There is so little time left to visit someone. Talk together. I think. Indeed! Friends and so on. Most of my social needs have been met down here. Then I don't have to leave the area and get a baby sitter."

"Christine"

The kids bring people together and create a basis for the development of contact between neighbors. The parents make friendships in the area based on shared interests. Friendships are however also frequently established with the parents of the children's playmates and classmates. In some cases these friendships develop in parallel to the development of the children's friendships. When the children lose their interest in each other, the parents did so too and vice versa. In cases of conflicts between adults, kids have functioned as arbitrators of renewed contact, and have brought the adults together again.

"The common denominator I will say is children. If the kids are friends, then the parents often will associate with each other as well. This is of course not an absolute rule, but it is a clear tendency. If the parents like each other, well then it functions. There are a lot of examples showing that if the kids stop spending time together, then the grown-ups do so too."

"Tom"

Many of the parents have established different sorts of common agreements with respect to childcare. Single parents are particularly appreciative of the ability to get help from other parents. But parents from two parent families also say that they get help from the neighbors. Typical common tasks are babysitting and bringing kids to kindergarten, school and different leisure activities. Since so many families live in Sjøveien, it's not necessary to ask the same people for help all the time. The informants thought that it was easier to ask for help when you did not have to be dependent on just a few helpful people.

"Yes, there has been a lot of that - a lot of organizing where people help each other in order to manage. Both with driving and bringing and can you look after him while I am doing that and such things. Very advantageous and a lot of potential helpers to contact. You don't have to bother for just a few neighbors." **"Tom"**

Many of the parents discuss childrearing and try to define some common rules for the children. Parents also watch each other's kids when they are playing in and outside the residential area, and most of the informants have a feeling that other people in the area care for their kids.

"We parents talk a lot together about setting limits for the kids, if we think that some of the children are allowed to do things they should not or if the situation is about to get out of control. That the kids are not doing their homework properly and such things. Then we can talk about it. How do you solve that? What shall we do with this? Should we agree on a common hour when all kids have to be indoors for the evening? Of course you can't force people to do things, but at least we try to talk about it. Getting a common reference so the kids can feel that the grown-ups keep in touch and talk about things. I think that is important for them."

"Christine"

On occasions like Christmas, midsummer night and the national day, there have been arrangements for the children organized by Sjøveien's homeowner's association. The area has its own child group, and several parents are also interested in using their time and resources to realize the dream of a community building in the area, which would offer recreational activities and could be a place for teenagers to meet.

10.6.2 Conflicts between families and people without children.

Not surprisingly, the area also has the potential for conflict between people with and without children. According to some informants, adults who are not parents feel that their needs are neglected. This group wants more structure in the outdoor areas, but parents voted them down when the topic was discussed and voted for at a meeting in the homeowner's association. Residents older than 50 without kids have suggested planting hedges in the outdoor areas to get some shelter from kids at play. However, the homeowner's association has adopted a rule against fences and hedges between plots in the area, to protect openness and free passage.

"Families with children moved in, without any strong financial resources, but with a lot of other abilities and a willingness to contribute. Everything is adapted to the needs of the children. We do have some families without children, but they constitute a minority. They feel forgotten. They want separate areas where the children can play."

"John"

People without children are not actually forced out of the area, but a great deal of attention is paid to children and their needs during meetings of the homeowner's association and other forums. There are several examples where older residents without kids have moved out of their houses when families with children move in. They find a quieter place to live. One of the informants said that if you do not have children yourself you have to be quite tolerant to live in the Sjøveien area. However, there seems to be little evidence for an open conflict between the two groups of households. But there does seem to be a tendency for people without children to leave the area.

"After a while, there were only two older people left who recently had become grandparents. The rest were people with kids who had moved in. And presumably the older people decided, 'OK, we might as well move. There is no point in staying here, two older people amidst three families with children.' I suppose they didn't have to move, but that they thought it was better that way and that they found a more peaceful place somewhere else."

"Tom"

Several of the parents are worried about childless residents becoming a majority. If childless people are in a position to make rules, several informants expect more restrictions on their children, which they believe would end the paradise for children that Sjøveien is today.

"Firstly I think the social climate would be less satisfactory. There would be more negative comments and written enquiries to the committee about handling this and that. The ways of communication would be formalized. As a result the spontaneous play and activity outdoors would be toned down, and people would feel insecure about the acceptability of their own actions. Today it's my sense that we all feel free. The children are seldom criticized. They are allowed to be a little bit boisterous here. I think that is a good thing."

"Philip"

The area is also a good place for parents to live because most of the neighbors have a relaxed attitude towards the noise and mess of the children. Today's lifestyle in Sjøveien is quite laid back and the demands for order and keeping up a nice appearance are limited.

Other informants have argued that the elderly may function as a positive resource. These informants see Sjøveien as a good place to live with children mostly because of the spacious outdoor areas, and not because all the residents are in the same life situation. That the outdoor areas probably not would have been that open and spacious if the elderly had realized their wishes is not discussed in this connection. However, one of the informants who says she

wants to keep on living in the area when her kids have left, but adds that if it is mostly families with children who are living in the area at that time, she is not so sure she will stay.

“It would be too easy to say that I will live here until I grow old. Because if there are only families with kids here then...I don’t know how I will be when I am 50 and 60, how I would handle that.”

Anne"

But in spite of these two separate cultures, there are also contacts between people from different household groups. Meeting places in the outdoor areas, especially the parcel gardens and the gardens around the houses, play an important role in enabling this contact, and the joint ownership and shared responsibility for houses and gardens bring people from different categories together.

10.6.3 Cooperation on maintenance

Collaboration in the maintenance of houses and outdoor areas takes place in the different houses with different levels of success. Some houses have internal problems with the distribution of maintenance work. However, most informants report that internal collaboration is adequate. If problems occur, it is because different residents have differing needs and expectations with regards to maintenance. The priorities for tasks that need to be done may also differ. In such situations, conflicts may occur because some residents are left with the lion's share of the work. Lack of agreement when it comes to maintenance levels and priorities, and the absence of obligatory agreements may also mean that only the most essential work is done. In order to make the collaboration work, it is important to determine an accepted level of maintenance.

“We have also discussed the quality and the amount of work that is necessary in the garden. If people want to do more than that, they are of course welcome but they can’t expect that others do the same.”

Suzanne"

It is also important to communicate and keep the dialogue open. Some houses arrange regular house meeting. The discussion may sometimes be quite difficult, but people generally calm down when they share a cup of coffee afterwards. The house meeting establishes a minimum level of maintenance and agrees to house rules. The decisions that are made are recorded.

The houses, which are 55-60 years old, had begun to decay when private homeowners bought them from county authorities at the end of the 1980s and the beginning of the 1990s. Thus most houses needed repair and maintenance from the moment of purchase. The enlargement of flats by improving areas in the attic and in the basement requires improved drainage and better-insulated roofs. In some houses, the residents have saved money as a joint project in order to carry out expensive maintenance tasks. Other houses have found it difficult to establish the necessary collaboration to get the work done. In order to solve the problem, residents who want to enlarge their flat have prepaid the expenses of the joint maintenance work on the behalf of the whole house.

The homeowner's association has responsibility for the upkeep of the common outdoor areas. The system works well. A day or two in the springtime is dedicated to voluntary communal work. The informants understand the voluntary work as an obligation, but they generally have a supportive attitude. Both adults and children participate in the voluntary work, which also has an important social function. One informant says that he thinks that common duties within a certain limit are desirable to create a feeling of community in the residential area. The community's social life would be poorer without the voluntary communal work days.

"Then people would just sit under their sun umbrellas and drink coffee instead. You would have to depend on actually visiting each other. There would be less common activity. And when everybody takes a part of common work there is not too much to do. And then the joy outweighs the burden. It is a social event and not just a duty. But if many stay away and just a few devoted people have to carry the burden, it may be a source of irritation. But I don't feel it is like that. During the years I have lived here, people have been supportive, and have done their work with a smile. It has functioned well, in my opinion."

"Philip"

However, the "do-ers" in the Sjøveien area complain that it has been more difficult to arrange joint projects in the area over the last few years. As an example they describe efforts to establish a community center.

"There have been some political issues. We have been working against a terminal for freight trains proposed for nearby. In fact there is always something. We have tried to establish a community center, but most people want a simple life so it has not been easy to mobilize people in a common effort in order to make it possible."

"Tom"

Residents who have recently moved to the area have been accused by some informants of keeping to more typical middle-class values, which means these new residents do not place as great an emphasis on community values as other residents do.

However, these informants also say that the aging houses demand lots of time and money for maintenance, which reduces enthusiasm for other communal projects. In spite of this, or perhaps because of it, obstacles and confusion have strained relationships with the municipalities and county authorities with respect to the community center. This may also have moderated residents' enthusiasm for taking on new joint projects.

Some informants think that because of the need for collaboration, conflicts are more likely to develop in a four-family house area like Sjøveien than in a detached dwelling area, for example. On the other hand, it might be more difficult to arrange joint projects in a detached dwelling area. Many informants also emphasize the advantage that comes from sharing responsibility for the house and garden. The fact that people are forced to cooperate also results in a rich social life that presumably would not occur in a more private area.

"I think there is much more solidarity here between the neighbors, and that we do more things together than the neighbors in the area where my parents live. They say hello to each other and have some common activities, but not as often as here. We have to cooperate in practical matters and that stimulates the social life."

"Suzanne"

10.6.4 Conflicts and dispute resolution.

Like in any residential area, conflicts between neighbors occur from time to time. The tension between parents and other adults, disagreements regarding balconies and level of house maintenance are examples that have already been described. Additionally, informants report several other types of conflicts, such as disagreements over parking and cutting trees. Living densely also restricts the possibilities for a wide range of activities like piano playing, storage, animal husbandry and any activity that creates nuisance odors. Noise from flats is difficult to avoid, and most residents tolerate quite a lot. In one case however noise from a flat became so bothersome that the household in question had to move out. Most kids make some noise and chaos, but some are worse than others. Problems occur when some children do not follow ordinary social rules.

The informants report that residents are generally concerned with what the neighbors are doing to their houses and gardens. People are expected to follow the plans drawn up for the area and not create their own solutions that might run contrary to the rules that have been agreed to by the community.

"We in this apartment follow the advice of the architect. A lot of money and time has been used to develop the design guide. You may agree or disagree with the guidelines, but I think it is wrong to develop one's own special solutions. But obviously not everybody agrees with me."

"Suzanne"

Residents who developed the rules are particularly vigilant in making certain that they are followed. Some informants describe how complaints about how newcomers sometimes are unwilling to follow the ideas that have been laid out in the guide. Newcomers are also accused of being mostly concerned about themselves, and are perceived as spending a lot of energy to restrict children's play. Some informants believe that the "bourgeoisie" sabotage the efforts to resolve conflicts over Sjøveien's divergent interests. For example, these people allegedly do not participate when a group effort is needed to prevent the development of new housing on free sites in the area. These accusations reflect an internal cultural conflict in the area between residents who moved into the area before and after the increase of flat prices. Some informants call this the conflict between the "anti-materialists" and the "bourgeoisie."

"Now I think we are in decline. Several people have noticed that we have lost some of our enthusiasm. Enthusiasm should never be taken for granted. We have to take care of it. We have to protect a special way of living together. What's important to us doesn't flourish on its own. After the prices increased and the area became expensive and nice and attractive, a new kind of people have come here. The bourgeoisie are sneaking in."

"Christine"

The low prices for flats at the end of the 1980s and at the beginning of the 1990s brought families with children who possessed enthusiasm for the area but little money. They did not emphasize material values either. These days a good paycheck is a required admission ticket to the area.

"Of course it may be different since the prices have increased so much. Some kinds of people may be excluded. Some years ago the prices were considerably lower. The families who have moved in during the last two or three years have paid a lot more money for their flats than previous newcomers used to." **"Tom"**

According to some informants, newcomers demand a higher housing standard and more structure and order in the outdoor areas. Most often these newcomers are well educated and do not belong to the group that sends its children to the Rudolf Steiner school. This statement is met by informants who have moved into the area more recently. Newer residents say there is little difference between people who moved into the area at the beginning of the 1990s and newcomers who have moved in more recently, with regard to education, cultural values or money.

Informants disagree regarding the average level of education among residents in the area. Some think that the area has a mixture of residents who have attended college or university and residents with a more modest educational background. Other interviewees think that most residents have benefited from higher education. There does appear to be an increase in the number of residents who have attended college or university.

Several interviewees described the strategies they have developed for dispute resolution. Some of them think that when you live in a four-family house it is important to learn to speak frankly about subjects that might represent a potential conflict. They describe tough internal discussions in the house during the earliest period of cohabitation, before the different households learned to live together.

“Living in a four -family house is special. You have to cooperate a lot. You have to be willing to speak up about different things. We had some problems at the beginning in this house, with the neighbors. We had real confrontations. And then after a while we talked about why things had happened. And we thought about it when we were talking; ‘How can we sit here and drink coffee together now, we who were once bitter enemies?’ Or not really that hard core, but we really disagreed about a lot of things. And we found out that it was thanks to the children that we got in touch again. Now we are not just neighbors anymore.”

"Anne"

The reason for becoming friends again after quarrelling was frequently that the children brought them together again. Other residents have chosen to keep a lower profile and do not speak up about irritations.

“The relationship between us and our neighbors has improved a little bit (laughter). Both of us have found out that is better to shut up than to say everything that is on your mind (laughter).”

"Philip"

Conflict resolution is conducted on different levels. In cases where residents have not been able to come to agreement, the board of the homeowner's association has acted as a mediator between the disagreeing parties. Some conflicts have also been brought to small-claims court. The four-family houses in Sjøveien require a community-oriented life style. It is difficult to withdraw, as is possible in a detached dwelling. The informants also believe that the degree of contact between neighbors in blocks of flats and apartment buildings is usually lower than in Sjøveien.

"I like the way it is here. You are forced to have some contact with your neighbors. In a block of flats there is no such pressure. The atmosphere is more impersonal. Well I don't have that much experience with blocks of flats, but I lived in a block of flats for two years and I didn't know the neighbors living on the other side of the corridor. But of course if you have children you will more easily get in touch, at least with other parents. I didn't have children at that time. I thought it was very impersonal."

"Sara"

The level of contact varies from house to house. In some houses, residents think that the level of contact is almost too high. Some residents are able to regulate the degree of contact according to their own wishes, while others feel that they have to meet others' expectations regarding social participation. Particularly if people are perceived as socially active, it can be difficult behave counter to expectations; this can be problematic when life situations change, and people would like a more peaceful and withdrawn lifestyle. One of the interviewees reported that he used to travel to the center of Trondheim when he wanted anonymity. Others visit their family cottage out in the countryside if they want to be let alone for a weekend.

"Sometimes it is a little too claustrophobic. Then I feel the need to visit our family cottage. Because it is important for me to be alone, and it may be too intense here."

"Christine"

As is true in many areas where people live densely, people in Sjøveien gossip. However, backbiting does not seem to be a problem. By and large residents maintain an open and tolerant attitude. According to one resident, there are a lot of nice people in Sjøveien, but they are from all kinds of demographic groups. This informant thinks the variety is refreshing, and that without the differences, Sjøveien would be dull. She says that she has become more tolerant by living in Sjøveien, something that is necessary for living in a community-oriented four-family house area.

10.6.5 Is the “Sjøveien culture” only suitable for families with small children?

Some of the informants suggest that the lifestyle in Sjøveien is mostly suited to the needs of families with small children. During this stage of their lives, parents are bound by family commitments, and the help and support that close neighborhood relationships can provide are welcomed. When children grow older and are more able to help themselves, parents can refocus on their own lives to a greater degree. Once again they have the chance to establish friendships based on common interests, as it is no longer necessary to associate primarily with people in the neighborhood or the parents of their children's friends. Parents may also feel a need for more privacy when the children grow up. One of the informants responded like this when asked if she thought that parents with small children are more interested in the neighborhood network than parents with older children.

”Yes, I think so. Because then you have to stay more outdoors. You have to follow the kids up the sledging hill, go skiing and so on. You are basically more of a seeker. You want to have some other grown-ups to talk to when you are outdoors with the kids. Then you are more open. When the kids grow older and become more independent you come to a phase when you can develop your own adult relationships in your own sphere. Want to sit on the balcony with a glass of red wine and some special friends. I think you become more selective. You don't spend time with people that you don't feel a strong connection to. Now I am 35. Don't know if it will happen to me, but I think the balconies will pop up here when the kids are older. I think so.”

"Christine"

Some parents also want to move closer to the city center when the children are older in order to give both children and adults the opportunity to participate in the cultural activities that the city has to offer. However, the fear of drug abuse and juvenile crime may prevent them from moving.

10.6.6 The desire for a community center.

Several of the informants are concerned about the situation for teenagers in Sjøveien. When most of the residents purchased their flat in Sjøveien at the beginning of the 1990s, most of them had small children. Those children are now becoming teenagers, and the parents realize that the Sjøveien area has little to offer this group, because teenagers are not content with playing in green surroundings any longer. As a result, some older children have become

restless and bored. Other children are taken by their parents to leisure activities in the city center, or at the school 2 kilometers away.

Parents are concerned about their teenagers and want to keep them from getting involved with gangs that may break the law or abuse drugs. Trondheim shopping centers, such as KBS in Lade and Trondheim Torg in the city center, have reputations as places where many gangs hang out. Parents are also afraid of noise and disorder in Sjøveien if teenagers are not engaged in some kind of constructive activity.

In order to avoid this situation, many residents want to establish a community center that can offer recreational activities to teenagers and older children. A prospective community center is expected to be an important contributor to the development of the social environment in Sjøveien in the future. Residents want organized recreational activities in the neighborhood.

“Well, this is an area where there is nothing going on that is interesting for teenagers. We have thought about it, but it is difficult to do something. It would have been nice to have a community center where we could arrange activities that can’t be conducted in the regular houses. Let’s say if they want to play the guitar or do other noisy things.”

“Tom”

“We would really like to have a place that could be used both in daytime and in the evening because there are so many children here now. And the frightening thing is that our children will become teenagers very soon and what can we offer them in this area? Except from nice green areas, the beach and such things? Nothing that will interest them! I’m very afraid that they will leave the area, go to town and join the gangs there. If we had a center or facility where teenagers could repair motorbikes, or have a club, a place....We were promised a community center, but nothing came of it.”

”Anne”

The Sjøveien area originally had an agreement with the municipality concerning the acquisition of an old house on the area’s fringe, with the plan to convert the house into a community center. However, the municipality divided the house and moved it away from the original location. Because of difficulties in finding a new site where the house could be reconstructed, the two halves were left to decay. Eventually the reminders had to be removed and burnt.

After this failure, several resident tried to start a new community center project but without success. It seems to be difficult to organize voluntary

communal work in support of such an enterprise. One reason may be that the search for an appropriate location has not yet been fruitful. According to some informants, the new Rudolf Steiner school at Rotvoll may offer an alternative to a community center in Sjøveien. These residents think perhaps that the school, which will be located only a few hundred meters away from Sjøveien, will organize recreational activities for children.

10.6.7 Internal subcultures

When the flats were sold off at the end of the 1980s and the beginning of the 1990s, former renters were given the first option to purchase them. The renters were mainly employees working at Trondheim Psychiatric Hospital, TPS, which was located in Rotvoll, close to Sjøveien. Several of these former employees still live in the area. The culture of the hospital employees has influenced the culture of Sjøveien to a great degree. The TPS culture is socially oriented, and critical of the commercialism of today's society. The upper and middle parts of Sjøveien show a clear influence from the TPS culture.

"The upper parts of the area are where the old "troop" lives, the people from Rotvoll who used to work in the mental hospital. These are the people who are still around. They have been working in the hospital since the good old days, and have been living in Sjøveien for years. They have a culture of their own, you could say. The Rudolf Steiner collective also has a distinctive culture. Some people in the area support their values and want to take part in their community. And then there are a lot of people in the area who don't belong to either of the two groups."

"Tom"

The lower part of the area is home to an anthroposophic collective called Kristoffertunet. The institution is the center of an anthroposophic culture in Sjøveien, which has many values in common with the TPS culture. The anthroposophists, like the TPS community, are not very enthusiastic about commercialism and have adopted a lifestyle that is characterized by social commitment and an interest in philosophical, spiritual and ecological matters. The two subcultures are linked to certain features of Sjøveien's layout. The TPS Rotvoll culture is associated with the rectangular area called "the Plaza" and the dense structure of parallel houses called "the Street" in the upper part of the area. The Rudolf Steiner culture is associated with the more organic structure of houses surrounding "the Triangle" in the lower part of Sjøveien.

“There is a small division between the lower part of the area down here and the upper part. Well, I never sit down with the people who live in the upper part. I never do.”

"John"

People who follow the anthroposophic culture often send their children to the Steiner school. Several school children in Sjøveien are pupils at the Rudolf Steiner school in Trondheim, which is located in Ila, close to the city center. The pupils are able to travel by train from Sjøveien to Ila every weekday. The other children attend the Charlottenlund primary school, about 2 kilometers from the area. There is a slight division between the children and parents who are involved with the Steiner school and the other families in Sjøveien, but it is not very explicit.

“The people who send their children to the Rudolf Steiner school are more connected to each other than to any of us. But I also associate with them. I also associate with people who have moved their children from the Rudolf Steiner School to the public school. The kids who have been moved to the public school usually play more frequently with my kids.”

"Anne"

The TPS and Rotvoll employees, and the anthroposophists have influenced the Sjøveien culture and attracted residents with similar values. However, most residents are not connected to either of the two groups. Some informants say that they are aware of a little division between the upper and lower parts of the area, but despite this most people seem to associate with people from all parts of the residential area.

10.6.8 The emigrants.

Some residents choose to move away from Sjøveien. There are several reasons for this. According to informants, some people leave the area because the Sjøveien culture does not suit their taste and life style. There have also been examples of former residents who had links to the TPS culture who moved because newcomers with another type of culture with other values have moved in and altered the area.

“A nurse had worked for a tremendous number of years at the TPS. Then there was a divorce and she decided to sell off the flat. The people who bought it couldn’t understand why she wanted to move from such a nice area. She had lived here since adulthood, and had raised two children here. Then new people moved in who wanted to do things their own way, and even though the nurse had lived here for decades, she realized that she didn’t have much

influence anymore. So she thought that she might just as well move out.”
“Sara”

There are also many examples of couples with adult children who move out when families with children move in. They find themselves a quieter place, a centrally located flat or a row house with a little garden of their own.

“The people who sold this flat to us were a middle-aged couple. The kids had moved out and their reason for moving, I think, was that they wanted more privacy. They wanted to get away from children who would run around when they were sitting outside to eat dinner. There use to be a lot of children outside. And presumably they didn’t want to pay for putting up a new balcony, and maybe they didn’t have the energy to do the necessary maintenance work. They had lived here for many years and there are not so many older people that live here any longer. I think that may be of some importance.”

“Suzanne”

Others move because they cannot stand life in a four-family house and the conflicts between neighbors that may occur. They think the living situation is too dense and want an entrance of their own. There are also some residents who have moved because they want a larger flat and do not have the energy to rehabilitate areas in the basement or in the attic. The increased value of the flat may also be a motive.

“It is not all that simple to live that closely in a four-family house with a common entrance. So a reason for people to move may be that they want an entrance of their own. Some people have said so. And then there is the need for more space. Maybe they don’t want to bother renovating the basement or the attic. The prices have become very high here; people are paying quite a lot for a small flat. They pay for the quality of the area. And of course when the prices are comparable to a detached dwelling some people chose to move.”

“Anne”

Divorce or termination of cohabitation is also frequently mentioned as a reason for a move. Except for moving out of the area, there are also examples of moving between flats in the area. The residents who move might want to live in a house with a social environment that is more adjusted to their own lifestyle and wishes, or they might want a better location with more sunlight or a nicer view.

10.6.9 Sjøveien's atmosphere.

As described earlier, Sjøveien made a strong and lasting first impression on several informants. Several of them decided to move to the area because they felt attracted by the environment and the atmosphere they discovered during their first visit. The informants use terms like village character, a mix of town and countryside, nice, traditional and peaceful to characterize Sjøveien's atmosphere. However, residents also make comparisons to modern architecture, particularly the detached blocks of flats in the Moholt student-housing area, because of the open building pattern with small blocks spread in an organic structure.

"It struck me that the area reminds me of the feeling of a different time, an old-fashioned time. Cozy thing, "Grandma and the eight kids," Carl Larsson drawings, well-being in the countryside. Silent and peaceful. Village character. And there I think you have my ideals for a good residential area. I think we need a suitable mix of community and freedom."

"Phillip"

The Sjøveien area was built during wartime to accommodate German officers and their families. After the war the four-family houses were used as rental housing for employees at TPS, the Trondheim Psychiatric Hospital. Informants have different attitudes towards the area's history. Some think the history makes a contribution to the identity of the area, even if it is a dismal history. When the houses are renovated, it can be exciting to find traces from the Germans, such as nails with engraved swastikas. One informant said the history has become his most important source of identification with the area. He has adopted the history of the area for his own.

"Inscriptions on the panels and things, walking around in the area here, finding stairs which you don't know where they start. You still see traces of the Germans. It is strange to walk....That's what makes you love this place. Because here are traces from other people, previous times. Becoming a part of it."

"John"

Others find the history is more a curiosity to share with visitors. None of the informants think that the history of the area negatively influences their experience of the area. Residents frequently underscore the fact that the area was built during the last period of the war, and that the Germans hardly lived there. Most informants do not spend very much time thinking about the area's past. They have made Sjøveien their own. However, when residents talk about

the solid construction and the quality of the houses, they frequently refer to the technical competence of the Germans.

“The German origin and so on seems to be very far away. I don’t really get a sense of it. I have seen pictures and they had something like a swimming pool right here, but I don’t really have the feeling that it was here. I think there is too much TPS... and South Trøndelag County that are left in the walls... that permeate the area and that people have gotten rid of now. We have made it ours.”

“Christine”

Several interviewees say that they think that most residential areas are based on privacy. Sjøveien, on the other hand, is different. Some say that the sense of community is what mainly constitutes the area’s atmosphere. They also describe the Sjøveien culture as relaxed.

“You could say that we have had a few culture bearers who have made their mark. Not dominated, but maybe others have felt attracted to them and have made an effort to establish themselves here. Somehow people here have sorted themselves into a culture that is a little bit more relaxed, maybe even phlegmatic. There is a telling contrast between people here and people from a row house area in Jacobsli that we know. It is like night and day. For instance, everybody in the row house area goes for a trip on Sundays. They go skiing and everything. That doesn’t happen here. Here it’s more relaxed.”

“Tom”

By and large the informants are proud of living in Sjøveien and like to show the area to friends and relatives. They think they have found just the right place to settle down with their children.

“The most important is that it is just fantastic to live here. It is like in the countryside but also very central. Many neighbors of my own age, but no place for people who don’t like to live in a collective. Even if the residents in this house don’t break down each other’s doors. I also think it is a paradise here for the children. Ask the children if they want to move and they become totally hysterical. I know several parents who have asked their children if they want to move and have got the answer that certainly they will not.”

“Suzanne”

10.7 The housing career: “A desire to be able to adapt to new life situations?”

10.7.1 Housing background.

The informants have a varied background with respect to the type of housing where they grew up. They come from city and country districts, from all types of housing.

During adulthood, some informants had lived in a detached dwelling before moving to Sjøveien. Their experiences and opinions regarding this type of housing are often ambivalent. What they miss most often is privacy.

“Well you can say I miss, I don’t miss, no in fact I don’t miss that type of living situation. What I miss, and this is the reason for my trips to the family cottage, is the feeling of being able to go out and pee in my own garden. I miss that feeling. If you go outside here you have to be prepared for socializing. And there are other social rules. You can’t walk around naked for instance. You can’t squat down and pee. You have to watch out. When I miss that I think it is wonderful to visit the cottage. There is nobody there. I can do what I want. Whenever you are outside here you are visible.”

“Christine”

However, other positive housing qualities may outweigh the lack of privacy.

“Yes we had a detached dwelling when we lived in Stavanger. There was a lot of work with it. I’m not so concerned with the housing type, whether it is a detached house, a chain house or a row house. The location is much more important.”

“John”

Several of the informants left their previous living situation because of parenthood. When their baby became a toddler they realized that the area they lived in was not suited to the needs of children and started to look for a residence in an area better for children. The conventional wisdom is that parents typically purchase a flat in Sjøveien when their children start to walk on their own.

“There were few children in the neighborhood, and we realized that if we were going to continue to live there, we would have to look after the children constantly.”

“Tom”

10.7.2 The informants' attitudes towards the detached dwelling alternative.

Informants had varying opinions about the detached house as a housing alternative. A number of different factors have to be taken into consideration. For example, living in a city offers housing opportunities that differ from the opportunities in more sparsely populated areas. The house prices are much higher and the composition of the housing stock is unlike housing found in the districts.

"When you come from a small place you expect people to live in detached dwellings. But in town you find out that people grow up and live their entire lives in houses with several families."

"Suzanne"

Some informants say that they think there is a tendency for more and more people to want to live in smaller flats because of economic reasons, especially in big cities. The prices for attractive detached dwellings in cities are too high to make it a realistic alternative for most people. The detached dwellings that are within economic reach are frequently situated in densely built up areas where the possibility for people peeping through the windows is a frequent problem, something that informants say is not a problem in Sjøveien. The outdoor fields in these areas are also seen as too small. Informants prefer large common outdoor areas to small private gardens. The chance that someone might peer through your windows is a worse threat to privacy than not having a private lawn.

"I have visited some places and I don't like the building densities there. I don't know how many meters there are between neighbor houses. You look right into your neighbor's living room windows. In Sjøveien you avoid that. I think it is good that there is some space between. I was very surprised....I have lived abroad for some years, in a country where it is very constricted and the houses are built tall and narrow with small garden spots. Then I come back to Trondheim and visit somebody at Heimdal somewhere. The same narrow houses as in the Netherlands! And this should be new and modern? Then I was really surprised. I didn't know that such narrow houses were built today."

"Sara"

Informants who have lived in a detached dwelling during adulthood report that as young families with children they felt isolated, and that they prefer the community in Sjøveien. Having to shoulder all the responsibility for maintenance was also considered to be demanding. Nevertheless, there are several interviewees who said they miss the privacy of a detached dwelling.

Some of them use their family cottages as relief from the social density in the Sjøveien area.

10.7.3 Future housing.

Few informants talk about actual plans to move. However, several interviewees did say that they expected their housing needs to change when their children get older. Housing alternatives to Sjøveien might be a centrally located flat where both children and adults can enjoy the cultural offerings of the city. Residents name old residential areas close to the city center like Møllenberg, Bakklandet, Ila and Øya in this context.

“I would like to live in Møllenberg or Bakklandet, if I were alone or had older children. Teenagers. I think it is nice there. Those areas have some of this village quality that I think is positive.”

“Phillip”

However, most informants agree that Sjøveien is the place for them in the near future. Some of them might have liked more privacy, but have decided against relocating because of Sjøveien’s advantages.

“Sometimes I think it would have been nice to have my own place. My own garden and so on. But then I think about the convenience here...it is so practical with the neighbors looking after the children and so on. There are so many advantages. I’m single and here I don’t have to take on the entire responsibility for a house, something I would have feared. After all we are four families that can share the expenses and the work.”

“Sara”

When the kids have left home the situation may however be different. Several informants imagine that they will move out of the area when their children leave the nest.

“I imagine that I will want to move from Sjøveien when I get older. Then I want to live a place where I can just take the elevator up to my flat, if you see what I mean. Where everything is maintained and I don’t have to.... At least I think that now. But it won’t necessarily be that way. Maybe I want a garden of my own that I can take care of.”

“Suzanne”

10.7.4 Where would you not like to live?

The informants are generally very negative about living in the Heimdal area south in Trondheim. There are several reasons for this disinterest. According to the interviewees, Heimdal is located on the “wrong” side of the town and has no contact with the fjord. The connection between Heimdal and the city center is weak and the area lacks the qualities that are characteristic of Trondheim. The housing stock is dominated by “people warehouses”, and almost nothing of the area’s former rural character is left. One informant said the following when asked why she would not like to live in the Heimdal area:

“Well they don’t have the sea. Proximity to the sea is very important. There is nothing that is....Well there are some old farmhouses that are left that have been squeezed between other buildings. Besides them, everything old has been erased. From the 70s big “people warehouses” have just sprung up. Just like parasites on our mother earth with shopping malls and.....No, it’s better to drive right through that area. I could never imagine living there. Not at all.”

"Christine"

Residential areas in Heimdal, such as Kattem, have been planned down to the smallest detail, with the best of intentions. However, these carefully planned areas still lack Sjøveien’s essential qualities, qualities that the informants say are difficult to verbalize. In addition, Sjøveien interviewees say that many of the areas of detached housing and row housing in the Heimdal district are too densely built up.

“Some places there have a nice view and so on, but in fact it is the physical distance to the fjord. And it is also that I think people live more densely in some of those areas, but in a different way from here. They are a different kind of house that have been built there. A lot of people live in detached dwellings you know. Extremely close to their neighbors and without any view. I think that is negative, in contrast to this area, where there is some space between the houses and a nice view.”

"Suzanne"

Row house areas located in other parts of Trondheim are also seen by Sjøveien residents as too densely built up. Much of the row housing is considered to be cheap houses on cheap plots, and as such not very attractive.

The informants have divergent opinions about living in urban housing. However, families with small children do not see urban living as a desirable alternative because of the traffic, lack of playgrounds and green areas. Parents

with older children are generally more positive towards urban life. However, the threats of drugs and juvenile crime may keep them in suburbia.

“No I don’t like that idea (living in an urban area). Because I think the children should have the opportunity to stay outdoors. That is something that is most important. I want my girl to stay outside from the time we arrive at home in the afternoon until she has to go to bed. On the weekend she stays outside most of the time. She just comes inside to eat and such things.”

”Suzanne”

Because of the need for collaboration, conflicts are more likely to crop up in a four-family housing area like Sjøveien than in many other residential areas. On the other hand, it can more difficult to realize joint projects in an area dominated by single-family homes. The community is an important quality in itself.

Sjøveien residents also perceived blocks of flats as a housing type with less communication between neighbors than a four-family house. Blocks of flats do not demand the kind of collaboration that is one of the characteristics of Sjøveien. As a result, close community ties may not be established. Several of the informants regard a block of flats as an impersonal housing type. Although low blocks are considered to be more acceptable than high-rise buildings in terms of appearance, low blocks are also seen as having a less satisfying aesthetic expression.

The impersonal collective that can be found in big housing cooperatives may permit residents to maintain a higher degree of anonymity. The four-family house as an organizational unit, on the other hand, is totally dependent on well-functioning personal relations. Sjøveien residents say that a person should be willing to be neighborly in order to appreciate life in a four-family house. Particularly because this area is still without private balconies, potential homeowners will find it to their advantage to keep a positive attitude towards a community-oriented lifestyle if they want to settle in the area for more than just a couple of years.

11 Interplay between suburban values and design

Sjøveien's housing culture may be interpreted in different ways and from several viewpoints. The focus of this thesis is on families with children, and how their lifestyle is expressed through the physical features of the suburban four-family house area called Sjøveien. An important reason for choosing to investigate a suburban area is the lack of Norwegian families with children that have settled in urban areas (Guttu and Martens, 1998). Suburbia seems to be the preferred location for this group and it is interesting to try to figure out why. Thus in the following pages the empirical material from Sjøveien will be discussed in the light of existing knowledge about suburban lifestyles, in an attempt to explain to what degree and in which ways the housing culture of the informants in Sjøveien may be interpreted as a suburban housing culture. How does the area itself express the values and ideals of suburbia, and what kind of interaction is there between the lifestyle of the informants and the characteristic suburban features of the area?

The focus of discussion will then be shifted to the issue of "Community versus privacy." The four-family house as a dwelling type tends to favor a lifestyle based on community rather than privacy. As we have found in the quantitative investigation of housing qualities in the five suburban areas of Reinen, Disengrenda, Nobø, Torvtua and Sjøveien, the quality *Good protection of private outdoor places* has fewer supporters in the total sample than the quality *Usable common outdoor fields*. When we look at categories of respondents with and without children, there are striking differences. In the areas with few children (like Nobø and Reinen) the priorities seem to be reversed and if we separate the households with children in Sjøveien from those without children, we find that there is a significant difference between the parents and other respondents with regard to the priority of community values at the cost of privacy.

However, the qualitative data from Sjøveien shows that the category of households with children is composed of groups with different lifestyles. The dominant group in Sjøveien is community-oriented and the distinction between the results from households with and households without children would presumably have been less evident if another group of parents with a different lifestyle was dominant. Nevertheless the quantitative results from all five areas generally indicate a greater attention to community values. If that is

the case, the paradigm that concentrated small-scale housing in suburbia should preferentially assign greater importance to residents' need for privacy should be questioned.

11.1 The values of suburbia.

"Visions of Suburbia," a collection of articles by different authors and edited by Roger Silverstone (Silverstone et al., 1997), discusses topics connected with suburban lifestyles. The authors reflect broad interests, from the historical development of suburbia to popular cultural phenomena linked to the modern suburban lifestyle. The articles are mainly based on investigations from England, the USA and Australia, but the findings are also presumed to be relevant in a Norwegian context. In order to get a better picture of suburbia, some of the most characteristic features mentioned in the articles will be summarized.

The historical basis for the development of suburbia is assumed to be in the European colonial settlements in South Asia (Silverstone, 1997). The bourgeoisie wanted to escape the control of colonial companies and local governors, and chose to settle in the countryside outside of the city boundary. In England, living on a manor in the countryside traditionally had been a privilege of the aristocracy. When abroad, the prosperous English bourgeoisie, armed with a growing self-confidence, found an opportunity to adopt the lifestyle of the upper class. In addition to offering a way to climb the social ladder, the villas in the countryside also offered better protection of privacy, family life and property (Archer, 1997).

Back in England at the beginning of the 18th century, the first bourgeoisie villas were built in the countryside outside London. Thus the basis for suburbia was established. Suburbia was founded on the values of the middle class and represented a realization of middle class identity. The concept of "Family values" contains an important clue to understand this ideological foundation (Chambers, 1997). The suburban lifestyle represented the home and family, in contrast to city life. The middle class wanted a happy, safe and healthy family life in the countryside, far away from the destructive forces of urban reality (Cross, 1997). Male members of the middle class saw the suburban home as a suitable place for women and children, and as a refuge where it was possible to recover from the strain of working life. Green surroundings were considered to be the best environment for children, both with regard to their health and their moral development.

Privacy was one of the basic values of early suburbia. The dominant housing type, an autonomous villa located behind a fenced garden, represents a physical manifestation of this ideal (John Archer, 1997). Maintaining a decent façade in all respects was regarded as important. Whatever happened behind the façade, on the other hand, was a family matter. It was the duty of the father, as the head of the family, to address these internal family issues.

Security was another prominent suburban value. The suburban lifestyle was based on moving away from all harmful influences. Green surroundings at a certain distance from town were seen as perfect for this purpose. The neighborhood should preferably be easily surveyed for physical dangers and suspect persons. A certain enclave quality was sought after in order to reduce the number of intruders passing by. Outsiders like homosexuals, black people and even ordinary single people have traditionally not been welcomed in suburbia (Spigel, 1997).

People sharing a common lifestyle show a tendency to be attracted to the same areas (Archer, 1997). Characteristic features of the areas, especially the aesthetic expression, have functioned as visual markers in order to attract the “right” dwellers. Critics describe the suburban community as being built on conformity rather than genuine contact. While the former guarantees desired safety and predictability, the latter challenges the need for privacy and withdrawal and is therefore avoided.

The landscape of suburbia was partly based on an aesthetic experience of nature (Duncan and Duncan, 1997). The 18th century period of Romanticism resulted in a new vision of the landscape. Instead of being perceived as being wild and dangerous but still necessary, the landscape became prized because of its beauty. Two myths about the aesthetics of landscapes became predominant. The older of the two is the aestheticization of the pastoral landscape as domesticated rural scenery, or as Mother Nature brought under control. Then the idea of the picturesque landscape emerged, attaching aesthetic value to the untamed wilderness. Moving into the wilderness was not the goal of the first suburban villa owners, but a life in tamed green surroundings of pastoral quality was regarded as healthy and cultivated. The private garden was a particularly important structure in the upbringing of a new generation. The garden represented nature for a pure aesthetic purpose.

The houses’ aesthetics was an aesthetic of decency. Despite the adoption of the Bungalow type and aesthetic styles characterized as extravagant by outsiders (King, 1997), the residents themselves have always kept their aesthetic expressions in harmony with the unspoken rules of the respective area. To set oneself apart from the homogeneity of suburbia has never been

widespread. People moved to suburbia in order to live in a respectable home. Not being able to master the aesthetic code would be the same as saying that you were not qualified for this respectability.

Suburbia has generally been despised by architects and other professionals. Modernity favored urbanity and its connection to the masculine sphere of work. Suburbia was connected with reproduction, consumption, safety and other “feminine values” with low status (John Hartley, 1997). According to professionals, suburbia suffered from a severe lack of identity. As it sprawled over the landscape, it was totally dependent upon the city for its survival; in short, suburbia was a parasite. It offered nothing more than a place to raise children and do housework and gardening. Words like “bedroom town” and “dormitory suburb” support this view of suburbia as the essence of boredom.

Our images of suburbia are mainly based on the judgments of outsiders, most of them critical professionals. Perhaps the interpretation of suburbia has been too biased? In order to get a more balanced view we can examine suburbia from the inside.

Suburbia came into being in a society quite different from the one we live in today. The relationship between the sexes, and their relative roles, were more clear-cut. Men commuted to work in the city during the week, while women were mothers and stayed at home. Thus suburbia meant quite different things to men and woman. The picture of suburbia we normally think of is the masculine one. For a man, suburbia offered a private, quiet place for recreation far from the demands of work. The home in suburbia was regarded as a refuge where a man could withdraw from the stress and noise he experienced in city. In addition, he could relax with regards to the safety of his family when he was away. His duties in the home were limited, as the woman did all the housework. Gardening and “do-it-yourself projects” on the weekends did play a part as the male contribution to homemaking, not the least on a symbolic level (Cross, 1997).

Women, on the other hand, experienced suburbia rather differently. For women, suburbia was a place for work rather than recreation. Instead of privacy and withdrawal she needed contact and community. It has often been claimed that women felt alone and isolated in suburbia, and surely many did. But in several residential areas, women’s social network flourished. Women helped each other with child-care and other favors. Many of them participated in voluntary charity work or they organized recreational activities for the children. In the first decades after the war usually housewives did not have a car at their disposal as the commuting man used the family car. Thus they had to walk or bicycle, and as a consequence they met each other frequently in the

street, said hello and had a short chat. The community of suburbia definitely existed (Chambers, 1997).

Suburbia was originally a place where the middle class was able to realize their dreams and display their identity and status by creating a personal space. But much like most goods and benefits, the suburban lifestyle was also an aspiration of less privileged classes. Suburbia was primarily reserved for the middle class until the inter-war period. But particularly after the end of World War II, white-collar workers who were lower in the hierarchy as well as laborers moved to suburbia. Family values, which had been an important symbol for the middle class, seemed to have just as many supporters in the lower classes.

However, segregation between classes did survive. The newcomers settled in new residential areas, which were different than established suburban communities. Usually the new areas were located further out on the fringe of the city landscape (Lebeau, 1997). The assortment of housing types was expanded in the new areas, so that they now also included more concentrated small-scale housing like duplexes, four-family houses and row houses. Critics have stated that suburbia contributed to influence the working class lifestyle in direction of middle-class (Clarke, 1997). On the other hand, it can also be said that the introduction of the working class brought new values and ideas to suburbia. For example, traditional working class values like solidarity and community might be reflected in the growth of neighborhood networks among women (Chambers, 1997). However, class is still a topic of interest in suburbia, where different areas attract dwellers from different social strata.

The culmination of the suburban lifestyle in its traditional form was reached in the 1960s. In the 1970s, economic growth declined in many western countries. The 1960s brought about cultural changes, among the most important the liberation of women. More and more women joined the work force. The suburbs were emptied during the daytime, and the weekends were filled with housework and shopping instead of recreation (Cross, 1997). The suburban lifestyle still exists, but in a different way. Nowadays most families need two incomes if they want to buy a traditional detached dwelling in a suburban residential area. In order to afford the dwelling, they have to work so much that there is no time left to spend in their perfect suburban home. Women's lives are now more similar to men's. Few women spend their daytime in the residential area. Thus the foundation of the social network in suburbia, housewives, has disappeared. It is reasonable to believe that both men and women nowadays primarily seek privacy and withdrawal in suburbia, but current investigations of suburban areas show that this is not necessarily the case.

11.2 The original design of Sjøveien as an expression of suburban values.

As has already been described, the four-family house area called Sjøveien was constructed by the Germans during the last years of World War II. The design and planning of the area is usually attributed to Sverre Pedersen, a well-known architect and professor with a strong professional reputation.

The original design and layout of the area is by and large in accordance with the suburban values and ideas previously described. The area was located in green surroundings in the countryside for the sake of safety and recreation, and the landscape was given park qualities in order to increase its aesthetic beauty. Originally, Sjøveien was meant to be a place for the happy family life of German officers and their wives and children. The access road in the area is cul-de-sac in order to limit transit traffic. Together with the railway sub-crossing that marks the entrance to the area and the encircling green landscape, the blind alley contributes to creating an atmosphere of an “enclave,” a peaceful and idyllic place protected from the dangers of the world outside. The building pattern in Sjøveien was inspired by neoclassicism, but was also influenced by the garden city regulations of Unwin and the ideas of Camillo Sitte. Both of them emphasized the importance of adapting to the existing terrain, an idea that is in accordance with suburban landscape aesthetics.

The houses were proportioned in accordance with classical, geometric rules. The golden section was used to compose the facades, and symmetry has been an important instrument to design a group of buildings characterized by solidity, calmness and dignity. Details are carefully elaborated in accordance with neoclassical models. Suburbia has certainly seen a display of a multitude of architectural styles. However, classical design ideals have seemed to have had a certain dominant position. As a symbol of power, classical architecture will always be attractive to people who want to climb the social ladder. A suburban home can be used for this purpose.

11.3 “A dwelling in green surroundings”; The label of Suburbia?

Today’s parents in Sjøveien also tend to emphasize the importance of several housing qualities that represent traditional suburban values.

“A residence in green surroundings” can be seen as the symbol of suburbia. As we have seen, one of the most influential factors regarding Sjøveien

informants' perceptions of the reasons for their community's attractiveness is its location in a green environment close to the fjord. The general attractiveness of the location in green surroundings is also underscored by the results of a quantitative investigation of housing qualities. *Proximity to public leisure areas*, one of the qualities measured, ranked number 2 out of 26 housing qualities by the total sample in all five suburban areas studied. The total sample of all Sjøveien households ranked this quality number 1, while when only households with children are considered, the quality is ranked number 2.

The surrounding landscape has significance with regards to the experience of practical, aesthetic and symbolic housing values. Informants and their children use the surroundings for recreational purposes. The forest, the shore and the fjord are frequently visited by the families. The agricultural landscape is reserved for the eyes, but nevertheless has an important role as a visual inspiration.

The aesthetic evaluation of the landscape was an important point of departure for the creation of a suburban lifestyle. The idea of a happy family life in the countryside promoted the aesthetization of the rural landscape. The respondents in Sjøveien have an aesthetic appreciation of the pastoral qualities of their location; they regularly use words like "peaceful, cozy, nice and green" to describe their surroundings. But the aesthetic landscape qualities linked to the fjord's proximity are even more sought after. The informants enjoy living close to the sea and having such a nice view. They also think it is lovely to have the open landscape that encompasses the fjord. "Spaciousness" is one of the most frequently used terms that the informants use to describe the aesthetic qualities of the landscape in a positive manner.

The layout and quality of the outdoor areas was an important factor for most informants when they decided to move to Sjøveien. A crucial factor was the need for suitable outdoor areas for their children. The quantitative investigation showed that *Usable common outdoor fields* was ranked number 5 with regard to importance by respondents with children. The first suburbanites wanted their children to play in tamed, cultivated nature represented by the protected private garden. In Sjøveien, accessibility to nice green outdoor areas for the children to play is also highly valued by the parents. However, the layout of the green space is not in accordance with the ideals of the enclosed and private suburban garden. On the contrary, the ideals of open, undivided, free outdoor spaces is prevalent. Physical borders inside the area are not welcomed, as they are regarded as hindrances for children. "Openness" and "spaciousness," the terms that are used to describe the visual attractiveness of the landscape, are also used to describe the features of the

outdoor areas that make them especially well suited to the activities of residents' children.

Open agricultural landscapes and spaciousness may also represent a feature of the local spatial character. Several informants believe that the open physical structure of Sjøveien creates a meaningful relationship with the surrounding environment. The typical character of the landscape in the Trondheim fjord area is open and rural. Agricultural activity has marked the region for thousands of years and left its mark on nature -- domesticated. Although not flat, the landscape is marked by a modest degree of undulation. The Sjøveien area was established on ground that formerly had been a part of the Rotvoll manor. The cultural landscape of Rotvoll is of great cultural-historical value and is now protected by law. The green fields of Sjøveien represent an extension of this landscape character. Additionally the classical expression of the buildings in Sjøveien follow the classically inspired building tradition at Rotvoll and in the district surrounding Trondheim fjord.

11.4 Suburban identity; The perfect mix of countryside and town

The characteristics of the landscape are important to the informants' experience of the identity of Sjøveien, and as such the landscape is assigned symbolic meanings. The fjord is a quality in itself, but it also connects the area with the old town center of Trondheim. The fjord has always been used for transportation by boat, and as such it represents a transitional link between the urban sphere of Trondheim city and the suburban sphere of Sjøveien. It also represents a characteristic landscape quality both in Sjøveien and in the old town center, and as such gives the two settlements a visual similarity that may enhance the feeling of connection and belonging. One of the informants says: "You have to keep a connection to the special features of Trondheim." The fjord certainly represents one of these.

Lack of identity is regarded as one of suburbia's main problems. In Sjøveien, this problem seems to have found a solution. The informants do not seem to perceive the area as lacking identity. Several features help create identity in Sjøveien. The dream of suburbia is a dream of a place that incorporates the best characteristics of two worlds, the city and the country. According to informants, the Sjøveien area represents a successful attempt to realize this ideal, or as one of them says: "I have the perfect mix of countryside and town now."

However, Sjøveien residents acknowledge the suburban crisis of identity. When describing other suburban areas in Trondheim, they frequently mention

the southern suburbs Heimdal and Tiller as places where they would not like to live. One important reason for this is that the areas lack identity. First of all the areas lack contact with the fjord, which is regarded as a main feature of the Trondheim landscape. Secondly, the communities are perceived as monotonous and featureless. One of the informants claimed with disdain that these areas were built with “people warehouses.” Informants say the original agricultural character of these southern communities has been erased along with most of the historical traces. Sjøveien, on the other hand, is characterized as a place where traces of the history are well preserved both with regard to buildings and landscape. Even if the history that is preserved is partly depressing, this history contributes positively to the character of the area and saves it from the suburban crisis of identity.

The southern areas’ long distance from the city center is also mentioned as a reason for their lack of connection to the city of Trondheim. However, informants do also acknowledge that the real difference between Sjøveien and Heimdal concerning distance to the city center is quite small. The excellent roads in the southern areas may in fact contribute to a shorter driving time to the city center than from Sjøveien. But the distance to Trondheim from the southern suburbs is the “mental distance” and not the actual one.

The idea of suburbia is built on keeping a certain distance from urban life. But there is a delicate equilibrium. Traditionally the gap between city and suburbia should be sufficient to keep those being protected, the women and children, separated from the dangers and depravation of city life. The distance also needs to be long enough to offer a spatial separation between work life and family life for the commuting husband. On the other hand, the connection to the town represents the navel string of suburbia, both in a practical and a symbolic manner. Suburbia as a “nowhere land” has usually been the characteristic of suburban areas located on the outmost fringe of the city landscape. Investigations have shown that residents living in such areas tend to feel that they are separated from society (Lebeau, 1997).

Most Sjøveien residents think the distance to town is just right. A certain distance is welcomed as it keeps children away from the bad influence of the urban culture, which according to parents are the amusement arcades and shopping malls representing consumer culture and buying pressure, in addition to being a place to trade and use narcotics and alcohol. An attractive suburban location seems to be based on a longing for lost innocence.

A certain distance to town may also be attractive to adults because of a desire for a spatial separation between work and leisure. The qualitative material from Sjøveien gives however little support to such a claim. The parents seem

to appreciate the rural location and the proximity to the sea and the forest. But keeping a certain distance from town as an goal in and of itself is seen as an advantage mainly because of the children. Parents bring their work home or go back to work in the evenings during periods with lots of work pressure. The separation between work and leisure in space and time that traditionally has been supported by suburban living has not been detected among the informants in Sjøveien. Instead, the informants underscore the importance of an acceptable proximity to their workplace and the ability to get to work easily using different kinds of transport such as bus, car, train and bicycle.

Sjøveien as a suburban residential area is totally dependent upon other city districts where most residents have their work places. But residents do not necessarily work in the city center. Among the informants, very few actually had a job in the area that usually is called as the city center, the “Midtbyen” (The middle town). People from Sjøveien worked all over town. They might commute by private car to work in the southern suburbs, bicycle to the university at Dragvoll or walk to nearby workplaces like Statoil. The suburban dependency upon city is still there but in a different form. It seems to be of a more symbolic than practical character, and the symbolic signs of connection are more important than actual distance in kilometers or the number of working places in the city center. The location by the Trondheim fjord that Sjøveien and “Midtbyen” have in common is an example of a symbolic sign of connection.

The quantitative analysis of housing qualities in Sjøveien showed that *Vicinity to services and public transport* was ranked number 17 of 26 housing qualities by the parents with regards to importance. The respondents from households without children were interested the quality and ranked it number 12. There may be a number of different reasons for the parents’ relatively low ranking. The qualitative material indicates that with regard to services the parents are not too eager to expose their children to the consumer culture and prefer to keep a certain distance from shopping areas. With regards to public transport, parents report that they tend to use private cars to take their children to kindergarten and recreational activities. The reason for this preference is partly that it is inconvenient to take the children on public transport, but also that the destination is somewhere else in suburbia and not in city where most public transport goes. When looking at the pattern of work journeys, the incongruity between the destination of the travelers and the destination of the transport may be a problem as well.

11.5 The Sjøveien enclave; A source of security, identity and community.

In order to create the peaceful “idyll” that is the suburban dweller’s dream, a certain enclave quality has been sought since the origin of the first suburb. Sjøveien’s architect was presumably perfectly aware of the effects of creating a residential area with clear demarcations with the surroundings. The parents in Sjøveien also comment upon the enclave quality as an advantage and an important support for their family values based lifestyle.

A community takes on a feeling of being an enclave as a result of some basic fundamental characteristics. A cul-de-sac separates the area from the surrounding road system. The railway sub-crossing functions as an entrance to the area, and has a visual similarity with a portal and underscores the transition between inside and outside. The surrounding areas are characterized by contrasting qualities like the fjord and the agricultural landscape. To the east and south there are other residential areas, but these areas are built with other housing types and have different building patterns. The homogeneity of the group of houses in Sjøveien is an important physical feature in this connection. The variation between the houses are minor, just enough to avoid monotony. The houses are grouped in a way that creates sequences in a well-planned course. Thus the buildings relate to each other in a conscious manner instead of just being randomly spread out in the landscape.

The enclave quality by and large has a positive effect on safety. The cul-de-sac protects the area from transit traffic and particularly in the lower parts of the area, the traffic volume is quite small. There is one drawback, which is that the area has only one entry. This entry is in the upper part of the Sjøveien area, the part that is most densely built up and farthest from the sea. The traffic volume, along with these two other factors, contributes to increase the difference with regard to attractiveness between the upper and the lower parts of the area. The fact that drivers who enter the area mainly live there or are going to visit friends does tend to diminish the total traffic danger. Most people drive carefully, especially after a couple of campaigns arranged by parents for the purpose of increasing awareness. Nevertheless, traffic security is still an issue without a totally satisfactory solution. As we know from the quantitative investigation, this quality was suffering from a telling sub-optimization. The quality is ranked as number 1 with regard to importance by parents, which illustrates the need for better problem solving.

The enclave quality is important with regard to the safety of the children. The clear visual character of the territorial borders makes it easy to explain to the

children where they are allowed to go. The size of the Sjøveien area coincides by and large with the action radius of a child of preschool age. They are not allowed to pass under the sub-crossing, go down to the fjord or into the neighboring residential areas. If you as a stranger come to Sjøveien and walk around and perhaps sit on the bench in the playground, you will notice that you are observed. If you take a picture, people may even come out from their house and ask about your identity and the reason for your visit. This social control is strong and is made possible because of the enclave quality that clarifies which people belong in the area and minimizes the number of intruders. The ability of the area to be easily watched over is threatened, however, by the possibility that the path along the seaside from Lade may pass through the area. Several parents have fought against this path because they fear that it will put pressure on their idyllic enclave. Parents do not tend to be paranoid about this issue.

The enclave quality is frequently mentioned by informants as having a positive influence on the development of identity, belonging and community between residents. The area is also clearly defined in relation to its surroundings. It has a visual coherence that is experienced as meaningful and as promoting the area's unique identity. Informants say the unique character of the area makes people conscious of the kind of choice they are making when they choose to move there. As one resident says: "I think Sjøveien is a special place because it is a little out-of-the-way, and most people who live here have made a conscious choice to do so." Such a choice tends to come with more obligations than a more random one, and the residential area benefits from this kind of commitment. The physical features of the area have laid the foundation for its identity, but the housing seekers who chose to settle here are responsible for the realization of the special potential that Sjøveien offers.

11.6 The attractiveness of the neoclassical architectural design

The four-family houses in Sjøveien were built during 1944-45. During this time, the housing type was well known and several Norwegian suburban areas from the interwar period were built with four-family houses. The original group of residents in Sjøveien was officers. Even though the houses were built during the last years of Germany's occupation, the houses and outdoor areas were of a high standard in architectural design, construction and technical equipment.

The area was evidently built for accommodating families from the upper classes, and the choice to build a more concentrated building type than the traditional detached single-family house was not made because of the low

status of the projected residents. Concentrated small-scale housing had originally entered suburbia in an attempt to build affordable housing for the working class. However, most well planned garden cities were filled with middle-class residents. The social status of the areas was partly linked with the housing type, but factors such as location, architectural design and the housing quality in general were of great importance as well. People living in the 1940s would presumably perceive an area with Sjøveien's quality as respectable, despite the concentrated dwelling type.

Today's residents report that they think the houses signal dignity, calmness and solidity, but also coziness. They are built with great skill, in accordance with old building traditions. Windows with small panes, different detailing and colors give each house a specific charm. The scale of the buildings is generous and their neoclassical style offers a respectable home for their occupants. The classical architectural styles are often associated with status and power. However, Sjøveien informants do not seem to link these values to the area's architectural expression. But they are proud of living in Sjøveien, and obviously the area does not seem to be lacking with regard to status, as many other areas have built with more concentrated housing. An attractive location is important, but the planning and the architectural design of the area also seem to play a part.

The aesthetic expression of the houses attracts residents from different social strata and with different lifestyles. The majority of informants belong to the educated middle class, but there are also parents from a more typical working class background who were interviewed. There were no significant differences between informants with different class backgrounds or gender in the evaluation of the houses' aesthetic appeal. However, men did tend to emphasize the solidity and calmness of the houses while women emphasized coziness.

The old-fashioned architectural design may appeal to residents who feel a need for security. Parents with small children may belong to such a group, as they tend to give priority to their children's safety. A design that enhances the coziness, charm and the feeling of safety that comes from acknowledging tradition is easy to associate with family values. When looking at the results from the quantitative test of dwelling qualities we see that the architectural style of the area in itself do not seem to be among the most important aesthetic qualities. The style could be modern or traditional and still satisfy the respondents. *Pleasant aesthetic general impression* as a quality is far more important. Facades and landscapes should have an attractive appearance and preferably be adapted to the local context. Thus the most important characteristics of the houses in Sjøveien are presumably the fact that their

architectural style is consistent and that they form a homogenous group of buildings and have a clear border with the surroundings. The search for a meaningful visual wholeness seems to be stronger among the informants and respondents than the affinity to a special style or architectural expression. The fact that the Sjøveien area has a specific visual character of its own simplifies the process of attachment among residents.

11.7 Revitalization as an important identity making process.

While the physical environment's effect on the creation of a suburban housing culture is important, other factors also have an influence. The planning and architectural design of an area may support the lifestyles of the inhabitants, but also circumstances of social, historical, organizational or juridical character may strong influence the development of a housing culture.

In Sjøveien, for instance, the process of revitalization has had a great impact on both the development of neighborhood networks and the identification process of the residents. Informants felt that they had discovered a "Sleeping Beauty" when they moved to the area and started to clean up the overgrown gardens and rehabilitate the houses. In many ways they felt like settlers and the area was given a new start with a new generation of residents.

The social effects of the revitalization are in many ways similar to the process that is found in newly built residential areas. The first phase in the development of a residential area is characterized by the establishment of all aspects of the neighborhood. The foundations for a neighborhood network are laid when residents meet outdoors working on the house and garden. The special rules and atmosphere of the residential area are determined during this first important stage of its history.

The residents' participation in the renovation process has also had important effects with regard to the development of a feeling of belonging. First of all, the residents could influence the development of their physical surroundings in a more fundamental way than they would have been able to if they had moved into an area where both houses and outdoor areas were in excellent condition. Thus it was possible for them to make their mark on the area and make it suitable for their own lifestyle. Secondly, they had the feeling that the area benefited from their efforts and that they could give something, and not just receive. Thus the process of identification took on a character of mutuality, a necessary prerequisite for genuine attachment.

The ability to participate is an important feature of a suburban lifestyle. Støa (1996) says this aspect is one of the most fundamental reasons for choosing to build a detached dwelling in a new detached dwelling area. Participation offers an opportunity to make the home into a joint family project and affirm important social relations like marriage and kinship. Commonly, participation is associated with private property and housing types that are based on privacy, like detached dwellings and row housing. It is therefore interesting to note that an area like Sjøveien, which was constructed from a more concentrated type of housing, and with common gardens and outdoor areas, also offers the opportunity for participation to such a great degree.

The common efforts of Sjøveien dwellers in their outdoor area also had a positive effect on the establishment of neighborhood contacts. However, much of the do-it-yourself work in Sjøveien has been connected with alterations and enlargements of the flats, which has resulted in a confirmation of family ties and a link to the home, much as Støa (1996) found in the detached dwelling area she investigated. But work on the flats also was of interest to the neighbors, and as such functioned in promoting contact. Residents who had decided to alter their flats visited other residents who had already done so, in order to get inspiration.

11.8 The four-family house; A supporter of a community-oriented suburban lifestyle?

Suburbia is traditionally known for its emphasis on privacy rather than community. However, the Sjøveien area does not fit into this model of a suburban residential area, if the categorization is primarily based on privacy. Instead, most residents de-emphasize privacy in preference of community.

However, the traditional picture of suburbia as a bastion of inward-oriented residents has been questioned by researchers (Chambers, 1997). Critics of this view observe that housewives in suburbia have always established neighborhood networks. The entry of working class residents and more concentrated housing also seem to have diversified suburbia, allowing for up a more varied picture of suburban lifestyles.

The qualitative data from this study gives a reason to believe that there is a connection between the community values of the dominant group of parents and the housing type and building pattern in Sjøveien. The four-family house as a housing type demands a certain amount of cooperation among residents. The entrance and staircase are common, as is the garden, for the most part. As long as the residents own their house they share a common responsibility for

the maintenance of the house and garden. The neighbors live close and have to find a way to work out conflicts if they want to live in a nice social atmosphere. It is advantageous for residents to show some interest in the neighborhood relations.

In the Sjøveien area, this need for good communication between neighbors is even more necessary than in most other four-family house areas. Sjøveien has no private outdoor places where residents can withdraw when they want to stay outdoors. Additionally, the outdoor lawns are undivided, with no borders between the different gardens and the common areas. The visual appearance of the Sjøveien area confirms why it is home to a majority of residents with a community-oriented lifestyle.

This community-oriented group of residents has been attracted to the area because of its original planning and design, and because they are aware that there is a community-oriented neighborhood network. Moreover, they want to develop those characteristics of the area that make it fit a community-oriented lifestyle. As they form the majority in the homeowners' association, they have been able to make rules for the area, at least to date. The rules prohibit fences, hedges and other outdoor borders. Private balconies are allowed, but there are strict rules with regard to their design.

There are other households in the area, however, which don't share the community-oriented lifestyle. Many of them are households without children, but there are also parents among this group. They were attracted to the area because of other positive attributes, such as an attractive location and nice housing. They did not anticipate that living in a four-family house would be based on cooperation between neighbors, and that Sjøveien would attract a majority of community-oriented residents who would define the area's agenda.

11.9 The esthetics of Sjøveien; An example of an esthetics of segregation?

One of the traditional dogmas about suburbia says that homogeneity and fear of strangers is a typical of suburban residential areas. Suburbia's enclave quality, together with visual signals about the area's aesthetic character, for example, are regarded as a way to attract and develop a uniform group of residents, in addition to keeping inappropriate people away.

As is clear from the demographic data, Sjøveien is dominated by adults between 20 and 40 years old who have children. The percentage of seniors is

very low compared to their percentage in Norwegian society at large. Additionally, the qualitative data indicates that parents who share a community-oriented lifestyle dominate. Even if there are residents with lifestyles that are different from the majority, the group of residents by and large has tended to become more homogeneous.

However, the crucial question is how this situation came to be, and if there are still mechanisms that enhance uniformity. The quantitative description of housing qualities shows that the quality *Varied composition of the group of residents* is generally not very sought after in suburban areas. In the total sample of five areas, it was ranked number 20 of 26 qualities. In Sjøveien the ranking is by and large identical both with regard to respondents from households with and without children. Evidently, diversity is not a quality in high demand, but this does not mean that residents oppose diversity.

An important reason for the homogeneity of residents in Sjøveien is the window of opportunity that was opened when the county municipalities started to sell off the flats in the beginning of the 1990s. Some of the existing tenants employed at TPS chose to buy their flats and stay in the area, but at the same time, newcomers without any connection to Trondheim Psychiatric Hospital moved in. By and large they were young families with small children and community-oriented values. Over the years, this group seems to have increased its hegemony at the cost of other categories of dwellers like seniors and childless households. The qualitative data may provide some helpful clues for the reasons for this development.

The traditional suburban aesthetic has been interpreted as an “aesthetic of decency.” Different areas have been characterized by different aesthetic codes, but the fact that there is a code and that residents are expected to follow it is clear. To know the codes of “decency” is an important admission ticket in suburbia. The aesthetics of decency is based on traditional bourgeois values. It may seem far-fetched to apply this concept to today’s situation. Nevertheless, it may be helpful in order to shed light on important phenomena in Sjøveien. The aesthetics of decency is commonly used for social and symbolic purposes. The concept represents a category of “taste” as defined by Bourdieu. Pure formal beauty in itself in Erikson’s meaning, is not the issue.

It may also seem exaggerated to introduce the word “bourgeois” in order to describe aspects of Sjøveien residents’ lifestyles, but the concept has in fact been introduced by the informants themselves, so that it seems to have some relevance. Bourgeois is a word that is used by informants when they are talking about “others.” Nobody describes themselves or their friends as bourgeois. Thus the concept is employed to define insiders and outsiders of

the neighborhood community and clarifies lines of demarcation between different groups of residents.

Informants who have lived in the area since the beginning of the 1990s purchased their flat when the prices were relatively low. Over the last decade, prices have increased, due to both the general development in the real estate market and to the renovation and overall positive development of the Sjøveien area. Newcomers to the area had to pay a high price for their homes as compared to the existing residents. These new residents have been accused of not following the aesthetic rules as are presented in the design guide. Newcomers want to express themselves when they alter their residences, and balcony construction has been a particular source of conflict. Some new residents also want to plant hedges in the outdoor areas. Established residents say the newcomers tend to emphasize privacy at the cost of community, and since they obviously have money they must be bourgeois.

Newcomers on the other hand cannot help noticing the conservative practice concerning alteration of the facades. The design guide requires that the facades are kept nearly intact, allowing the installation of a skylight in certain locations, and only with permission. Balconies are also permitted, but only in accordance with a specific design. The guide is a result of an agreement between the preservation authorities and the residents as represented by the homeowners' association. Thus, the preservation authorities are responsible for enforcing the guide's restrictions. However, it should be noted that the practice in the area seems to have become more strict than the guide. Many established residents even oppose the construction of balconies, even if they are in accordance with the approved design.

There are no restrictions regarding renovation of interiors. Residents may tear down walls, build new walls, and install or remove staircases according to their own wishes. The initiators of the design guide did not plan to reinforce old-fashioned bourgeois ideas about keeping a decent façade while letting residents do whatever they wanted behind the walls. And there certainly exists a culture in Sjøveien where residents invite the neighbors over to admire alterations. Nevertheless, and a little bit ironically, on some points the restrictive practicing of regulations of the design guide seem to reflect the attitudes of the early suburban bourgeoisie.

Such an observation should be taken for what it is, mainly anecdotal. But on the other hand a second look at the matter may highlight a more serious problem. Previous research has shown that suburban aesthetic rules can be used as a means of exclusion (Duncan and Duncan, 1997). References to aesthetic codes and "good taste" are often used as substitute arguments when

established dwellers actually want to protect their position and maintain the homogeneity of the group of residents. Findings in the qualitative data indicate that such aesthetic arguments may be in use in Sjøveien.

In fact the actual aesthetic code of the area may be even stricter than the rules in the design guide. A reason for suggesting this is the restrictive attitude among informants concerning construction of balconies that is only partly substantiated by aesthetic arguments. Although the design guide permits balconies, very few balconies have been built so far. This is interesting in view of the fact that the need for *Good protection of private outdoor places* was ranked as the most sub-optimized quality by respondents from households without children. More balconies could meet this need, but so far few balconies have been built.

The community-oriented informants from households with children are by and large ambivalent concerning balconies. Their arguments are not clear-cut, and their aesthetic values and their community-oriented lifestyle are intertwined. At the same time, several of them have admitted to an unmet need for privacy in the outdoors and that a balcony would meet this need. Their aesthetic judgments are based on an ideal of purity and architectural authenticity. The neoclassical style of the buildings is associated with calmness and dignity, and informants are afraid that this expression will be disturbed by balconies. However, it should be observed that the design for new balconies has been drawn up in accordance with the neoclassical style of the houses. As long as all flats in a specific house have balconies (in order to avoid asymmetry), the balconies themselves should not lead to any aesthetic downgrading of the houses.

With regard to the aesthetics of the outdoors the picture seems more evident. The informants from families with children like the openness and spaciousness of the outdoor areas and see them as positive aesthetic characteristics. It should be noted, however, that the same qualities are mentioned as important supports for their community-oriented, family-based lifestyle. The outdoor areas are free of physical hindrances like hedges and fences. Residents may easily make contact and form neighborhood networks, and the children may run around according to their own wishes. However, the openness does reduce the opportunities for privacy in the outdoors.

It seems reasonable to believe that the characteristics of the area that fit the lifestyle of the informants are experienced as aesthetically pleasing, or as one resident commented: "But I think it has much to do with the (house) colors. And the kids. When you see people around the houses, when they are working

and have a pleasant time. That makes me happy, and then I think that the houses here are nice."

As mentioned earlier, the informants report that the enclave quality is an important source of identity in Sjøveien. One of the features that contributes to this quality is the homogeneity of the houses, and the uniform expression of the outdoor areas. The aesthetic homogeneity of the area contributes to a feeling of wholeness and coherence among residents, and enhances the role of the area as a place to find harmony, calmness and meaning in a modern everyday life that often may seem chaotic and split up. The Sjøveien area has an identity of its own, a quality that enhances the ability for residents to form ties.

The recreational and psychological values of these features should not be underestimated. However, there is also a dark side. The homogeneous aesthetic expression of the Sjøveien area seems to contribute to a homogenous group of residents. The aesthetics of Sjøveien is connected to a development and use of houses and outdoor areas that supports a certain lifestyle at the cost of others. The acceptance of aesthetic variation is quite low, even if guidelines have been provided. As a result, the area seems haunted by the suburban ghost of conformity. Although there has been no conscious desire to exclude people, the development of Sjøveien in accordance with the lifestyle of the dominant group of residents seems to have had this unintended effect.

11.10 Conclusion

By and large the lifestyles of the informants with children in Sjøveien may be described as representatives of suburban values. Several of the features that are typical of suburban residential areas can be found in Sjøveien. The lifestyles of the parents are based on family values with focus on the needs of their children. The Sjøveien area is regarded as a nice place for families with children. Large and open outdoor areas with green grass and trees are perceived as perfect for children's play. A suburban location in green surroundings provides the perfect mix of city and countryside. The enclave quality of the area contributes to increased security and better social control. In addition the separateness and unique character of the area helps in the identification process of residents, a process that also is supported by the good opportunities for participation.

However, Sjøveien is dominated by a group of residents that is more community-oriented than more traditional suburbanites. The housing type invites the common use of both indoor and outdoor areas, and makes the

community especially attractive to parents who are interested in developing a close neighborhood network. This group of residents has dominated, and the composition of residents in the Sjøveien area has consequently tended to develop in direction of increased homogeneity, which is also incidentally a phenomenon considered typical of suburbia.

The aesthetic appearance of the area has seemed to influence the development of a homogenous group of residence. The power struggles between different groups demonstrate the importance of aesthetics in residents' use of arguments partly are based on aesthetic considerations in the defense of physical characteristics that support a certain lifestyle. Thus, the fight for hegemony in Sjøveien is fought with aesthetics as a weapon, a phenomenon that is well documented in other suburban residential areas (Duncan and Duncan, 1997).

12 Sjøveien's architecture; A design for community?

The quantitative and qualitative investigations of housing qualities in Sjøveien showed that households with children emphasized the importance of good social relations in the residential area. According to informants, relationships between parents tend to take on a close character, and residents are expected to take part in the neighborhood network. Withdrawal is not welcomed and residents who want more privacy are even described as “bourgeois” and as a threat to the community by some informants.

Results from the quantitative investigation of five suburban areas indicate that this strong wish for a neighborhood community may be a typical characteristic of a segment of respondents from households with children. The Sjøveien area seems to have been especially attractive to residents from this category during the last two decades. There are several reasons for this attraction; as we have seen, parents find Sjøveien suited to their lifestyle and see the area as a good place to live with children. The fact that this group of people is already in the majority also tends to attract newcomers from the same group.

But as an architect, it is also interesting to ask whether and how the physical planning and architectural design of the area has had any influence on the creation and character of the neighborhood community. In this context, an examination of the theories of Jan Gehl may be helpful. Gehl's ideas about designing social space have influenced the design of Scandinavian “low rise, high-density” housing during recent decades, and have in many ways become the “bible” on how to design for a successful neighborhood community. An example of how his ideas have functioned in everyday life can be seen in the Meek area, in Molde. The area was planned in accordance with Gehl's ideas and will be used as a reference in the discussion concerning the creation and character of the neighborhood community in Sjøveien.

The Sjøveien area is almost 30 years older than Jan Gehl's ideas, and for obvious reasons has not been designed according to them. Nonetheless, it is of interest to see if there are any common traits between his recommendations and the characteristics of Sjøveien that lead to the creation of neighborhood networks. Are there any common patterns that might contribute to a “recipe” for designing a residential area that supports the development of neighborhood networks, or should architects just forget about “designing social space”?

12.1 Jan Gehl; Designing social space

The Danish architect Jan Gehl wrote “Life Between Buildings, Using Public Space” in 1971; a newer version of the book was released in 1996 and is the source of subsequent quotations in this text. Gehl’s main interest was determining how social space can be created by architecture. Inspired by the work of the sociologist Jane Jacobs, he advocated architects to design urban space and residential areas that facilitated social relations. He states:

Although the physical framework does not have a direct influence on the quality, content, and intensity of social contacts, architects and planners can affect the possibilities for meeting, seeing and hearing people – possibilities that both take on a quality of their own and become important as background and starting point for other forms of contact (Gehl, 1996, p 15).

Social contacts can be scaled with regard to their intensity, from the closest, near friends and family, to the more peripheral, acquaintances and chance contacts. Gehl says that even just hearing and seeing other people is an important kind of social stimulation. The contacts that form at the bottom of the scale have a value on their own, but may also act as prerequisites for other, more complex interactions. If activity between buildings is missing, the lower end of the contact scale also disappears. The boundaries between isolation and contact become sharper. People are either alone or involved with others on a relatively demanding level.

Much valuable information about the surrounding social environment is offered by informal low-intensity contacts such as chatting with the neighbor when meeting in the stairway of an apartment building. Parents may particularly find this information of great importance, but most people will be more comfortable knowing what is going on in the neighborhood.

Gehl says that critics state that Scandinavians, included Danes, are not interested in neighborhood contacts and activities in the streets (Gehl, 1996). Gehl’s answer to this is that the informal social life between buildings will flourish when it is planned for. As an example he describes new Danish residential areas where physical opportunities for outdoor activity have been established in the form of high-quality public spaces. In these areas, social life, which no one could believe was possible in Denmark, has flourished. This development can be seen as analogous to new roads. Traffic increases when roads are improved. Providing something feeds a demand.

Architectural design as a mean to support a social life means to concentrate human activity. Functionalistic planning ideals highly valued in Scandinavia favored light, air and greenery. Residential areas with low physical and demographic density were built. No one questioned the social implications of low densities. On the contrary, social life was expected to develop in the extensive open spaces between the buildings. Because the fields optimized the opportunities for many different recreational activities, they were considered perfectly suited for socializing. That this did not happen came as a surprise to planners (Gehl, 1996).

Concentrating human activity means greater densities. However, higher density with more extensive exploitation of land is not the main focus of Gehl's planning approach. The focus is on making human activity visible and accessible. People are attracted to other people. They gather together and move with others. New activities occur where there already is something else going on. In order to promote a rich social life, Gehl recommended the following:

INHIBITING CONTACT

Visual and auditory

Walls

Long distances

High speeds

Multiple levels

Back-to-back orientation

PROMOTING CONTACT

Visual and auditory

No Walls

Short distances

Low speeds

One level

Face-to-face orientation

(Gehl, 1996, p 64)

Barriers separating people, like walls and high fences, should be avoided. Human activity should be concentrated in an area that is smaller than what is usually regarded as necessary for the activity. Traffic in the residential area ought to be mainly pedestrian and by bicycle. Transport at low speed allows for more people on the streets, and the duration of their stay will be longer. Buildings should be low, permitting easy access to the ground level for most people. Elevating activities to higher levels moves them out of sight and focus. The same can be said about activities that occur outside of houses that are oriented back-to-back. Hiding them from each other prevents contact.

Gehl also acknowledges the importance of designing spatial hierarchies. He underscores the effect that hierarchical spatial structures may have on the formation of social groups. To illustrate how this concept functions he describes a Danish residential project called "Tingården":

The physical structure of the building complex reflects and supports the desired social structure. The hierarchy of social groupings is reflected by a hierarchy of social spaces: the family has a living room; residences are organized around two communal spaces, the outdoor square and the indoor communal house; and finally, the entire residential complex is built up around a public main street in which the large community center also is located. Family members meet in the living room, the inhabitants of the residential group meet in the group square, and residents from the entire neighborhood meet on the main street (Gehl, 1996, p 59).

This project can be said to represent a counterpart to the normal residential area that is built from either multi-story or single-family houses. These areas contain only diffuse subdivisions of spaces between the smallest unit, the flat or single house, and the whole neighborhood. The inner structure of the areas is weak and the boundaries imprecise. In such an area, the lack of clear physical structure can in itself hinder the development of social relations. Working with the borders between private and public space is also important. If the borders are sharp, the move from the private zone to the public will require a greater effort. Transitional zones make the step easier by allowing for movement back and forth between public and private spaces.

Although Gehl is optimistic about the opportunities for planning for social space, he is also a realist. After writing about design projects where the development of social life has been a success, he states that:

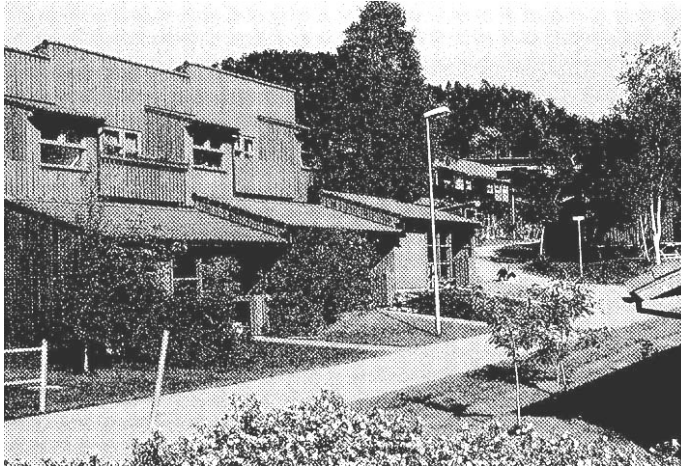
There is however no basis for concluding directly from such examples that contact and close ties between neighbors develop more or less automatically, solely on the basis of certain definite building forms. More than architecture is needed for these interactions to develop. Design that is conducive to such interaction will, however, encourage it. In order for neighbor contacts and various forms of communal activities to develop beyond a superficial level, a meaningful common denominator must exist – a common background, common interests, or common problems (Jan Gehl, 1996, p 55).

Gehl thus acknowledges that a social life has its own rules.

12.2 Meek housing cooperation; An interpretation of Gehl's ideas

In order to see if these design ideas actually might be helpful in creating a social neighborhood, the sociologist Edle Andersen studied the Meek residential area in Molde in 1987. The Meek housing cooperative can be said to be an interpretation of the ideals of the “dense and low” movement. Jan

Gehl's theories from 1971 have been an important source of inspiration for the architects.



Typical row houses in the Meek area. The picture shows the pedestrian way that gives access to the dwellings.

The area that was constructed 1977-79, is situated 3-4 kilometers from the city center of Molde. The area's architect was Torstein Ramberg of the NBBL architectural office. The area is built from 89 row-house flats in one or two stories. Originally the area offered 6 different types of flats, flats of two rooms with a size of 39.7 m², three rooms with sizes of 66.3 or 82.6 m² and four rooms of 77.2 or 91.2 m². However, several the residents have enlarged their original dwellings, as the row houses are flexible and planned for different types of layouts. Flexibility is a quality that has been promoted by the architects, since it is regarded as a means to develop stability by eliminating the need to move because of a need for more space.

Gehl says that an important goal in planning residential areas should be planning for a rich social life. In the Meek area, the limited number of housing units has been seen as a means to improve the development of neighborhood relations. Moreover, the houses are grouped together along common access roads that allow for pedestrians only. Each chain, consisting of 6-7 units, is differentiated from others in the use of different colors. The search for a formal expression to enhance identification and belonging was an important goal for the planners.

In this case, identification is possible on several levels. The small private garden in front of the entrance door of each unit marks the territory of each household. The chains of houses arranged around each of the four playgrounds

in the area are the next step, and on top of this is the level of the entire residential area. Making distinct steps between each level is important. Between the level of total privacy and the level of total collectivity the intermediate levels of semi-private and semi-public have been created. This has made it easier for residents to occupy their surroundings. The small step from the semi-private, safe garden to the semi-public playground should not be too demanding, even for a child.

The demographic density and physical density in the area is relatively high, about the same as in an area built with low detached blocks of flats. The activity in the outdoor areas is concentrated around the common access road and the distance between the entrance areas of the units is small. Gehl's design approach states that these characteristics increase the opportunities for creating a stimulating social environment expressed as "Life between buildings," as Gehl calls it.

Andersen found that the area was strongly dominated by young couples with children. Fully 58.4% of the residents were younger than 34 years old, while just 11 % were older than 50. Families with children amounted to 67% of all households. The children were mostly young; 50% of them were younger than 7, 27% between 7 and 12 and 7% were teenagers. The young couples that dominated the group of residents tended to have middle to high education and can be categorized as typical middle-class.

The residents were attracted to the area because of the good social network there and the cozy physical surroundings. They appreciated the possibility of having a small garden and entrance of their own. None of them wanted to live in an area with blocks of flats. The Meek area was perceived as a better place to raise children.

Most respondents from families with children saw themselves as well integrated in the neighborhood network. After moving into the area they soon got in contact with other parents by going with their children to the playground or participating in voluntary communal work. Having children functioned like a entrance ticket to the community. Singles and couples without children were less well integrated. The respondents from families with children referred to these groups as "the others" and talked about them in a negative way. They were criticized for not taking enough responsibility for the community, dropping out from voluntary communal work and other events that were considered to have importance to the development of a nice, social neighborhood. "The others," on the other hand, thought of these arrangements as being mainly of interest to parents and children.

The families with children felt comfortable living in the Meek area, but this did not mean that they stayed there forever. In Molde in 1987, it was possible for a middle-class couple to build a detached single-family house. When their children had reached school age, most parents felt the dwellings in Meek were too small and wanted to move into a house of their own. Families and friends also influenced this choice by expressing their opinions that a detached dwelling was the most appropriate type of housing for an established family. Respondents also indicated that the role of the tight neighborhood network had diminished as the children grew older. Older kids allowed for a more relaxed attitude towards the neighborhood and more room for withdrawal and privacy. When entering this phase of parenthood, respondents felt that they were finished with Meek and handed over the flat to another young couple with small children.

Andersen says in conclusion that the area did in fact have a well-developed social network and that the growth of it at least partly had resulted from the design of the built environment. However, the character of the network did have weaknesses. Homogeneity among residents seemed to be a condition for its creation, and integrating different groups with various interests appeared to be difficult. Moreover, different categories of residents seemed to attach varying degrees of value to a strong neighborhood network. The households that mostly sought frequent neighbor interaction were families with small children. Other kinds of households were more likely to value privacy and downplay the value of community.

12.3 The design of Sjøveien compared to the design ideas of Jan Gehl

Despite obvious differences with regard to building patterns and housing types, there are certain common design features between Sjøveien and Meek. Some of these similarities, which will be examined, are in accordance with Gehl's design recommendations. Gehl advocates physical layouts that concentrate human activities in residential areas. Such a concentration will benefit from a certain physical and demographic density in the area, but more than anything else it will be important to plan meeting points for the residents. In addition, the activity has to be visible. Visual obstructions should be avoided.

Visibility seems to be an important prerequisite for the development of neighborhood relations in Sjøveien. The outdoor areas are open with no visual and spatial obstructions such as walls, fences and hedges. All activities are easily visible. The informants from families with children seem by and large

to appreciate the openness. It is also appreciated as an important premise for the creation of a social atmosphere that is in accordance with their wishes. In addition they appreciate the openness because of its aesthetic value, and the freedom of movement for their children.

Both Meek and Sjøveien have good meeting places for residents. In accordance with Gehl's recommendations, Meek has entrances that are oriented face-to-face along a common access street. Activities are concentrated in this common street, which is visible from all dwellings and entrances. In Sjøveien the building pattern is different and buildings and entrances are not oriented face-to-face. Nevertheless, the entrances do play an important role as meeting points for the residents in each house and also to a certain degree residents from neighboring houses.

The physical design of entrances in Sjøveien meets Gehl's primary design guidelines with respect to the concentration of activity and visibility, and as such they support his theories. Face-to-face orientation may be regarded as a remedy used to achieve visibility and concentration of activities. For example, in Meek this design approach functions well. However this does not exclude other designs from having the same effect. Even if the entrances in Sjøveien are not oriented face-to-face, they tend to concentrate a certain number of residents in their capacity of having a common function. Additionally, they offer a place to sit and opportunities for the children to play nearby, and thus the level of activity is increased, and the time of stay is lengthened.

12.4 The social effects of spatial hierarchies and architectural sub division

Gehl also advocates spatial hierarchies to support social groupings and personal belonging and identity. Both Sjøveien and Meek meet this demand in their design. Ideally, each spatial level should have a meeting point for its associated social group. In Sjøveien the spatial hierarchies are obvious with regard to the level of each individual house. Groups of houses also form spatial structures inside the area, such as the neo-classical "Plaza" in the southern part of the area or the "Triangle" in the northern part of the area. Last but not least, Sjøveien has a distinct enclave quality that separates the area from its surroundings.

The qualitative data seem to support the idea that differentiated spatial levels and groupings support the development of different social groups. Informants are most inclined to socialize with other residents nearest them, either the same house or neighboring houses. The meeting points located close to the

houses are of great importance to the social life between close neighbors. In addition to the steps by the entrance door, common furniture that is used by the dwellers in one specific house provides important arenas for socializing. Informants also described places near their houses that are for use by a smaller group of close neighbors, such as the “bonfire place” on the edge of the Munkhaugen woods. Other important meeting places, such as the playground for small children and the parcel gardens, concentrate residents from the entire community and function as contact points for residents with common interests. Here residents from different houses and different parts of the area meet because they have small children or take an interest in ecological gardening. Thus both physical nearness and common interests seem to make a basis for contact between neighbors in Sjøveien.

Cultural differences between different parts of the area may also be found in Sjøveien. The upper parts and the lower parts of the area are distinguished by different spatial patterns caused by varied groupings of buildings. These subdivisions seem to coincide with inhabitants who support specific lifestyles. The anthroposophists tend to seek the lower parts of the area, while the former TPS employees have their bastion in the upper parts. The natural focus point for the anthroposophist is the collective Kristoffertunet, which is located in the southwestern corner of the house group that forms the “Triangle”. The ecological allotment gardens are also nearby and may have an influence on this concentration.

The TPS veterans do not have such a focus point. The concentration of residents with a link to the TPS system in the upper parts of the area may be the result of a general wish to live close to like-minded people. Another theory is that the former TPS employees, who once occupied the whole area, have been displaced in most parts of Sjøveien by other groups of residents, primarily families with small children. However, they have managed to retain one last settlement in the upper part of the area. This section of Sjøveien is not considered to be the most attractive by newcomers in general, and particularly not by the families with children. A greater building density, more traffic and longer distance to the sea may have moderated the price increases in the upper parts. The TPS employees who had rented a flat in the area had the first right to buy their residence when the county municipalities decided to sell them off. It might have been less attractive for the TPS residents in the upper part of the community to sell their flats if the prices were more moderate. Thus, these residents might have chosen to stay while the rest of the area was taken over by families with small children.

The architectural subdivision of the area coincides these cultural phenomena. It is however unclear whether the architectural design has played an important

part with regard to the development and preservation of these cultural differences. The qualitative data offers reason to believe that the location, building pattern and greenery have played a part in the formation of the "anthroposophist corner." The building grouping that forms the "Triangle" is more informal than the upper parts of the area. The big trees and vicinity to agricultural land form a picture that is in accordance with the ecological values of the anthroposophist movement. With regard to the TPS culture in the upper part of the community, there is no evidence of any such conscious choice. The concentration here seems to be the result of coincidence and marginalization.

12.5 The absence of private outdoor places

In Sjøveien however one important spatial level is absent outdoors. The private level of the household, in the indoors represented by the flat, has no appurtenant outdoor space. As we know from the qualitative data the informants are in fact skeptical to balconies and private outdoor places on the ground. Their arguments are partly based on esthetical considerations, but the presumed effects on the social network should however not be neglected. According to the theories of Gehl a private place on the ground that verges on semi-public or public spaces may be a support for the development of social networks in a residential area. He claims that the residents will be less reserved outdoors and find it less demanding to go outside if they have a possibility for private retreat. When dwellers stay on the safe land of their own property but at the same time are in contact with common space, a situation is created where it is possible to get in touch with neighbors and at the same time keep the possibility for easy withdrawal.

In the Meek area each dwelling has two private outdoor places, a front garden verging on the common access road and a protected back garden. The social networks in the area do however not seem to differ very much from the ones we find in Sjøveien. Is it therefore possible to predict that balconies and private outdoor places on the ground in Sjøveien will be of no threat to the character and strength of the social network that we find in the residential area today? Sjøveien and Meek differ with regard to building pattern, housing type and scale of the buildings. Meek has an intimate scale with small distances between private entrances and outdoor places. Further, the houses have a face-to-face orientation and all flats have entrances and front gardens on the ground verging on common space.

In Sjøveien the situation is different. The more generous scale of buildings and outdoor areas and lack of face-to-face orientation do not promote intimacy

to the same degree as the design of the Meek area does. Balconies on the second floor would not be in touch with the common sphere. Residents withdrawing to total privacy without any contact with their neighbors could be a likely scenario.

With regard to private places on the ground anyhow they might have a social effect like Gehl suggests. It will however be a premise that dwellers that live on the second floor feel welcome in the garden as well. Informants in Sjøveien that are living on the second floor say that they feel displaced from the common garden on the ground when the dwellers on the first floor insert a door from their living room into the garden. The dwellers that have inserted such a door anyhow feel freer when staying outside. It is easier for them to regulate their contact with the neighbors. Balconies on the ground or other types of physical borders could possibly have simplified the battle for territory on the ground. In today's situation an increasing number of dwellers on first floor have a private entrance to the garden without any natural borders of the area that they privatize thereby. But as we know the dominant group of dwellers primarily want that the areas should remain common without any privatizing, sub divisions and borders.

12.6 Socially demanding architectural design.

Despite differences with regard to architectural design the residential areas Meek and Sjøveien show strikingly common traits concerning development of the social milieu. Both areas have a group of dwellers that is dominated by families with small children. Moreover these families seem to belong to a lifestyle segment that emphasizes the value of community in preference to privacy. The parents presume a high degree of neighborhood contact and expect involvement in neighborhood matters from themselves and their fellow dwellers. Of course there also exists neighborhood relations of less obligating character in the areas, but this does not seem to be the predominant form.

With a social core group consisting of families with small children maintaining community values, it may be pertinent to look at the interplay between the accumulation of people belonging to this group and the architectural design. Both the Sjøveien area and the Meek area are conceived by the parents as nice places to raise children. Thus the concentration of parents with small children presumably is a result of their evaluation of the areas as especially attractive. But as we know not all parents from families with small children maintain community values to the same degree as the dominant group of parents in Sjøveien and Meek. The architects of the Meek area have aimed at an intimate scale with small distances and face-to-face

orientation. This design concentrates the activities in the area to a quite high degree. Each dwelling has a private outdoor place, but despite the opportunity for withdrawal to privacy, the collective atmosphere predominates the area, and residents that take no interest in the tight neighborhood network tend to leave the area.

In Sjøveien a similar phenomenon may be observed. The concentration of important arenas for activities in Sjøveien are also high, but not as high as in Meek, and the area has a less intimate design. In Sjøveien anyhow there are no private outdoor places, and many informants feel that they have to be social when they are in the outdoor areas. Thus both architectural designs seem to support a social life that is characterized by a rather high degree of involvement and as such the architectural design may be categorized as socially demanding. Most likely the designs also contribute to making the areas especially attractive to the formerly mentioned segment of dwellers because the appearance of the areas visualize the values of a community-oriented lifestyle.

12.7 The social influence of the organizational level

The investigation of the Meek area and the qualitative data from Sjøveien seem to support the claim that the physical planning of Sjøveien and Meek influence the character of the neighborhood networks. The physical design tends to give preference to the development of certain types of contact and attract dwellers with a specific lifestyle. There are however also other important influencing factors with regard to the development of social networks in the two areas.

The Meek area is organized as a housing cooperative. In Sjøveien all dwellings are freeholder flats, but the residents are obligated to take on a common responsibility for their four-family house and they have to be members of the house owner association. In both areas all organizational levels demand meetings between neighbors. Both areas also organize communal work for the residents a couple of days each year. The meetings and communal work are important social arenas where dwellers meet and get to know each other.

But the organizational levels also represent arenas of conflicts of interest. Informants report that in the meetings of the homeowner's association in Sjøveien, the predominance of the community-oriented parents becomes evident and other groups of dwellers feel marginalized. Gehl admits that a neighborhood network cannot be developed purely through supportive

architectural design. A common motivation among dwellers, a common interest or goal has to exist as a basis for contact. Such common motivation is found in Sjøveien, but mainly confined to the dominant group of dwellers. In this situation the organizational level, in the worst case, may be used as a means for power struggle and suppression of minorities. Large parts of the outdoor areas in Sjøveien are common property, and the use and development of these areas will be in accordance with the decisions made by the majority of the house owner association. In addition, the gardens of the houses must be kept unfenced. Thus a predominant group of dwellers tend to have more influence in an area like Sjøveien than in an area based on private property, and the marginalization and emigration of sub dominant groups will presumably be a more widespread phenomenon.

12.8 Preferred character of neighborhood networks in different stages of life

In his theories Gehl presumes that neighborhood networks may be of benefit to dwellers from all categories. He was not exclusively preoccupied with the needs of families with small children. Most likely there exist many residential areas primarily populated with residents from other household categories that have well functioning neighborhood networks. The character of the networks may however differ from the ones we find in Sjøveien and Meek. In these two areas the networks seem to be based on a relatively high degree of involvement. It is presumed that dwellers are engaged in the community and are prepared to use a certain amount of their leisure time on socializing in the neighborhood and work for the common benefit of the area.

Other investigations have detected that living densely in apartment buildings with close neighbors can be highly appreciated by elderly dwellers. Several of them had moved from their detached dwelling in favor of an urban flat because of the increased feeling of security a dense neighborhood could offer. (Saglie 1998) To the elder dwellers the feeling of security was dependent upon the social control of the neighborhood. The social control would prevent burglaries and other criminal acts and it would hopefully be noticed if dwellers disappeared or were isolated in their flats because of sickness or even death. To build a neighborhood network that mainly offers social control is however not the same task as building a neighborhood network that aims to cover more extensive social needs.

In order to develop social control in a residential area it will be important to the dwellers to keep an overview of the area. Knowing which people live in the area and the identity of new people that arrive are both important. These

needs we also detected among parents in Sjøveien, but then the similarity stops. While the parents in Sjøveien are motivated for deeper contact, elder dwellers in the new urban projects investigated by Saglie seem to confine their contact with the neighbors to brief pleasantries when meeting in the corridor.

Building a neighborhood network mainly for keeping social control, demands a physical environment of a different character than in areas distinguished by tight neighborhood relations. Giving the residents the opportunity to keep a visual overview without being observed in doing so, will for instance be important. Windows offering a view of the common areas and entrances are necessary. They should however be of limited size and not expose the dwellers' privacy. Much fun has been made out of the stories about old ladies with rear-view mirrors and requests for peepholes at seat height. Such anecdotes however make visible the deep need for security of many residents, especially the elderly. Keeping control without being involved contributes to a feeling of security for a lot of residents.

The life situation of elderly people is often characterized by the cultivation of existing social networks and limited resources and energy that may be used for the establishment of new contacts. As a result social situations that may be considered to be too demanding are avoided. Meeting places in the outdoors should preferably invite residents for short stays and brief conversations. As examples, common areas for mail-boxes or landings in the common stairways can be mentioned. Common outdoor places where neighbors sit down for a longer period will presumably not be used as they will invite a type of contact that is regarded as too demanding and obligating.

Sjøveien is typically well equipped with outdoor places of the latter-mentioned type in addition to an adequate assortment of the former-mentioned. In Sjøveien anyhow the interest for more involving socialization among neighbors is present and dwellers, or at least the parents of them, sit down for longer conversations for instance on the steps by the entrance door, or they relax in the groups of benches and other furniture outside their houses.

Young adults and the middle-aged without the responsibility for small children also seem to have social needs that distinguish them from the parents with small children. Several of the community-oriented informants in Sjøveien report that they expect that their need for social contact in the residential area will diminish when their children grow older. They expect that their radius of action and opportunity for withdrawal to privacy will increase. Some of the informants suggest that they will move to a less community-oriented area when their children become teenagers. Any extensive emigration of families with older children as Andersen found in the Meek area does however not

seem to be a future phenomenon in Sjøveien. An emigration of middle-aged couples when the children have left their homes may be more likely.

12.9 Planning for a diversified neighborhood network

After these considerations about the neighborhood network in Sjøveien and Meek it may be interesting to ask: Is it possible to imagine a more diversified neighborhood network in the Sjøveien area than the one we find there today? What kind of requirements need to be filled before a more heterogeneous social milieu will occur?

Segregation of dwellers is not a new phenomenon. Both urban and suburban areas traditionally have been reserved for particular social groups. The categorizing characteristics may have been class, ethnicity, economy, lifestyle and so on. The Chicago school of sociology for instance described the phenomenon of socio-spatial segregation in the inter-war years. Researchers made maps of how the city was divided in separate social worlds. Under the influence of Albion Small, the research at the school mined the mass of official data and made rate maps which divided the city into blocks of one square mile and showed the population by age, gender, ethnicity, etc. (Bulmer, 1984)

Segregation may be evaluated as a positive or a negative phenomenon. Different theoretical stances have deviant views. Most sociologists and social geographers have traditionally been negative because segregation can result in the accumulation of social problems in specific areas. The Danish researchers Groth and Møllgaard who work with cultural orientated city planning have a more positive view of segregation. According to them different lifestyle groups establish their own domiciles in the city where they feel most at home because the prevailing rules are in accordance with their values. Instead of aiming at a mixed group of dwellers, the task for city planners should be to support the identification between residents and residential area and not diminish the differences between the areas (Groth and Møllgaard, 1982).

Whether segregation is experienced as positive or negative will presumably vary according to its effects. A concentration of people with problems in stigmatized residential areas of poor quality is, by and large, regarded as undesirable by professionals, politicians and laymen. With regard to the accumulation of ordinary residents with different lifestyles in specific areas, the negative effects of segregation are not immediately striking. But if we take a closer look at areas like Meek and Sjøveien we detect that behind the happy surface of community-oriented parents with small children that have found

their paradise, there are other groups of residents that feel marginalized. Several dwellers belonging to these groups originally also identified with the area and felt at home there.

In Sjøveien for instance the former TPS employees represents such a group of dwellers that once were dominant but now are marginalized. The replacement of original dwellers with newcomers is a process that presumably not has been without pain for the group of dwellers that have lost their hegemony and their domicile. In the process of displacement, struggle for power and conflict of interests may embitter the everyday life of numerous residents. Dwelling preferences are cultural phenomena in constant change. New lifestyle groups will eye the area and "rediscover" it like the newcomers at the beginning of the 1990s did.

The Sjøveien area has many qualities that may attract potential dwellers from different categories. The prevailing design with open outdoor areas and no balconies seem to attract residents with a community-oriented lifestyle. The design of the area may however easily be changed to fit the wishes of another lifestyle segment. Informants that were newcomers at the beginning of the 1990s are aware of this and fear that the future development of the area may be characterized by gentrification. Residents with more money and "bourgeois" values may occupy the area and erase the community-oriented atmosphere by changing both the rules of the house owner society and the physical design.

An inclusive neighborhood culture could possibly be a device that might modify the negative effects of struggle for hegemony in a residential area like Sjøveien. It may however be questioned whether the residents in Sjøveien think they will benefit from a more inclusive and heterogeneous neighborhood. As we know from the quantitative investigation of dwelling qualities, the quality *Varied composition of the group of residents* was evaluated as not so important by the respondents. Additionally the qualitative data shows that parents are not necessarily against a diversified neighborhood. Or, in other words, as long as the children may play freely without restrictions they don't see any point in constricting the group of dwellers to households with children. But they are afraid of being dominated by other residents that work against their interests. Presumably Sjøveien would then not be paradise to children and their parents anymore.

The attitudes of the parents seem to be influenced by dwelling experiences in their own childhood. In Norwegian postwar suburbia there have been evident demographic differences between residential areas. The areas with newly-built dwellings were filled up with young couples with small children. After some

years the population was dominated by middle-aged grown ups with teenagers, and later an ageing group of dwellers mixed with a new generation with young couples and children.

Many informants in Sjøveien grew up in these kinds of age and life cycle segregated areas. The newly developed areas where their young parents moved in were filled with children of their own age securing plenty of playmates. The new developments were the last increment of the suburban landscape and frequently verging on undeveloped land, for instance forests and agricultural landscape. Several informants say that the Sjøveien area reminds them of their own childhood. The area is full of children and is located in natural surroundings. The informants have pleasant memories of their own childhood and want their children to have the same happy experience. Sjøveien offers them this opportunity.

But the picture of Sjøveien as a disunited neighborhood is ambiguous. Despite hegemony of residents with children and conflicts of interest, people from different household categories get in touch and become acquainted with each other. According to informants the Sjøveien area already has social meeting points where both parents and dwellers from households without children gather.

Each four-family house offers both meeting places in the common garden and in the common indoor areas, the entrance and staircase. House meetings bring together all dwellers, and the mix of dwellers in the specific house will be decisive for the decision-making. Houses with a high strain of older residents will for instance be able to mark the distinctive character of their garden according to their own wishes. There are however restrictions concerning fencing of gardens, and the house owner society has made rules on this point.

Informants in Sjøveien report that dwellers have changed flats within the area in order to live in a four-family house with others who share their lifestyle. The differences between houses with regard to social milieu and atmosphere are evident. In parts of the area people belonging to specific groups have accumulated. Data from Sjøveien indicates that belonging to their house is most important with regard to the psychosocial well being of dwellers. The people who live close to you will influence your everyday life in a vital way. Dwellers may withdraw from the common arenas of the entire neighborhood, while withdrawal from the neighbors in the same house is very difficult. A common entrance and staircase and the shared responsibility for house and garden make contact unavoidable.

It may seem as if a mix of dwellers with different lifestyles on the level of the house unit is more difficult to handle than a varied group of dwellers on the level of the entire residential area. Making it easier to change flats within the area may lead to a higher degree of similarity between dwellers in each specific house. Such "local" segregation may anyhow be a means to prevent segregation and marginalization of sub dominant categories of dwellers in the Sjøveien area as a totality. Instead of moving out of the area because of conflicts in the house, it might be possible to move to a house with a more suitable social environment. A rule that gives established residents in the area the first option to buy any properties up for sale is put into practice in cooperative housing. A first option to buy for TPS employees that were already renting the flats also played an important role when the local housing authorities sold off the flats at the beginning of the 1990s. A similar rule today that favors existing dwellers in the area could possibly have a positive effect for a more heterogeneous composition of the group of residents

In the area as a whole there are also important meeting points that gather dwellers from different categories. The allotment gardens represent such an integration arena. Here dwellers meet because of a common interest in gardening and not because of parenthood or belonging to a house or a specific part of the area. The meeting places do have a connection with the anthroposophist subculture in the area, but this is not very strong and does not exclude people that do not associate with this group. The localization on the fringe of the area places the meeting point outside the sphere of interests connected with a specific house or housing group. The possibility for establishing similar meeting points that gather diversified groups of dwellers should be at hand.

An important premise is however that a majority of dwellers support such a development of the outdoor areas. Decision-making in the house owners association is of crucial interest with regard to this point. So far the majority, or more precisely the group of parents with a community-oriented lifestyle, have had the last word in decisions that concern the whole Sjøveien area. The design and use of common outdoor areas and the exterior of the houses has been in their hands. Information from the area in April 2005 does however show new tendencies regarding decision-making. A committee appointed by the house owner association is responsible to continue the work with design guidelines for the area. The committee is composed of residents that represent different lifestyles with varying points of view concerning the matter. So far (spring 2005) the work has created conflict between the divergent fractions, but as a new way of decision-making, the effort is praiseworthy. Leaving the model that gives a dominant group the right to define the character of the area through majority votes, may bring the area a step closer a diversified group of

residents and hopefully a design that promote various types of neighbor relations.

12.10 Conclusion

Informants in Sjøveien report a strong neighborhood network between parents with small children. The neighborhood network has developed because of several reasons but the physical characteristics of the area seem to play an important part. The design of the Sjøveien area shows several fundamental features that support the development of a neighborhood network. Among the most important are a concentration of activity in meeting points and a high degree of visibility in the common outdoor areas. The uniform housing group is also built up with a hierarchical structure of architectural levels that support the forming of social groups of different size and character. In many regards the design coincides with the ideas and design guidelines of Jan Gehl. There are however some telling differences.

Gehl recommends to bring private outdoor places in contact with the semi-public common outdoor areas, in order to let dwellers stay on a safe platform from which they may easily withdraw, when they contact other dwellers. In Sjøveien the residents have currently no private outdoor places. This absence increase the frequency of contact points between neighbors and may as such strengthen the social network. It does however also seem to enhance the degree of involvement between neighbors and give the neighborhood network a more demanding character than many dwellers find comfortable.

It should however be noticed that the residential area Meek, that seemed to be designed according to the ideas of Gehl and incorporate private outdoor places, has also developed a neighborhood network that is characterized by contacts on a rather involving level. Both areas have a dominant group of dwellers that consists of community-oriented parents with small children. Evidently the areas are generally well suited to the needs of children, and it may therefore be questioned whether it is the design of the areas that is the main reason for the demanding character of the neighborhood networks, or if it is the fact that a high percentage of the residents who are parents and tend to favor community values, have chosen the areas as their domicile. Presumably the development is due to a combination of these factors.

But in any respect, the effects upon the neighborhood are the same. The dominant group of community-oriented parents seems to gather in its hegemony, and other residents feel excluded and become more and more marginalized. This development will not change unless the dominant group of

dwellers realizes that segregation may be problematic and choose to give the minorities greater influence.

PART 3:

DENSITY AND ATTRACTIVENESS

This part of the thesis will investigate the influence of building density and demographic density upon dwelling attractiveness. The first chapter discusses theories concerning experience of physical density, and is followed by a chapter that discusses findings concerning physical density in Sjøveien. The third chapter is a review of theories concerning the experience of demographic density. This chapter is, like the first, followed by a discussion of findings in Sjøveien with regard to the actual topic.

13 Experience of physical density among residents in Sjøveien

13.1 Physical versus demographic density

When talking about dense residential areas and dense living, the terminology does not really clarify what kind of density we are dealing with. One alternative is that the area may be densely built-up with a high degree of exploitation. In this case we can label the phenomena *physical density*. Usually a high degree of exploitation implicates a high population density as well, but not necessarily. In Norway, for instance, we have seen a tendency over the last few decades, that small households consisting of one or two people move into large flats in new inner-city development areas. The estates are built up with a high degree of exploitation, but the demographic density is however low because the areas are mainly inhabited by small households that inhabit fairly spacious flats.

Physical density may be measured in percentage exploitation of plot land, percentage of plot land covered by buildings and related concepts and units of measurement. The experience of physical density is however not an object of quantitative measurement since it is a highly qualitative phenomenon. Factors that contribute to increase or diminish the feeling of high physical density are however interesting to detect. The total volume and distribution of buildings will mainly cause the experience of physical density in a residential area. But other objects may also contribute to a feeling of being cramped by the physical surroundings. Trees, hedges and fences should be mentioned as important factors influencing the feeling of spaciousness in an area.

Physical density in a residential area may have influence upon different categories of housing values. The percentage of the plot that is covered with buildings may for instance affect the usability of the outdoor areas and as such influence the practical dwelling values. The degree of exploitation will also have a visual impact as the shape of the buildings will be of a larger scale and the conditions for view and daylight will be altered. Thus the esthetical and symbolic dwelling values will be affected, and thereby also psychosocial dwelling values.

The concept *demographic density* concerns the number of people inhabiting each area unit of measurement. Most often physical and demographic density correlate, but there are exceptions like the small households inhabiting spacious flats that were mentioned above. There also exist areas in Norway with large households in small flats having a demographic density that one would never grasp just from looking at the building stock. The experience of demographic density is of course mostly determined by the actual number of people living in a certain, confined flat or neighborhood. Several conditions of for instance, architectural or cultural character may however strengthen or weaken a person's experience of high demographic density.

The demographic density in a residential area will primarily affect the psychosocial dwelling values. The quality of the neighborhood network may be influenced by a high or low degree of demographic density and, the neighborhood relations may affect the mental well being of the residents. Further on, the possibility for private withdrawal may be reduced in high-density neighborhoods. The practical housing values may however also be under pressure if the demographic density exceeds the capacity of the residential area.

When talking about ecologically sustainable building, the demographic density of the area is the concept of importance. A higher exploitation of land does in itself not guarantee a more energy sufficient dwelling consumption. The crucial point is to decrease the consumption of both land area and living floor space per person. To achieve this, a higher demographic density is necessary. From this, it follows that the physical density in most cases has to be increased too, but as we have seen this is not given as any invariable rule.

13.2 Theories about density

The field of theories concerning dwelling density is mainly based on concepts from social science. Disciplines from social science, primarily sociology, psychology and social anthropology have contributed to the development of theories. Other professions like designers and architects have contributed too, but to a lesser degree. The writers from social science disciplines have mainly been occupied with density as a social phenomenon. From this follows that focus has been upon demographic density more than physical density, with the development and quality of human relations under demographic dense living conditions as the main interest. Architects and human geographers on the other hand have contributed with valuable studies and theories concerning the experience of spaciousness and density in physical environment.

13.3 Yi-Fi Tuan;” Place, space and spaciousness”.

The human geographer Yi-Fi Tuan has paid attention to the experience of physical density. In his book , “Space and Place” (1977), he presents the idea that the human experience of the physical environment falls into the categories of *Space* or *Place*. Tuan attaches psychological attributes to the different concepts. According to him place represents security, whereas space represents freedom. Tuan describes place like this:

Place can be defined in a variety of ways. Among them is this: place is whatever stable object catches our attention. As we look at a panoramic scene our eyes pause at points of interest. Each pause is time enough to create an image of place that looms large momentarily in our view. (Tuan, 1977,p 161)

Most often place is constituted by enclosure or concentration of physical objects, while space is constituted by the opposite; openness and absence of physical objects. This is however no unalterable rule.

Tuan describes space and place as dichotomies that feed upon each other. Without the background experience of space, no place will ever exist. This dichotomous interplay creates a situation of relativity. In an urban landscape dominated by narrow streets even a small square may be experienced as an open, roomy space. In an open plain, on the other hand, just a few symbolic demarcations are necessary to create a feeling of place.

It is therefore not low or high physical density per se that creates the base for our experience of respectively space and place. The aspect of relativity must always be taken into consideration. In addition the nature of human perception is of significance. Humans tend to pay more attention to objects and activities at eye level. Our sight has a basic horizontal orientation. Thus the dimensions of verticality versus horizontality play an important part in this connection. In addition sound and lighting conditions will play a part with regard to the experience of space and place.

Our experience of space and place is not determined once and for all. The experiential change from space to place however requires time and spatial knowledge; one must get to know the new locality.

When space feels thoroughly familiar to us, it has become place. Kinesthetic and perceptual experience as well as the ability to form concepts are required for the change if the space is large. (Tuan, 1977, p 73)

Space, on the other hand, is still unknown to us. In the capacity of this fact it symbolizes freedom, future and new possibilities, but also danger.

Space is a common symbol of freedom in the western world. Space lies open; it suggests the future and invites action. On the negative side, space and freedom are a threat. A root meaning of the word "bad" is "open". To be open and free is to be exposed and vulnerable. Open space has no trodden paths and signposts. It has no fixed pattern of established human meaning; it is like a blank sheet on which meaning may be imposed. Enclosed and humanized space is place. Compared to space, place is a calm center of established values. Human beings require both space and place. Human lives are a dialectical movement between shelter and venture, attachment and freedom. In open space one can become intensely aware of place; and in the solitude of a sheltered place the vastness of space beyond acquires a haunting presence. A healthy being welcomes constraint and freedom, the boundedness of place and the exposure of space. (Tuan, 1977, p 54)

The concept of spaciousness follows from the concept of space. According to Tuan the feeling of spaciousness is related to freedom and having enough power and room to act. It follows from this that the presence of undefined, open space in itself is important to the feeling of freedom, but also that a certain ability to capture and domesticate it must be at hand. Making space into place according to one's own wishes has to be an option if the feeling of freedom and future attached to the experience of space shall occur.

Tuan claims that the experience of space and place is a cultural phenomenon. To the Russian peasants in the past, the open space of the Russian plains did not mean opportunity, but despair. It inhibited rather than encouraged action. Nevertheless some cross-cultural features seem to exist. Spaciousness is a worldwide symbol of prestige. Rich and mighty people occupy and have access to more space than less affluent individuals.

Crowding, the opposite of spaciousness may be constituted by physical objects standing in our way. A setting is spacious if it allows one to move freely. A room cluttered with furniture is not spacious whereas a bare hall or an open square is. Having a broad view is of high importance. Symbolizing prospects and a promising future, the view is of high value to the human psyche.

But according to Tuan physical objects are not the main reason for crowding. Primarily other people crowd us. The main reason for this is that people more often than things, are likely to restrict our freedom and deprive us of space. Merely the presence of another person alters our experience of space.

Solitude is a condition for acquiring a sense of immensity. Alone one's thoughts wander freely over space. In the presence of others they are pulled back by an awareness of other personalities who project their own worlds onto the same area. . (Tuan, 1977, p 59)

Working together for a common cause may however decrease the feeling of competing for space, whereas conflicting activities enhance it. As a consequence, a homogenous group of people with similar interests will need less space than a heterogeneous group consisting of people with divergent agendas.

13.4 The architectural concept: “Open space”

With regard to the experience of physical density of built environments, there was a tendency during the last century for architects and other professionals to evaluate the existing urban built up areas as too compact. Important reasons for this were in the first place health-related conditions. Infectious diseases flourished in high-density residential areas with bad sanitation, and lack of daylight also leading to diseases among residents. But also esthetical arguments and the wish for a green environment favored lower building densities in residential areas. Planners demanded more light, air and spaciousness, and the open building pattern of new projects resulted in built-up areas with low physical density. Leading architects such as Le Corbusier advocated this more open and fluid spatial design.

In his book “Meaning in Western Architecture” from 1974, Christian Nordberg-Schulz uses the concept of *open space* to explain the development of spatial experience that took place in Western world during the 19th century. He claims that:

When discussing the architecture of the 19th century, we have repeatedly used the “open space” to indicate the image of a limitless and continuous environment where man may act and freely move about – not for the sake of movement as such, but as an expression of a new freedom of choice, that is the freedom to search and create one's own place. (p.183)

Open space was concretized in various ways. In the large halls of iron and glass it appears as a “total”, transparent and luminous milieu, which has lost the traditional character of “interior”. In the repetitive web of Chicago construction it is interpreted as an open growth, which gives the horizontal and vertical dimensions a new meaning. In Wright's houses it appears as a fluid medium, which may be directed, dilated and contracted. (p.183)

Nordberg-Schulz chose to use the thoughts of Frank Lloyd Wright to exemplify the modern spatial experience. Wright was searching for a continuity of space and form to fulfill his aim at an organic architecture. With a wish for a combination of rooted-ness and protection with a new sense of freedom and mobility, he decided to break down the box which had formed the enclosed space of the traditional home. A closer interaction between the inside and the outside was the result, and the home changed character from being a definite, demarcated refuge to becoming a fixed point in space, from which man could experience a new sense of freedom and participation through movement in a fluid, changeable space.

In relation to the theories of Yi-Fi Tuan this is an interesting stance. In many ways Wright gave an interpretation of the concepts space and place that was valid for his time. Space was no longer primarily a threat like it was to former generations. Modern man had learned to master the natural surroundings and saw it as a new opportunity. The quality of place could be redefined. Total enclosure was no longer wanted, as a more subtle demarcation of place was looked upon as sufficient. The agenda of Wright was to break down the enclosure of the box in order to improve the contact with the environment. Wright sought to achieve this both by the means of an open layout of the flat and a more perforated and movable façade.

But as a contrast to the ideals of spatial freedom and fluid space several dominant architects of modernism, the functionalists, advocated zoning and strict segregation of different activities when planning cities. Nordberg-Schulz has been preoccupied with this special feature of functionalist planning that he experiences as a weakness. He writes:

To define the functions and determine their formal consequences, Functionalism isolated them and reduced them to their measurable aspects. Functionalist architecture therefore easily degenerated into a machinelike juxtaposition of separate parts. This weakness is less strongly felt in the works of the truly creative architects of the period than in the works of those who had not fully understood the integrating power of the concept of open space. (1974, p.200)

The Dutch architect Herman Hertzberger claims that truly open space is not only open in a concrete, spatial sense of the world, but also with regard to the users, interpretations and attachment of meaning. Open space interpreted in this way is labeled *multi-functional* space. In his book “Lessons for students in Architecture” (1991) Hertzberger claims that multi-functionality does not imply that the space or form should be without distinctive features. On the contrary forms and spaces should have a character of their own in order to be able to evoke a wide specter of interpretations; they should be *polyvalent*.

13.5 The relation between the concepts of open space and spaciousness

The architectural concept of open space is in many respects quite similar to Yi-Fi Tuan's concept spaciousness. According to Tuan spaciousness can be defined as undefined, open space that offer freedom of movement and room to act. Open space is according to Nordberg-Schulz defined as limitless and continuous environment where man may act and freely move about. Open Space and spaciousness are dependent both upon the features of the physical environment per se and the user's interpretation of this environment.

Both concepts may be seen as representative for a predominant trend regarding spatial experience that developed during the 19th and 20th centuries. Modern man preferred the freedom of open space to the security of place. Especially among professional makers of built environments, architects and engineers, this predilection became predominant.

The interpretation of open space has resulted in several architectural works of immense beauty and quality. The free plan allowed for exciting interiors that previous generations could only have dreamt of. But less successful physical results of the trend can unfortunately also be observed anywhere in the Western world and also in many cities in the third world. Particularly on the level of the city plan, the longing for open space has lead to solutions of poor quality. Vast areas of land have been covered with scattered housing and gigantic road constructions. The feeling of place has been lost, and the low exploitation of land is less sustainable because it leads to a high consumption of resources.

From the 1960s several architects have expressed their dissatisfaction with this lost feeling of place in built environments. The ideas of Jan Gehl, that have already been discussed in this thesis, are in many ways representative for this group of architects. According to him the loss of place in residential areas lead to weak neighborhood networks. The reactions of the architects were mainly built on arguments concerning architectural quality and social development. From the 1970s arguments founded on concern for the natural environment were also uttered.

But despite the criticism that has been raised against the negative effects of the search for open space and spaciousness, the paradigms still have a strong position. The governmental wish for densification of Norwegian towns that has been expressed in the last decade, has for instance met a lot of resistance both from laymen and professionals. With a history of scattered settlements

until the Second World War and suburban functionalistic sprawl after that, Norway has not the best point of departure for implementation of the compact city model. The average citizen has become used to having plenty of space at his or her disposal, and as Saglie detected in her doctoral work, informants tend to think that living densely in Norway, a wide-stretched country with a small population, is “just not natural.”(Saglie, 1998) Also the interviewees of Støa (1996) showed a predilection for light and openness. Generally living spaciouly seems to have been a part of the culture and is taken for granted.

13.6 A longing for spaciousness or a wish for protecting screening?

According to Yi-Fi Tuan the dichotomous concepts space and place, describe humans’ experience of their surroundings. Place represents a sheltered, safe location with concrete and explicit characteristics. Offering security and stability, place is a condition for the development of human society and psyche. Interpreted in physical form, place is a spatially defined and, most often, an at least partly closed configuration.

Space on the contrary, is experienced as open, and may be defined by its lack of distinct figurative characteristics. In nature the concept of space may be represented by the sea, mountains, plateaus or open plains. Space takes on the role as backdrop on the human stage, and fills an important function in the human psyche as a symbol of freedom, future and new possibilities.

But how can the concepts of space and place be interpreted in a residential area?

The concepts of *public* and *private* constitute another basic dichotomy in architecture. But according to Hertzberger:

The concepts “public” and “private” may be seen and understood in relative terms as a series of spatial qualities which, differing gradually, refer to accessibility, responsibility, the relation between private property and supervision of specific spatial units. (1991, p 13)

Thus there will always be a fluid transition between absolute privacy and absolute publicity in a residential area. This point is also underscored by Gehl who thinks the spatial levels between total privacy and total publicity are especially interesting with regard to the creation of neighborhood networks.

The desire for privacy demands creation of place. Although perhaps not forming a total enclosure, elements like fences, roofs, walls and doors create places that protect our privacy. The designers of private outdoor places should however always keep in mind which degree of privacy that is wanted in the specific situation and choose the architectural means in accordance with this. A private outdoor place does not necessarily demand total enclosure. More modest symbolic demarcations may in some cases be sufficient. Giving residents the freedom to regulate the degree of privacy may also be good design advice.

But not only the quest for privacy encourages the creation of place. A lot of human interaction and activities are dependent on somewhere to “take place”. Place means a pause in movement (Tuan, 1997). If there is no place to stop, people continue rushing around. A place may even be quite ambiguous in its definition and still fulfill the aim to offer a sufficient frame around human activity. As an example, can be mentioned “The edge effect”. During a study of Dutch recreational areas the sociologist Derk de Jonge detected that edges of forests, beaches, groups of trees or clearings were the preferred zones for use, while the open plains or beaches were not used until the edge zones were fully occupied. (Gehl, 1996, p 151) Edge zones of the type described above usually also exist in residential areas. The concept is closely related to the concept of transitional zones, indicating the meeting between two elements or spatial qualities. As a typical example, entrance areas where a range of activities have a tendency to occur could be mentioned.

As dichotomous qualities space and place interact and complement each other. Without the experience of space, the recognition of place is impossible and vice versa. In a residential area both qualities have to be present to give the inhabitants a fulfilling spatial experience. Creating place is necessary for giving opportunities for both social life and privacy. Jen Gehl presents several examples of how such places may be created in a residential area.

Incorporating elements that give a feeling of spaciousness is however also important. An open field may for instance not function as a site for activities. It may however play an important part as a “ventilator” in the residential area preventing a feeling of crowding. A nice view may have the same effect. Even just a glimpse of distant landscapes caught in the narrow passage between two houses may be of great value.

The physical density in combination with the type of housing and building pattern of the area will determine whether the qualities of space and place occur. High densities in areas built up with small-scale housing tend to give preference to place at the expense of space. The reason for this is that a rather

high percentage of the plot tends to be covered with buildings. High coverage of plot may lead to short distances between buildings and lack of view. It may also be difficult to create spacious common areas and playgrounds functioning as “ventilators” and allowing for space consuming activities such as football playing.

Areas built up with dense low housing usually offer a lot of activity on the ground level. Many of these areas are designed according to the advice of Jan Gehl, such as the Meek housing cooperative that Edle Andersen investigated. Gehl encourages architects to concentrate activities on the ground level, because perception is related to eye height. Activities on higher floors will be out of sight and thereby also out of mind. According to Gehl common walkways should give access to the dwellings. The narrowness of the street and a high number of entrances will help to create a viable atmosphere. Especially in areas where families with children are the dominating group of residents, the level of activity may be considerable. The same can be said about the frequency of neighbor contacts.

To what extent this activity and opportunities for contact are welcomed depends among other factors, on whether the area offers sufficient opportunities for the experience of both spaciousness and calmness. Privacy is a condition but also qualities of openness and view must be at hand to compensate for the narrow and crowded street. There may be an inherent opposition between the wish for privacy and the wish for spaciousness. While physical screening may support the former, the latter is obstructed by it. Finding the equilibrium between these qualities is an important objective when designing residential areas.

Areas built up with block of flats offers another situation. Despite even higher physical densities spaciousness most often is at hand. Building for instance four stories instead of two results in 50% less plot land covered by buildings if the same density is to be achieved. The release of ground allows for huge green fields and more space between the buildings. On the other hand the quality of place tends to be lacking. The areas most often offer few social arenas and little outdoor activity. This picture of “dead areas” is reinforced by the low number of families with children among the residents. As the statistics show, few Norwegian families prefer blocks of flats to small-scale housing. And the share of households with children in this type of housing is modest. (Official statistics of Norway, 1995)

13.7 Planning of future residential areas with a higher physical density

When planning for increased physical density we have to find a usable balance between “horizontal and vertical density”. Dense low-rise housing represents the first alternative (horizontal density) and is characterized by a high BYA (Percentage of plot area covered with buildings) and a relatively high TU (Total plot exploitation, expressed by total floor space as percentage of the plot area). Extreme examples of low-rise high-density housing can be found in squatter settlements in the third world. High-rise housing on the other hand represents the extremity of the second alternative (vertical density) and is characterized by a low percentage BYA but a high percentage TU.

The choice of horizontal versus vertical density will influence how the qualities of space and place, but also how privacy and publicity will be expressed and also to which degree the area is experienced as dense. The area’s expression of these qualities will in turn affect how the area handles the increased demographic densities that are normally implicated by increased building density.

Horizontal high-density tends to favor place qualities while the feeling of space more often is absent. Horizontal high-density offers opportunities for developing a spectrum of spatial levels on the scale from total privacy to total publicity. These conditions will according to Gehl, make the residential area well suited for the development of neighborhood networks. Residents may anyhow feel cramped because of the lack of spaciousness and a high level of activity and neighborhood contact.

Vertical high-density on the other hand tends to favor space while the quality of place tends to be more absent. Vertical high-density ensures both view and spaciousness. The distinction between privacy and community however tends to be sharp in high-rise housing and the areas may lack neighborhood networks. (Gehl, 1996) This is a situation that may contribute to isolation and insecurity because of low social control. On the other hand these characteristics may also have positive values like possibilities for withdrawal and anonymity.

Most residential areas can however be described as a combination of these two models. Both models show evident weaknesses, and residential areas that follow the “recipe” for one of them will most presumably attract a quite narrow segment of residents. Between the extremes there should however be potential for further development of new models for residential areas that are

able to display a usable interplay between the mentioned qualities. Keeping in mind that the new models should be adaptable to a certain physical and demographic density and still be attractive to various groups of residents, the task of development will be challenging.

13.8 Actual physical density in the Sjøveien area

The Sjøveien area had a plot exploitation, %TU, (Total plot exploitation, expressed by total floor space as percentage of the plot area) of 27% in 2000. Compared to the other areas in the preliminary enquiry Sjøveien had a degree of plot exploitation that was quite average for the sample of areas built up with dense, small-scale housing. In 2000 however the building volumes were not fully exploited as living space. About half of the respondents from the enquiry carried out in the area answered that they had enlarged their flat by implementing areas in the attic or in the basement.

In the future it is realistic to presume that all flats will be enlarged and all 3.5 floors fully exploited for residential purposes. In that case the area will have an exploitation of about 33% TU which is quite high compared to the sample of the preliminary enquiry (sub-chapter 5.1) In such a situation the number of flats, 23 per hectare, will presumably remain constant but because of the growing sizes of flats, the number of residents may increase.

The percentage of plot that is built up called BYA is on the other hand low and only 11%. This means that a great proportion of the residential area is not covered with buildings. Low BYA in combination with a building pattern consisting of detached volumes of limited size contributes to giving the residential area a spacious and airy character.

In the middle of the Sjøveien area there are seven sites that the owners, Nord and Sør-Trøndelag county authorities, want to develop with new dwellings. However the residents of the area do not seem too enthusiastic about this plan as they want the area to keep its present shape. If the authorities choose to build up the new areas with four-family houses anyhow, the physical density might be enhanced to a TU as high as 38% and a BYA of 13% .

The detached volumes of the four-family houses in Sjøveien organizes the total living floor space in a way that makes use of the vertical dimension to a higher degree than most other Norwegian small-scale housing areas. Usually areas with small-scale housing are built up with housing of just 2 or 2.5 floors. This is for instance the case in most areas designed in accordance with the

ideas of the dense-and-low movement, but also the more traditional row/terraced house areas fall into this category. In Sjøveien the building pattern and organizing of volumes are more similar to the ones we find in areas built up with low detached blocks. Thus the distances between buildings in Sjøveien are typically longer than in most row/terraced house areas, a condition that is frequently commented upon by informants. In addition the detached volumes have a limited extension and do not form continuous barriers that hinder sight lines out of the area.

In the context of Norwegian small-scale suburban housing, the area could be described as an area of average density (23 dwellings per hectare plot area). As a case it will never illustrate the consequences of high-density living, but it may nevertheless give us some hints about a wanted development of medium-density small-scale housing as a useful step towards less scattered built-up areas.

13.9 Spaciousness in the outdoor areas

As an introductory question about dwelling quality in Sjøveien, informants were asked about why they moved in here. The answers held several factors in common. One of the most important were the green, open and spacious outdoor fields. The common quality of the outdoor fields with no borders, fences and private demarcations were heavily stressed by the informants, all of them belonging to the group of households with children.

The importance of the outdoor areas was also evident in the results from the quantitative investigation. The layout obviously has a practical dwelling value for the parents. The dwelling quality *Usable common outdoor areas* is ranked as number 5 by parents with regard to importance. Moreover the quality in fact is fully realized in accordance with their needs.

One of the most important factors determining Sjøveien's adaptation to the needs of children is reported to be the organization of the outdoor areas. The spaciousness engages the parents for several reasons. The aspect of freedom of movement for the children is important. The parents underscore the positive impression they got when observing that there were no private, small demarcated gardens and that the children could move freely everywhere in the outdoors.

This finding from Sjøveien gives support to one of the claims of Yi-Fi Tuan. According to Tuan the feeling of spaciousness is related to freedom and having enough power and room to act. The presence of undefined open space

in itself has psychological importance. The boundless character of the outdoor areas in Sjøveien contributes to a feeling of liberty. Primarily this is observed as freedom of movement for the children, but also that the rather undefined character of large parts of the outdoor areas is important. Informants appreciate that the use of the areas is not fixed but that the question of definition is left to the dwellers.

Crowding, the opposite of spaciousness, may according to Tuan be constituted of for instance physical objects standing in our way. In Sjøveien physical screening is avoided. The value of spaciousness is given a high priority and other considerations are looked upon as subordinate. More vegetation is for instance given a low priority by the informants because of its tendency to create borders and hindrances. The possibility that both privacy and local climate might have benefited from some protective greenery does not alter the conviction of the dominant group of dwellers.

The esthetical, symbolic and psychological dwelling values connected to openness are important too. The Sjøveien area has a larger physical scale than most areas built up with dense small-scale housing. The volumes of the buildings are bigger and so are the perceived distances between houses. The informants appreciate this generous scale letting airiness, light and view into the area.

The informants in Sjøveien underscore the importance of the view. When buying they generally paid a lot of attention to the location of the flat within the area, and view, light and airiness were some of the main factors determining a desired location. Sightlines out of the area are welcomed, and a nice view over the fjord has the highest priority. But also a view to open fields and greenery within the area is appreciated. The open areas in the middle of the residential area are of special interest in this case. Most informants are very eager to underscore the importance of keeping them undeveloped. When asked about the reasons for why the area should not be built upon however, they cannot come up with any weighty argument based on frequent use of the area. Most activities outdoors happen elsewhere in more defined places like for instance the playground or around the houses, especially in front of the main entrances. The open space in the middle, on the other hand, seems to have primarily a visual and psychological function.

The importance of having a nice view is stressed by Tuan. According to him the view symbolizes prospects and a promising future. Incorporating distant places in ones perception of the surroundings leads to a feeling of having a broader perspective on life incorporating more possibilities. The view represents space as a necessary contrast to the immediate surroundings that are

more frequently filled with activity and tend to be experienced as place. The quality of space should however also be present in the local context in order to create an area with good balance between experienced place and space qualities.

The space quality is generally well taken care of in Sjøveien because of the building pattern and organization of building volumes. In addition the open field in the middle, without any specific use, contributes to give the residential area a general character of spaciousness. As a planner it is easy to overlook this quality of the undefined, undeveloped areas and think of the open “wasteland” as a suitable plot for new building projects. And we know that residents usually do not want changes, new developments or more people in their neighborhood. The wish for a certain spaciousness should however be taken into consideration before any uncritical development of empty spots, because this spatial quality may influence psychological and esthetical dwelling values.

13.10 Multi-functional space

Large parts of the outdoor areas in Sjøveien can be characterized as multi-functional space, an important aspect of the concept open space. The same areas give room for different activities. A general subdivision resulting in various sectors meant only for specific activities is not wanted by the dominant group of dwellers; the community-oriented parents. Some places prepared for special purposes have however been established. The most clearly defined is the playground for the small children. A rough activity, such as football, is not permitted to take place everywhere.

The informants from families with children are as afraid of losing the general multi-functionality of the outdoor areas as they are of losing the boundlessness. Residents without children are reported to have a wish for a stronger segregation between activities. To the parents the freedom of defining appropriate places for activities themselves is a great advantage of the outdoor areas in Sjøveien. They are happy about not living in a typical postwar residential area where the outdoor areas are planned down to the least detail.

The multi-functional character of outdoor areas in Sjøveien do not seem to be an unambiguous benefit to all dwellers. According to Hertzberger multi-functionality is truly open space because it leaves the right of definition to the users. The users however may have conflicting interests and multi-functionality will primarily be a benefit to the dominant group of dwellers that will have the last word with regard to the use of spaces. In residential areas

with a certain demographic density this may lead to conflict between residents and marginalizing of sub dominant groups of dwellers. Thus the wish for multi-functionality in fact may contribute to maintain a homogenous group of dwellers.

According to Yi-Fi Tuan a group of people with similar interests will lead to less conflicts with regard to use of space. Following this reasoning the process of marginalizing of sub-dominant groups of dwellers with conflicting interests may be regarded as a natural mechanism in residential areas where a vaguely defined common outdoor space is going to be used by a certain number of people. A wish for residential areas that are more open to interpretation of dwellers and invite their participation may according to his theory, in the worst-case end up in dominance and expulsion. This fact is quite discouraging as we know from the findings in Sjøveien and other residential areas (for instance Støa, 1996) that the dwellers' possibilities for participation and own interpretation is important for the process of identification with the dwelling.

Multi-functional space outdoors may however be a positive contribution in residential areas where the fundamental functional needs of different groups of dwellers have already been taken care of. In such a situation they will form a valuable supplement to areas with a more fixed design.

The quality of polyvalence is according to Hertzberger a condition for true multi-functionality. It is not sufficient that areas are planned without a fixed design that regulates what kind of activities that may take place there. In addition they should have a distinct character of their own in order to arouse the creativity of the users. The quality of polyvalence is present to a certain degree in the outdoor spaces of Sjøveien where the various building patterns create differentiated spaces with distinctive character that invite a multitude of activities and interpretation.

The open areas in the middle of Sjøveien however (with the plots the municipality wants to develop), have a more undefined expression. According to informants the areas here have low functionality, but are still important as contributing to the spacious expression of Sjøveien. A design that could give these open areas more character while still keeping their spacious expression might enhance the total quality of the outdoor areas in Sjøveien. The architect Eileen Garmann Johnsen that has been working with the design guide has also acknowledged this need and developed plans for a park on these plots. The plan includes vegetation that might have implemented the quality of place in the open area. The plan has not been realized, partly because of the amount of work and costs that are connected with it, but also because of resistance among residents who are afraid of losing the spacious expression.

13.11 The quality of place in the outdoors in Sjøveien

When talking to informants in Sjøveien the predilection for spaciousness is evident. They are however also concerned with the quality of place, and mention several places that are important to them. Many have the character of being meeting places and their social significance is discussed earlier.

Places may be of different shape and character according to their function. The degree of spatial enclosure and separation from the surroundings are for instance important factors. In Sjøveien places outdoors are defined by a low degree of enclosure. Frequently more symbolic demarcations are utilized and several places are defined as points in space, for instance built up by a couple of stones that make it possible to sit down. The *edge effect* can be detected where the green fields meet the forest. Here residents have established a bonfire location and a sledging hill for the children. Transitional zones also offer opportunities for the constitution of places. The entrances of the four-family houses are maybe the most important meeting places in the area.

Most places in Sjøveien seem to be of either social significance as meeting point for a group of dwellers or they give room for a special activity. Frequently we see a combination of these two functions. The structure of meeting points is, as we know, important to the creation of the social network in the area. Places for privacy and intimate talks are few. The reason for this is presumably that these kinds of places demand a degree of spatial enclosure and social withdrawal that is not welcomed by the dominant group of dwellers. Spatial enclosure is regarded as a threat to the quality of spaciousness and withdrawal as a threat to the social community.

The informants argue that the open character of the outdoor areas is a benefit to their children. But some of them do nevertheless admit that the absence of borders and spatial enclosure is not entirely an advantage to their offspring. The typical sheltered atmosphere of the private garden is by and large absent outdoors in Sjøveien. Some gardens verging on the detached dwelling area in east do however show a higher degree of enclosure as a fence separates the gardens from the neighboring area. According to informants these gardens attract children from the whole area. A reason for this may be that there are quite a lot of children living in these houses in the first place, but obviously other children also come along and they prefer to stay here instead of in the playground or near the other houses.

Parents also have reported that children's play tends to take on a wild character in the open fields. They rush around at high speed incapable of

doing more concentrated and silent activities. There is nowhere to pause. All human beings including children need privacy and intimacy, but in Sjøveien there are few places to hide away. Thus the open spatial design also seem to be lacking on some points with regard to the needs of the children.

13.12 A visual continuum with culturally defined territorial borders.

Spatial hierarchies defined on the basis of territorial claims may be traced in Sjøveien despite the general common access to the outdoors. Each four family house has a plot of its own of about 1000 m². Residents of each house share the responsibilities for maintenance, in contrast to the common areas that are in the care of the house-owner association. The use of the garden is also defined by the plot owners, even if other residents are not denied access. Thus there exists a certain differentiation between areas with low and high degree of collectivity. The demarcations are however subtle and have various degree of validity to people of different categories. Visually the plots and the common areas appear as one continuum. Psychologically and culturally however there are borders. While the children generally move freely around, adults impose stronger restrictions on themselves regarding where to move and where to stay.

The informants make this evident for instance when they talk about the use of the stairs in front of the entrances. Sitting on the steps with the neighbors living in the same house is a common event. It also happens quite frequently that dwellers sit down on the steps of the neighbor house while chatting with the people living there. Sitting on steps of houses in the other end of the area is however a more seldom activity. In such a case they know some of the dwellers in that house very well. And thus although the children usually move around as they like, there are some restrictions on their activities on other peoples' plots. They may for instance not pick fruit or pitch a tent in their garden.

These kind of invisible borders seem to be easily perceived by the adults in Sjøveien, but might be more difficult for the children to comprehend. According to some parents it is difficult for the children to understand the difference between their own and other peoples' property and territory when everything looks like it belongs to the same entity. Many children step over the limits of other dwellers in the process of learning to understand the more subtle signals. This is by and large accepted by other parents, but some of the dwellers without children do not have the same tolerance and want more visible limits and a stronger segregation of for instance, playing activities.

The physical structure of the outdoor areas in Sjøveien express territoriality in a very modest degree compared to many other Norwegian residential areas, and as we have detected it may be a challenge to the children to adapt to the situation in a satisfying way. Physical objects used for demarcation could be used with a gentle touch without making unwanted hindrances and borders. Maybe just a little hint is necessary to avoid conflicts in some situations.

13.13 Experience of spaciousness related to type of housing and building pattern

The official wish for increased physical density in built up areas seems to be in strong conflict with the informants' evaluation of dwelling attractiveness in Sjøveien. Building in the vertical dimension and keeping a low BYA anyhow contributes to a more spacious expression than most medium dense small-scale housing areas. This spaciousness is appreciated by the informants and regarded as one of the main attractions of the residential area. Increased density both in the vertical and horizontal dimension seem to be strongly unwanted.

On the other hand the housing type and building pattern in Sjøveien still represents a kind of housing that has a considerably higher density than the traditional detached dwelling area. In Sjøveien there are 23 family dwellings per hectare plot area. In comparison the dense detached dwelling area Ole Nordgaardsvei has 16 family dwellings per hectare plot area, and an average traditional detached dwelling area presumed to have about 10. In this perspective this kind of housing should still be regarded as an interesting alternative if the aim is to build suburban residential areas adapted to the needs of families with children that have a higher physical and demographic density than traditional detached dwelling areas.

The Sjøveien area attracts dwellers that evaluate the quality of spaciousness as especially important. The other dwelling alternatives that might display the same spatial quality are presumably detached blocks of flats and traditional detached dwellings. As we know families with children seem to avoid the detached blocks of flats for several reasons. One of them presumably is expectations of weak neighborhood networks. The informants in Sjøveien underscore the importance of tight neighborhood networks and are not eager to choose detached blocks of flats as a dwelling alternative because of expectations about a less satisfactory social environment. Then we are left with the detached dwelling, a solution that according to our wish for more sustainable housing is unwanted. In fact the unique combination of a strong neighborhood network and the quality of spaciousness that Sjøveien displays

may be constitutive for one of very few alternatives to the traditional detached dwelling for this special lifestyle group that constitutes the main quantity of dwellers in Sjøveien

13.14 Spaciousness inside the flat

When asking for use, furnishing and rearranging of the flats the concepts of spaciousness, airiness, light and view reappears. Many of the informants perceived the flat as narrow and closed when they moved in. The long, dark corridor without daylight leading to separate rooms without any mutual connection was not according to their taste. In order to make it more attractive they pulled down walls. Especially the corridor has been opened up in many flats. In some cases there are just a few reminders of the corridor walls left. The informants have wanted the flat to reveal itself to the entering person. Already when you have closed the entrance door behind you the experience of light and view and contact with the public rooms should be at hand.

Also openness and connection between the kitchen and living room has been given a high priority. Rooms situated adjacent to each other are chosen for the purpose and in some cases residents have chosen a completely open solution, leaving nothing of the existing separating wall. Others have confined themselves to connecting the rooms by means of double glass doors. Communication and a feeling of flow between different parts of the flat have been important aims to obtain.

The positive values of the existing flat have been made the most of. Generous windows on three of four walls and lofty ceilings offered valuable opportunities for making an illuminated and airy flat offering the desired feeling of spaciousness.

According to the results from the questionnaire 48.6% of the families with children have enlarged their flat by implementing areas in the attic or basement. But also many of the remaining 51.4% of households with children have altered the layout of their flats. In fact only 11% of them answer that they have not made any changes to the apartment plan. Pulling down walls in order to get a more open layout is most popular. 62.5% of the residents from households with children that had not enlarged the flat but had made other changes had pulled down walls, while 37.5% in the same category had raised new walls in order to create more rooms.

While studying the use of the flats the patterns are by and large in conformity with the use of the outdoor areas. The children in Sjøveien generally enjoy

freedom of movement both indoors and outdoors. There are few restrictions with regard to where they are allowed to be and what they are allowed to do. Some informants admit that they miss a place for private withdrawal indoors when the children and their friends invade the flat, but still they chose an open layout in preference to having more but smaller rooms.

Like in the outdoors, the rooms of the original flats in Sjøveien show a certain degree of *polyvalence* and invite the users' interpretation. As a result many informants have changed the use of rooms and therefore redefined the layout. Some informants said that they would have preferred rooms with a more clearly defined function. What they seem to forget in this connection is that the original layout of the flats are about 60 years old and in accordance with the lifestyles of previous times. The fact that the informants have the ability to redefine the use of the rooms in accordance with their own wishes should be taken as a sign of true flexibility that enhances the sustainability of the building.

When altering the layout of the original flats, analogous qualities as those found in the outdoors are sought after. The mentioned spatial qualities seem to define a spatial paradigm that informants confess to. The wish for spaciousness and open space is as we have seen important in this connection. Just like Frank Lloyd Wright, the residents in Sjøveien have the following agenda: To break down the enclosure of separated boxes in order to better the contact between the different parts. Wright sought to achieve this both by the means of an open layout of the flat and a more perforated and movable façade. In Sjøveien the layouts have been altered in direction of a more open expression too, while the façades by and large have been left unaltered. Their potential for letting light, air and contact with the surroundings into the flats anyhow have been far better exploited because of the more open layouts. With regard to the organization of outdoor areas the principles of enclosure are avoided in advantage of an open, fluid and spacious expression. A high degree of multi-functionality also contributes to the experience of open space.

The esthetical value of open space and spaciousness seem to be connected to esthetical experiences that informants evaluate as having generally high significance. As discussed earlier in this thesis the informants were searching for meaningful *visual wholeness*. Open space and spaciousness contribute to such an experience of visual wholeness by interconnecting separated spatial parts. Meaningful communication between rooms in the flat and a wish for a feeling of the flat as a totality rather than separated boxes demonstrates this search for wholeness. The same can be said about the outdoors that is experienced by the informants as a visual continuum.

13.15 Does preference for spaciousness lead to high consumption of space?

The data shows a strong predilection for spaciousness and open space both with regard to the indoor and the outdoor areas in Sjøveien. The informants think that the open solutions are practical, but as we have seen there are also evident weaknesses with regard to the use of the areas. Especially when the users have conflicting interests, difficulties seem to occur. In this connection it is interesting to ask whether open solutions may lead to increased need for space per dweller both indoors and out.

One might presume that the need for space tends to increase when the areas are vaguely defined with regard to use and territoriality, but this is not necessarily the case. As we know from the interviews the needs for spaciousness and open space among the informants are heavily stressed and have to be satisfied in order to fulfill their ideas about attractiveness. Spatial definitions that threaten the open character might in fact challenge the need for more space.

Concerning the indoors, there are quantitative data that may indicate such a connection. Among dwellers that do not have areas in the basement or attic in their flat but have altered the layout of their original 75m² flat we find the following phenomena: Among the ones that have created more rooms in their original flats 100% wanted to enlarge their flat in the future. Among the ones that had given priority to a more open solution on the other hand, 80% wanted to enlarge in the future. The sizes of the households are about equal in the two groups. Thus it might seem like the erection of more walls in the original flats deprive the dwellers of spaciousness, and that this loss might be a driving force for enlargements.

Thus despite certain weaknesses with regard to the fulfillment of practical dwelling values the open spatial solutions represents wanted esthetical and symbolic dwelling values to such a strong degree that disadvantages and imperfection with regard to the former are tolerated.

13.16 Conclusion

The concepts of space and place as defined by Yi-Fi Tuan may be employed to describe a vital interplay between spatial qualities that is important when planning residential areas. The human experience of these concepts is however not fixed and will vary according to changes in perception and culture.

The architectural interpretation of space and place will also change. The history of architecture shows that professional development during the last century tended to give an interpretation of the dichotomy that favors the qualities of space. The search for open space by architects is a search for spaciousness, an esthetic that represents the freedom and possibilities of the modern age. Place can be defined by modest means, frequently just a point or a symbolic demarcation. Total enclosure is regarded as unwanted and unnecessary. Open space is still the ideal and despite reactions from parts of the professional society, for instance the dense-and-low movement, the esthetical paradigm seems to have a strong position.

Also among laymen the predilection for spaciousness and low-density residential areas seem to be the main tendency. This view may partly be influenced by the view of professionals, but also the Norwegian tradition of small-scale settlements and scattered suburbs in the postwar period has contributed to the creation of this attitude.

The informants in Sjøveien do not evaluate the area as physically dense. On the contrary they underscore the quality of spaciousness that the area possesses. The informants' predilection for spaciousness both in their outdoor and indoor environment is a striking phenomenon in Sjøveien. Spaciousness is a quality of high esthetical, symbolic and practical value to the informants. As such it gives an important contribution to the attractiveness of the Sjøveien area. The practical value of spaciousness anyhow seems to be subordinate to the esthetical and symbolic. At least informants admit that the open spatial organization both of outdoor and indoor areas, despite a quite high degree of functionality, also show some evident practical weaknesses. Especially the lack of possibilities for privacy and activities that demand silence and intimacy are mentioned by informants.

The informants appreciate both the open spatial organization of the outdoors in Sjøveien per se and the possibilities for individual interpretation and use of the areas, by Hertzberger labeled 'Multi-functionality'. Thus their spatial ideals are in accordance with the architectural concept of open space. Their preference for spaciousness is also partly connected with their predilection for the typical suburban value: "A dwelling in green and natural surroundings", a value that according to Saglie (1998) generally has high support in the Norwegian population. Both the first suburbanites and the informants in Sjøveien give a high preference to natural scenery, but while the traditional suburban dweller welcomed fences and hedges as a support for their privacy the informants in Sjøveien are afraid of being cramped by such arrangements. Their tolerance regarding increased physical is quite low.

14 Experience of demographic density among residents in Sjøveien

14.1 Early theories about density and crowding

Around the turn of the century several social theorists were interested in the trend towards increased human population density. The writers were concerned about the rapid urbanization of the western world and the social changes that they observed resulting from modernization. In particular, the development of close human ties caught their attention. Modern society was considered to be a threat to the more intimate bonds that kept the community together.

The theorist F. Tönnies developed the concepts of *Gemeinschaft* and *Gesellschaft* in 1887 to describe the difference between the old society with its predominance of primary, informal, personal bonds and modern society with its more secondary, formal, superficial contacts. (Tönnies, 1988) Émile Durkheim in “The division of Labor of Society” from 1893 (Durkheim, 1933) was also skeptical as to the results of the more complex organization of society partly following from higher population densities. He thought that the increased tendency to specialization would weaken the human ties. Georg Simmel, a member of the Chicago school, claimed in 1905 that urbanites became “reserved” and socially withdrawn, adopting blasé attitudes towards their daily encounters. (Simmel, 1968) This adaptation he felt led to relations that he observed taking on the character of “secondary” associations, a preponderance of purposeful, functional, superficial, and transient ties.

In the period between the wars the critical attitude towards a more complex society with higher population densities was continued. Louis Wirth claimed in 1938 that the consequences of conducting dissimilar roles in a context with too many social contacts were numerous. (Wirth, 1964) Such a situation was expected to create a high probability of conflict, exploitation, friction, frustration, and competition for scarce resources, including space.

14.2 Theories developed after the Second World War

In the 1960s and 70s the interest in research on the topic had a revival. The critical attitude towards high densities continued, and gave birth to different theories concerning the negative effects of too much stimulation. Early theories about the effects of living in densely populated, urban surroundings dealt with the negative influence of modern life, just as much as theories genuinely concerning density. In the 1960s and 1970s theories were refined and variable population density was given a great deal of attention. The researchers tried to find the limits of population densities; at which point density starts to produce negative effects, and which negative effects are most likely to occur. The concepts of *crowding* and *overload* were developed.

Stokols (1972) explains crowding in this way:

Spatial reductions are likely to be experienced as “being cramped”, disrupting behavior, arousing stress and instigating behavior more suited to the attainment of goals in “tight” situations. Spatial restriction can also cause people to get in one another’s way, and frequent “collisions” may result in repeated violations of personal space. The social consequences of diminishing space are at this point similar to the consequences of increasingly large numbers of people, but frequent instances of uncontrolled and unwanted social interaction are apt to induce stress that instigate withdrawal-oriented coping responses. It is this syndrome of stress, both social and spatial in origin, that many people label as crowding and on which recent research has focused as an intervening variable in the density-pathology relationship. (Baum & Valins, 1977, p 12)

In his discussion of the experience of living in cities, Milgram used the concept ‘overload’. The concept is related to the individual’s experience of demographic density and the number of people one must deal with in everyday situations. Overload occurs in situations where an individual feels they experience ‘too much’. The excess of stimulation leads to less ability to process much of the informational input from the environment. This overstimulation may according to Milgram affect relationships to other people, especially the more casual encounters.

The ultimate adaptation to an overload social environment is to totally disregard the needs, interests, and demands of those whom one does not define as relevant to the satisfaction of personal needs, and to develop highly efficient perceptual means of determining whether an individual falls into the category of friend or stranger. The disparity of the treatment of friends and strangers ought to be greater in cities than in towns; the time allotment and willingness to become involved with those who have no

personal claim on one's time is likely to be less in cities than in towns. (Milgram, 1970, p 1462)

The research work of Mark Baldassare gives support to Milgram's theory about an increased disparity in the treatment of friends and strangers in dense situations. Baldassare (1979) uses the concept *Specialized withdrawal* to describe how casual encounters (neighborliness and responses to relative strangers) de-emphasizes in numbers and intensity as density increases, while the individuals' friendships and family relations are not affected by the neighborhood densities. Most people will not suffer from the effects of this coping-strategy, leaving their important ties undisturbed. The social atmosphere in the neighborhood may however be less than desirable and to weaker groups with low mobility or insufficient primary networks, mostly children, elderly and disabled people, a neighborhood with minimal social life will be a great disadvantage.

The socialization of children requires for instance a responsive local environment with a minimum of social control. If adults in the neighborhood take on some responsibility for the children in the local streets, bringing up children will be a less demanding task. A well functioning neighborhood network may undoubtedly be of great support. The development of such a network demands that the residents are able to regulate their social contacts and achieve an "optimal level" of social stimulation, with something between too many and too few contacts. (Altman, 1975) This ability to regulate social stimuli may depend on several factors, not only the demographic density in itself. The layout of the built-up surroundings and the social rules among residents may also be of great importance.

14.3 Density inside the flat versus neighborhood density

Most theories concerning demographic density are built upon the concept of neighborhood density. Living in a crowded apartment may however be a strain in itself regardless of the neighborhood density. The researcher Mark Baldassare (1979) following his concept of specialized withdrawal, claims that household crowding is much more threatening than neighborhood crowding. In the neighborhood most social relations will be of a secondary type. In the home, on the contrary, all contacts are of a primary type. It follows from this that withdrawal, as an answer to an "overload" situation in the home is more difficult to accomplish than withdrawal from neighborhood overload. Neglecting one's closest ties would also have far more serious consequences than dropping the neighborhood contacts.

According to Baldassare (1979) the link between household density and residential satisfaction is one of the best documented in the literature. Research results show that “maladjustment” in the flat is strongly related to the number of rooms per person. There also seems to be an “interaction effect” from a combined high household and high neighborhood density. One investigation showed for instance that people exposed to both kinds of densities more often argued with their partners than other people. The reason for this may be either stress resulting from the double strain or that the opportunity to escape crowding is much reduced.

Living in a crowded home requires the development of coping mechanisms. The power structure within the family may be more articulated, giving the adults more control over space. The type and character of coping mechanisms will partly be decided by culture, and some cultures have undoubtedly been more successful with their strategies than others. But even if a family employs the necessary coping mechanisms, the home will, according to Baldassare, be less pleasurable than a low-density home. Whether or not adaptation occurs and whether or not a person has more or less power matters little here. Living in crowded homes is assumed to be disliked and avoided by all. (Baldassare, 1979)

14.4 Jane Jacobs, the advocate of urban living

Besides several researchers fearing crowding, there were also spokespeople for the positive aspects of high demographic density and modern urban living. Jane Jacobs pioneered this trend towards a higher estimation of the modern city life. In her book “The Death and Life of Great American Cities” (1961), she praises the qualities of urban life. She writes that:

“On the other hand, people gathered in concentrations of city size and density can be considered a positive good, in the faith that they are desirable because they are the sources of immense vitality and because they do represent, in small geographic compass, a great and exuberant richness of differences and possibilities, many of this differences are unique and unpredictable and all the more valuable because they are. Given this point of view, it follows that the presence of a great number of people gathered together in cities, should not only be frankly accepted as a physical fact. It follows that they also should be enjoyed as an asset, and their presence celebrated: by raising their concentration where it is needful for a flourishing city life and for accommodating and encouraging economically and visually as much variety as possible. (Jane Jacobs, 1961, p 234)

The stimulation the city offers is regarded as a gift to its inhabitants more than a threat to human relations. According to Jane Jacobs a neighborhood with a lot of people creates activity, vitality and life. There are people to talk to, people to interact with, people to argue with, and people to help out if help is needed. A city with no one on the streets is a dead city. The presence of people gives the street “eyes”- the eyes of pedestrians, of shopkeepers and newspaper sellers, all of them watching and protecting the street, preventing crime and accidents. There is always someone to watch the children, and the activity going on will attract people and lay the base for stimulating social relations.

14.5 Ethological determinism

New angles of incidence to the subject evolved after the Second World War. According to Mark Baldassare (1979) the three most important of which were *ethological determinism*, *cultural determinism* and *design determinism*.

Ethological determinism was based on experiments with animals, transferring the results on human beings. Among the most important works forming the base of this tradition were the ones by John Calhoun (1962). In an article published in “Scientific American” he wrote about a series of experiments on caged rats. John Calhoun claimed that overcrowding caused a long list of pathologies for instance poor nest building, homosexuality, high mortality rates, increased aggression and psychological abnormalities. His terrifying description of crowded rats going mad quickly led to the inevitable analogies between rats and men. Clearly this indicated to some audiences that if it happened to rats in cages, crowded urbanites were on the brink of disaster.

The theories about high demographic density built on the animal experiments were just as negative to the phenomena of high population density as the “overload” theories. Several researchers have however doubted the relevance of studies with animals for the human condition. Humans have after all developed culture and social structures that make them able to cope with densities that would be unbearable to animals. But despite this criticism many of the animal studies are honored because of their contribution to the development of research questions and concepts suitable for further research on crowding in human populations. Andrew Baum & Stuart Valins state that:

Clearly people have unique adaptive capabilities and should be able to adapt to more stressors and to avoid the social disorganization and behavioral dysfunction observed in these animal populations. However, it is also evident that this work has contributed

valuable insights that have encouraged others to study similar phenomena among human populations (Baum & Valins, 1977, p.10)

14.6 Cultural determinism

Although sticking to empirical material based on studies of humans, researchers with more “humanistic” approaches to the topic of crowding later used concepts that were created during the studies of animal populations. The concept *personal space* was for instance one of the key concepts used by Edward T. Hall (1966) in his book “The Hidden Dimension”. Hall, who was one of the pioneers promoting a cultural deterministic approach to crowding, used the term to explain why people from different cultures need varying amounts of space for their actions and personal well being. The concept was however developed on the base of a study of contact and non-contact species of animals. *Personal distance* was the term applied by the researcher Hediger to the normal spacing that non-contact animals maintained between themselves and their fellows. This distance acts as an invisible bubble that surrounds the animal. Hall picked up the concept and elaborated it into his proximity-system describing the different distances of man.

According to Hall different cultures have during the centuries developed their own proximity-systems, practices and coping-mechanisms with regard to the use of space. These make individuals from certain societies much more able to live a healthy and satisfactory life under relatively dense conditions than people from most other societies. Peoples’ ability to adapt to different population densities and spatial organizations is amazing. To illustrate this claim, Hall (1966) mentions as an example the difference between North-Americans from the white middle-class and middle-class Englishmen fostered in boarding schools. Americans were used to having a room of their own from early childhood. When they wanted to be alone, they retreated to their room. Englishmen, on the contrary, grew up sleeping in dormitories at the boarding school. When they wanted privacy they didn’t leave the room. Instead they signaled by the help of social behavior that they wanted to be let alone. This coping strategy enabled them to manage quite densely populated surroundings with very modest physical screening without losing personal integrity.

Two studies of Chinese households give support to Hall’s theories concerning the existence of different culturally determined coping strategies used to overcome the effects of overcrowding. Anderson (1972), in an ethnographic investigation of Chinese families, found that households were capable of minimizing the disruptive effects of crowding through culturally specific adaptations or certain institutionalized values. The Chinese seem to have very

formal rules for determining who uses household space, for what purpose, and for how long. Robert E. Mitchell's (1971) survey of Hong Kong residents can be viewed as indirect evidence of the success of these mechanisms, since he basically found no relationship between serious psychological stress and high levels of household crowding. (Baldassare, 1979)

14.7 Design determinism

Design determinism of crowding effects was an approach mainly raised by architects and designers. (Baldassare, 1979) The theory stated that certain spatial configurations may help facilitate interaction under special circumstances, or may dilute certain problems associated with high density. The Architect Jan Gehl whose theories have already been mentioned can be regarded as a representative of this approach.

The works of Andrew Baum and Stuart Valins (1977) could also be mentioned as further examples of research in this field. By studying students living in dormitories of different layouts, they wanted to figure out if and how architecture influenced the experience of density and crowding. The results showed that students living in dormitories with long corridors giving access to the students' rooms felt more crowded than students living in dormitories with students' rooms organized in small clusters. The number of square meters per student was about the same in both types of dormitories. While the students in the "suite" dormitories were exposed to a small group of other students living in the same cluster, the "corridor" students had to deal with a much higher number of fellow students. The "corridor" students became stressed and showed withdrawal behavior. Social groups did not occur, and the students felt unprotected. Suite residents, on the other hand, were happier.

While corridor dormitories appear to intensify the consequences of too many people, the interaction potential in the suites is low enough to provide "protection". Because suite residents are likely to interact with fewer people and because most of these interactions occur in the context of reinforced social control, suite residents are better able to develop comfortable and effective ways of dealing with each other. As a result, interactions become more predictable, and unwanted or inappropriate contact more easily avoided. The doorway and walls of the suite limit access and group residents together in small clusters. As a result, interaction is restricted primarily to suitemates and immediately adjacent neighbors, who quickly develop group norms and rules, including those relevant to the control of common areas. The development of a group and group-controlled space, which is inhibited in the corridor dormitories, provides additional control for suite residents and increases the ease and predictability of

resident interaction. The crucial difference, then, between the experience of corridor and suite residents is related to the number, nature, and control of social contacts. (Baum & Valins, 1977, p. 29)

Making spatial hierarchies corresponding to the development of social groups certainly seem to have an effect when trying to avoid the stress and withdrawal caused by crowding. Saying that design will solve any problem caused by crowding is nevertheless to oversimplify the case. In its most extreme form design determinism advocates that architects and designers should be “social engineering”, based on the belief that if people have the right surroundings positive social relations will evolve by themselves. Such an attitude seems to be untenable, but nevertheless design should be regarded as an influencing factor concerning the development of social networks.

14.8 High demographic density; benefit or an evil?

Central to the debate on demographic density is the question whether high densities actually contribute to stress and strain, or if it is a benefit to the inhabitants as a certain demographic density is necessary for the development of a socially stimulating environment. Skepticism against high densities has a long tradition in the Western world. Dating back to the first critics of modern society, the theories about crowding developed through for instance the animal experiments in the 60s and still seem to be alive, not least among laymen.

The other stance, density as a positive feature, which was pioneered by Jane Jacobs in the 60s has also found its supporters. Among them were architects attached to the “dense and low” movement in the 70s. Jan Gehl, whose theories already have been mentioned, can be seen as a typical representative for this movement. Researchers with a cultural approach have also been reluctant to describe high densities as solely negative. As the findings of Anderson (1971) and Mitchell (1972) demonstrate, living densely does not necessarily cause mental stress. If sufficient cultural means are at hand, high densities may be coped with. Living densely means living economically. In a society with limited resources it may be a necessity.

It may seem like the question of density is a matter of balance. Altman (1975) has considered crowding as a problem concerning the regulation of social contacts and talks about an optimal level of social stimulation, something between too many and too few social contacts. According to him neither crowding nor too much privacy is healthy. This optimal level of social stimulation may however not be so easy to determine. It will vary according to

the cultural background of the inhabitants, their way of life and so on. Only empirical investigations could make it possible to detect whether or not this optimal level is achieved in the case of a specific residential area, and which are the factors contributing to this achievement or lack of such.

14.9 The relevance of the concept of “crowding” in a Norwegian context

To describe conditions of over-stimulation the label ‘crowding’ is frequently used. The concept of crowding may however seem a little too exaggerated to describe density-related problems in today’s Norwegian residential areas. They are on average not very dense compared to residential areas in many other countries in the world. Building densely in Norway does not mean building densely at all when regarded with the eyes of most foreigners, and the demographic densities that follow are quite modest evaluated in an international perspective. It seems reasonable to ask whether the concept gives any meaning in a Norwegian context?

The approach of cultural determinism teaches us that the experience of demographic density and crowding vary according to cultural background. A successful development of coping mechanisms is dependent on prevailing social rules. In some societies norms and rules give specific instructions about how to behave with regard to the use of space in crowded situations, while in other societies such rules are non-existent. Norwegian culture has developed in a sparsely populated country. The urban tradition has been weak, and most people have previously lived on farms or in small communities. Large, dense built up areas have only existed in a few cities. Crowded dwellings were however widespread in earlier Norwegian society.

After the growth in prosperity after the Second World War, housing units became bigger. As we can learn from the “Survey on Housing conditions 1995” crowded dwellings had almost been eliminated as a problem. The cities grew rapidly after the war and Norway was transformed from a rural to an urban society. The predilection for dispersed housing did however not disappear, in fact it was heavily supported by new ideals imported from Anglo-American culture. The modern movement in architecture has also advocated a spatial ideal that emphasizes the importance of open space. The detached suburban dwelling became the new dream. Challenging this culture and ideal by building more densely is a demanding task. Social rules and suitable cultural means for coping with higher densities seem to be insufficiently developed.

In a study carried out by Nina Witoszek and Inger-Lise Saglie in 1997, the researchers posed several questions concerning density in Norwegian residential areas to their respondents. Their aim was to detect personal and cultural conditions with regard to residents' experience of density. As many as 95% of their respondents claimed that densely built up areas are not "appropriate" in Norway. 70% thought, "that it is unnatural to live densely." A male respondent put it this way: "It is a little bit strange, often we live so densely although we have a lot of available space". Another claimed that: "It is not appropriate because people become very stressed by living in towns, and people are generally not used to urban living. Originally, regarded from a biological point of view, all humans come from the forest." (Saglie & Witoszek, 1997) The study of Saglie and Witoszek indicates the existence of a high degree of skepticism towards living densely in Norway and should be kept in mind by researchers working in this field.

Age and family situation may influence how the dwelling and the residential area are used. In the report "Central urban dwellings" (Guttu & Martens, 1998) families with children used the outdoor areas surrounding the home far more frequently than the elderly and middle aged. Their dependence on attractive and usable parks and playgrounds was high and unsatisfying outdoor areas were mentioned as a reason for moving from central, urban flats. Childrens' and parents' high frequency use of the outdoors is visible in any residential area mainly inhabited by families with children. Frequent use, high activity levels and lots of noise in the outdoor areas may increase the experience of neighborhood crowding.

14.10 Actual demographic density in the Sjøveien area

As a part of the preliminary study made for this inquiry, nine residential areas of Trondheim were investigated. The areas were built with concentrated small-scale housing or low blocks of flats and were surveyed with regard to parameters concerning physical and demographic density. One of the nine areas is Sjøveien and when comparing it to the other areas we find that the demographic density in Sjøveien is in the middle of the scale. The range varied from 44 people per hectare in one of the row/terraced house areas to 86 people per hectare in one of the areas built up with blocks of flats on four floors. The average density score for all 9 areas was about 60 people per hectare. Sjøveien had a demographic density that was slightly above this level with 65 people per hectare. Thus the area has a demographic density that presumably is about average for concentrated small-scale housing.

With regard to density inside the flats it is interesting to compare results from the questionnaire in Sjøveien with data on spaciousness from the Norwegian “Survey on Housing conditions 1995”. The results from the survey showed that just 1% of all Norwegian households had a very crowded residence in 1995. 5% lived in a crowded dwelling, while 28% lived in a normal. 19% lived in a spacious dwelling and as many as 48% lived in a very spacious dwelling. The residents in Sjøveien in 2000 lived less spaciouly than the average Norwegian in 1995. None of the respondents lived somewhere very crowded but as many as 9% lived in a crowded residence. 48% lived in a normal dwelling, 23% lived in a spacious dwelling and 20% lived in a very spacious dwelling.

The spaciousness of the dwellings was measured by the relationship between the number of rooms in the dwelling and the number of people in the household. If the dwelling had at least as many rooms as the number of people in the household, the spaciousness was called “normal”. If there were more people than rooms, the dwelling was crowded, and if the number of people exceeded the number of rooms by at least two, it was labeled “very crowded”. One-person households were considered crowded if the dwelling had only one room. The dwelling was considered “spacious” if the number of rooms exceeded the number of people by at least two, and very spacious when there were at least three rooms in excess.

The average living floor space per person was 49 m² in Norway in 1995. (White paper no. 28 to the Norwegian parliament, 1997-98, p 51) The average Norwegian residence had a floor space of 112 m². The average dwelling area per resident in Sjøveien was 33 m² in 2001. The average flat had an area of 95 m². Regarding families with children in Sjøveien, we find that the average size of a flat in this category is 99 m². The average household in this category consists of 3.5 people which gives 28,3 m² floor space per person.

According to results from the questionnaire only 5.4% of the respondents belonging to all kinds of households think of the area as densely populated to a very high degree. But quite a few: 26.4%, feel the area is densely populated to a quite high degree, and 39.3% think of it as densely populated to some degree. The opinions of the families with children do not significantly differ from the total sample. 3% of the respondents belonging to this group think of the area as densely populated to a very high degree, 23% of them think of it as densely populated to a quite high degree and 43% feel the area is densely populated to some degree. Thus the data indicates an awareness of a certain degree of demographic density among respondents and makes a further investigation into the topic of crowding interesting.

14.11 Crowding and neighborhood interaction

The residents in Sjøveien report a tight social network in the area, especially among the families with children. This network is based on contact between people in similar life-situations with identical interests, many of them moving into the area at the beginning of the 1990s. The Sjøveien area offers a multitude of arenas for socializing, most of them in the common outdoor fields, but also in the four-family houses. The common staircase and the steps by the entrance are frequently used for casual chatting and short conversations without obligation for longer contact. Many residents however also deepen the communication beyond the casual level and choose to get in closer contact.

To illustrate the degree of neighborhood contact in Sjøveien it may be interesting to compare Sjøveien to the four areas it was compared to with regard to residence qualities: Disengrenda, Reinen, Torvetua and Nobø. The results from the questionnaire show that Sjøveien has the highest frequency of informal contact between neighbors. In Sjøveien 59% of all respondents from all categories of households chat daily with the neighbors in the outdoor areas or the common staircase. In the other areas the percentage of respondents that have daily contact with neighbors are lower, respectively 54% in Disengrenda, 38% in Torvetua, 21% in Reinen and 16% in Nobø.

Regarding closer and more obligating contact such as visiting each other and helping each other with practical tasks, this kind of relationship is evidently more widespread in Sjøveien. As many as 40% of residents of Sjøveien visit each other daily or weekly and 39.3% give or receive help from neighbors.

All the other areas have a remarkably less of this kind of contact than Sjøveien. The ones coming closest are Torvetua and Reinen with percentages of respectively 14% and 16% with regard to visiting each other daily or weekly and 19% and 16% with regard to giving or receiving help from neighbors. The degree of social interaction in Sjøveien is even higher when looking exclusively at the category of families with children. All of them report informal daily or weekly communication, while 52% visit each other regularly and as many give or receive neighborly help on a daily or weekly basis.

But does this network of close relations in Sjøveien contribute to the perception of high population density in the area?

As we have learned from Milgram's theories, a state of overload may occur when a person experiences too much. Milgram use the concept to explain the

residents' experience of demographic density and the number of people one must deal with in everyday situations. The excess of stimulation leads to less ability to process much of the informal input from the environment. As a result people become less inclined to get involved in personal relations with people that have no personal claim on one's time. (Milgram, 1970) Baldassare gives support to Milgram's theories and uses the concept 'specialized withdrawal' to describe how the casual encounters, such as for instance neighborliness, reduce in number and intensity as density increases.

We can hardly say that the concepts 'overload' and 'specialized withdrawal' contribute to a suitable description of the situation in Sjøveien. The residents do not avoid each other. On the contrary, most of them are interested in having fairly close contact. The informants for instance all welcomed the close social network when they moved into the area, most of them having small children and a need and wish for neighborhood contacts. A good social environment in the residential area is, as we know, one of the residential qualities that are most sought after by the respondents of the quantitative inquiry in Sjøveien.

After some years however several of the respondents feel a need for more privacy. Emotional problems and personal crises may be difficult to handle in the context of wide social control created by the tight social network. Although the neighborhood may function as support in difficult periods, most informants prefer to limit the number of people they let into the more private areas of their lives. To be in the focus of too many eyes of "good" neighbors that know a little too much may be a strain. But also residents without any specific problems may be tired of the closely-knitted neighborhood offering a little less privacy than wanted.

So despite obvious signs of overload or specialized withdrawal in Sjøveien a tendency to seek more privacy than the residential area can offer is detected. Situational retreat from the social arenas in Sjøveien exists. This is however not a daily phenomenon to most residents. In the case of the average inhabitant we are more likely to be talking about a "weekend withdrawal syndrome." Going for a trip in the countryside and visiting the family cabin is a popular activity.

In a Norwegian context visiting the family cabin regularly is not very exceptional. What makes the situation of the Sjøveien residents special is the outspoken need for privacy as a motivation for the weekend trip. The respondents also mention visits to the town and long trips in the surrounding landscape as important ways to withdraw to privacy. Going inside for a while when being outdoors becomes too socially demanding, is also a coping strategy that is frequently mentioned. The patterns of situational retreat in

Sjøveien indicate that a perception of crowding to a mild degree may occur among residents.

According to Altman it is of crucial importance for the development of a healthy neighborhood network that the inhabitants are able to regulate their social contact and achieve an optimal level of social stimulation. When taking into consideration the tendency to situational retreat that we can detect in Sjøveien, it seems pertinent to ask whether this ability is adequately developed. The results from the questionnaire showed that most respondents think it is fairly simple to regulate the contact with the neighbors to a convenient level. 30.4% think it is very simple and 66.1% think it is pretty simple. The percentages for the respondents from families with children are about the same as for the total sample.

A satisfying regulation of the contact with the neighbors in the outdoor areas on the other hand seem to be more difficult to achieve. When the residents were asked about how content they are with their opportunities to find a private place in the outdoor areas 20% were very content. The majority, 58.2% were fairly content but as many as 20% were fairly discontent.

The qualitative data show that many of the respondents feel an obligation to be accessible for social interaction when they are in the outdoor areas. A majority of all socializing in the area takes place in the outdoor fields and taking part is an important way to become integrated in the social network. Most informants are not eager to reject their neighbors' invitation to chat. Lack of physical screening, such as hedges, also complicates withdrawal.

Researchers with a cultural angle of incidence to demographic density, claim that different cultures have developed various coping mechanisms when it comes to coping with dense situations. E.T Hall's example of the different coping mechanisms of middle-class Englishmen and Anglo-Americans and their different ability to regulate contact with the means of social signals have already been mentioned. When social signals fail one becomes more dependent on physical screening and borders.

Several of the residents in Sjøveien seem to lack adequate social codes suitable for withdrawal. Only some few of them report that they have no problems with signaling that they want to be left alone when for instance sitting outside the four-apartment-block where they live. A way of signaling a wish for privacy may for instance be to hide behind a book and if anybody tries to make contact, to tell them that one prefers to read for the moment and would prefer to be left alone. Most informants do however not possess this ability to give unambiguous signals when they want to be by themselves in the

outdoor areas. Instead they may seek refuge in their flats when they are tired of activity, noise and social chatting outdoors.

14.12 Neighborhood conflicts and experience of demographic density

According to Yi-Fi Tuan (1977) conflicting activities in a space shared by a group of people will be likely to result in a feeling of crowding. With this background it is interesting to search for a more general connection between perceptions of demographic density and neighborhood conflicts. The investigation in Sjøveien shows that it seems to be a connection between the two phenomena when it comes to the sample of families with children in Sjøveien. With regard to the category of households without children on the other hand, such a connection is difficult to trace.

	Densely populated to a very small degree	Densely populated to a quite small degree	Densely populated to some degree	Densely populated to a quite high degree	Densely populated to a very high degree
Experience of neighbor conflicts		24%	44%	28%	4%
No experience of neighbor conflicts	30%	20%	40%	10%	

Fig. 14.1 Connection between experience of neighbor conflicts and evaluation of population density in the Sjøveien area. Sample of respondents from families with children.

The results from the questionnaire show that the majority of respondents in Sjøveien acknowledge the existence of neighborhood conflicts in the area. The level of conflicts seems however to be modest. Just 3.6% think that there are many such conflicts in Sjøveien, 51.8% think that there are neighborhood conflicts (but just a few), 32.1% answer that there are no neighborhood conflicts in the area as far as they know, and 12.5% do not know if there are any neighborhood conflicts in the area.

When the total sample is split between households with and without children, a difference with regard to experience of level of conflict may be traced between the two categories. Families with children are more inclined to think

that conflicts exist in the area. While 5.7% of the respondents from families with children think there are many neighborhood conflicts in Sjøveien, none from the category of households without children thought the same. And whilst as many as 65.7% of the respondents with children think there are conflicts but just a few, only 39% from the other households agree with this statement. 25.7% of the household category with children answer that there are no conflicts in the area as far as they know. The percentage of households without children giving the same answer is 39%.

The fact that a higher number of respondents with children are aware of conflicts does however not necessarily mean that this group is more apt to be discontented with the neighborhood than the other category. On the contrary, the questionnaire tells us of a higher degree of satisfaction with the social life in the neighborhood among families with children. Of the total sample 40% are very satisfied with the area's neighborhood relations and 58.2% are fairly satisfied. 1.8% are very dissatisfied. The percentages for the respondents with children are 50% very satisfied and 50% fairly satisfied. When evaluating residence qualities, the families with children also gave the social life in the area a higher score than the rest of the sample.

We already know that the degree of social interaction is higher among respondents from families with children than among other respondents. A sign of a higher degree of social involvement among respondents with children may also be traced in the answers to the question concerning the existence of neighborhood conflicts. Among the parents of children only 2.9% did not have any opinion about this question in contrast to the category of other households where as many as 22% had no opinion. Residents with no opinion about this question are supposed to have a less extensive social network in the area than residents that have made up their minds about the matter. It seems reasonable to assume that the high degree of involvement in social matters among respondents having children also make them more exposed to conflicts.

The qualitative data showed that the nature of neighborhood conflicts in Sjøveien does not differ very much from neighborhood conflicts in most residential areas. Noise from flats, disorder in the common staircase or entrance area, residents that don't take their share of work in the common building and garden areas and so on. There are also disputes with regard to children and their actions. Some of the interviewees reported of high vulnerability when they were exposed to criticism of their children. Discussion about a matter concerning their child may be perceived as more hostile by the parent than by the opposite party. This vulnerability may also be a reason for why the respondents with children experience more conflicts in the area. But instead of withdrawal in the face of disputes, the parents chose to

stay on the social scene. Their experience of conflicts is however in most cases within a tolerable level. Conflicts exist, but just a few. But despite the modest level, experience of conflicts still seems to contribute to a feeling of high population density, and presumably thereby a certain degree of crowding. But why do only the respondents with children report this feeling of being crowded when a disagreement occurs? Well, maybe respondents from other households more often use the strategy of withdrawal in order to handle conflicts preventing the perception of crowding from arising.

14.13 Previous dwelling and experience of demographic density

There is a reason to believe that our previous dwelling experiences influence our perception and evaluation of our present residence. Also with regard to our experience of demographic density, our background will create a frame of reference that colors our expectations. A closer investigation of a potential connection between the previous residence of Sjøveien residents and how they perceive the level of density in the Sjøveien area shows an interesting covariance between the two variables.

	<i>Densely populated to a very small degree</i>	<i>Densely populated to a quite small degree</i>	<i>Densely populated to some degree</i>	<i>Densely populated to a quite high degree</i>	<i>Densely populated to a very high degree</i>
Detached dwelling	7%	29%	21%	43%	
Duplex, row house, Four-family house	9%	35%	39%	17%	
Apartment building, Block of flats	1%	3%	36%	27%	33%
Bed-sit		16%	53%	31%	

Fig. 14.2 Connection between previous residence and evaluation of population density in the Sjøveien area. Sample of all households.

The people that report the highest degrees of perceived density have previously lived in apartment buildings or detached blocks of flats before

moving to Sjøveien. The respondents that have a background from similar dense small-scale housing areas, like row housing and other four-family housing areas, are least disposed to feel that the area is densely populated. From this we may presume that respondents with a past in apartment buildings and blocks of flats are used to living in a residential area that is perceived as less demanding with regard to coping with demographic density. Compared to this former experience, the conditions in Sjøveien appear as challenging. We may also think that the respondents from this kind of housing had not foreseen their experience of high population density in the Sjøveien area, since the actual demographic density in the areas they come from may have been higher than the actual density in Sjøveien. This unexpectedness may color their experience of density in Sjøveien and make it more pronounced.

Interpreted in this way the finding supports the theory that apartment buildings and blocks of flats prevent the feeling of crowding by protecting the privacy of the residents. Also Saglie (1998) states that apartment buildings and blocks of flats usually preserve the inhabitants' anonymity in a better way than different types of dense small-scale housing can do. An important reason for this seems to be the larger units that such buildings represent. When the group of residents belonging to the same entity is more numerous, the degree of social control diminishes. In areas built up with dense small-scale housing residents are most often grouped in smaller units. The activity in the area is concentrated and offers more meeting places where the residents frequently come in contact with each other.

According to Jan Gehl (1996) the qualities of small scale and proximity are some of the forces of dense small-scale housing as they support the development of neighborhood relations. Also the studies of Baum & Valins (1977) showed that organization of student dwellings in small units improved the development of contact and social integration. As an unintended result however it seems as if this higher degree of social stimulation and social control lead to a feeling of crowding. The resident in an apartment building or block of flats on the other hand experiences a higher degree of screening from neighbors. Frequently neighbors are hardly seen or heard and as a result the resident seldom thinks of their existence. Following this logic we may presume that concentrated housing may have a quite high degree of demographical density without being experienced as densely populated. As long as residents are not exposed to each other the area is not perceived as dense.

Most families with children in Sjøveien however seem to be interested in a quite high degree of exposure in order to establish both informal and closer neighborhood relations. A close neighborhood network offers a well-

developed social control system that improves the security of the children. The neighborhood network is also valuable to the parents because of the possibilities it offers to socialize without leaving the home area. In particular, single parents feel tied to the home when having small children, and the local contacts prohibit loneliness. Getting help from neighbors is also important. The cooperation between parents in the area regarding the upbringing of children is appreciated by most informants, not only the single parents. The cost they have to pay for the tight network, the experience of higher demographic density, is accepted because of its benefits.

Data from the Norwegian official statistics show that very few families with children live in or want to live in blocks of flats or apartment buildings. Among newly established families the share is 9%. When the families are more established the share diminishes to 3%. The residence wishes of households with children in Sjøveien points in the same direction. None of the respondents to the questionnaire that want to move or perhaps want to move in the future mention a detached block of flats as their favored dwelling type. 50% prefer a detached one-family house, 33% want other kinds of small-scale housing and 17% dream of a flat in an urban apartment building. The ones that thought about moving to an urban apartment building were families with older children that were looking for a more central location. The other households with children preferred small-scale housing.

There may be several reasons for not wanting detached blocks of flats as a future dwelling type. The sizes of the units for instance are most often very limited in this type of housing, and contact with the ground is missing. The interviews from Sjøveien also show that some informants perceive this type of housing as impersonal and anonymous. When having small children most people want a certain amount of neighborhood contact in order to create an overview of activities and people in the area. This is most often more difficult to obtain in a block of flats and apartment buildings than in small-scale housing.

14.14 Size of flats and feeling of crowding

Of the total sample 27% of all respondents answer that they think their own flat as it appears today is too small. 73% think the size is appropriate. (Measuring method described in sub chapter 14.10)

	Very crowded	Crowded	Normal	Spacious	Very spacious
The flat is too small	0%	27%	60%	0%	13%
The size is appropriate	0%	2%	44%	27%	27%

Fig. 14.3 Connection between measured spaciousness and evaluation of appropriate size of flat. Sample of all households.

The flats in the sample are of different sizes as some residents have enlarged their flats while others have not. Among the respondents from families with children, 31% answer that they think their flat is too small while 69% think their flat is the appropriate size.

	Very crowded	Crowded	Normal	Spacious	Very spacious
The flat is too small	0%	36%	64%	0%	0%
The size is appropriate	0%	4%	42%	29%	25%

Fig. 14.4 Connection between measured spaciousness and evaluation of appropriate size of flat. Sample of households with children

As expected there is an evident connection between measured spaciousness with regard to number of rooms and respondents' evaluation of appropriate size. Very few respondents with crowded flats think that the size is appropriate. This comes as no surprise. But among the ones with normal sized flats there is also a greater proportion that evaluate their flats as too small. Among 3-person families that live in original flats with 3 rooms, sized 75 m2, about half of them think that the flat is sufficient, while the other half think it is too small. According to the measuring method mentioned above, the number of rooms should be suitable for this household size; the spaciousness is "normal".

In addition to the crowded and normal flats that their owners find too small, some flats from the sample of all households that are placed in the category "very spacious" are evaluated as too small. The reason for this is presumably the fact that these flats have too many rooms compared to the amount of square meter living space. Generally there is a tendency that flats that are evaluated as too small have less square meter living space per room than the

flats that are evaluated as appropriate with regard to size. Presumably the respondents lose their feeling of spaciousness when the flat has many small rooms.

Average living floor space per inhabitant in Sjøveien is 33 m². Households with children have less space on average 28.3 m². When looking at the living space of the respondents from families with children, both the ones living in flats of original size and the ones that live in extended flats, we find that average living space per person is 32 m² among respondents that are content with the size of their flat, while it is 21 m² among respondents that are not content. All flats in the sample that are reported to be too crowded have less than 26 m² at each person's disposal. On the other hand we can find flats that are reported to have about 19 m² for each person that the respondents evaluate as sufficient. So even if both the number of rooms and the square meter per person strongly indicate whether the respondents are content with the size of the flat, there are telling individual differences with regard to the experience of sufficient residence size.

The qualitative data may give further indications for the reasons for crowding in the flat. The attitude towards living in limited space is for instance of importance. Some respondents emphasize the value of living close together as a family. They claim that the family members get to know each other in a more intimate way by living in a small flat. In a big house they expect that the family ties might be weaker. Such a positive attitude to living densely prevents a feeling of crowding.

As mentioned earlier the respondents underscore the importance of spaciousness in the flat and tear down or open up walls that they consider unnecessary. This wish for more openness and communication is however confined to the common parts of the flat, the areas that all members of the family and also guests are allowed to use; like entrance, corridor, kitchen, living room and so on. The private rooms of the family members are still important to keep separate and isolated from the rest of the flat. The parents are especially eager to emphasize that each child should have a room of their own. If siblings have to share a room this is often mentioned as a reason for enlargement of the flat since room sharing is a source of conflicts in the family.

Both parents and children use the common parts of the flat with unlimited access and few rules. Some report that their children are not allowed to play in the master bedroom, but this does not seem to be a general rule in the average family. Children also bring their friends home and play in the common areas of the flat as well as in their own rooms. Especially in the flats

that are not enlarged, the children use the whole home for their play without severe restrictions. The parents think the flats are too small to deprive their children of space. The level of noise and activity are often quite high. When it becomes unacceptable one of the parties has to draw back. In a traditional middle-class home one would presume that the retreating party would be the children. But in Sjøveien both parents and children may retreat if the situation is intolerable. Children may be turned out of doors or the parents may choose to leave the house and go for a long walk.

The number of rooms compared to the number of family members has importance with regard to the evaluation of the flat size. According to respondents, a perfect solution would be if every family member had a room of their own for withdrawal to and privacy. First of all the parents give priority to the children's rooms because this will reduce the conflict level in the family. But also the adults need a place for themselves. The master bedroom is often not considered appropriate for this purpose and informants dream of a private workroom or a little music room where they can be engaged in their own activities without being disturbed. Realizing this dream is possible by implementing areas in the basement or attic. As a rule, inside the limits of the original flats inhabitants prefer increased spaciousness to more rooms.

14.15 Enlargement of the flats

51% of the respondents of the questionnaire have enlarged their flat by implementing areas in the basement or attic. The other 49% live in flats of the original size, that is about 75 m². Concerning the respondents from families with children, 49% of them have enlarged their flat. The enlarged flats have a living space that varies from 120 – 130 m².

Among the respondents from families with children that have enlarged their flat, the share of respondents that still think their dwelling is too small is just 12%. All these households that still think their flat is too small despite enlargement consist of 5 people, but none have plans to move from their flats.

Among the respondents from families with children that have not enlarged their flat, only 11% have no plans about doing so in the future. 56% report that they certainly will extend their living space while 33% will maybe extend their flat in the future. The wish for extending the living space is almost just as pronounced among the ones that think the flat is big enough as among the ones that report over crowding. As long as the possibility exists it might seem as if residents want to use it whether the need for more space is urgent or not. Plans of future enlargements show no connection with future plans of house

moving. Residents with moving plans within the next 10 years plan to extend their flat to the same degree as other residents.

Checking the economic situation may give helpful information about which respondents that are most inclined to enlarge their flat. The respondents that actually plan to extend their living space have about twice as high income on average as the ones that maybe plan to extend. Thus it seem like money is a determinating factor regarding enlargements of flats. If you can afford it then you do it. People see no advantage in denying themselves the pleasure of more space and heightened standards. This finding may also support the claim that the residence is regarded as a major investment by many Norwegian households. As long as enlargement will increase the value of the property to such a degree that it will make a profit by sale, it will be executed. If you have extra money the best place for investment is your own home.

The point of time for enlargement seems to be influenced by the family situation. The children's need for *personal space* vary according to their age. Small children tend to stay close to their parents. Some respondents that have enlarged their flat in order to give all children a private room, are a little bit disappointed by this. They hoped for more privacy, but their small children are still very much around

From about 10 years old the children start to use their own rooms more and more and also take their friends there. And when the children become teenagers their need for more space, and just as important, a certain distance from their parents is evident. The parents also want increased distance when their children become older. At the same time they are afraid of losing control and contact. They appreciate that their children bring their friends home. They then have some control with who the friends are and what they are all doing. If the flat has not been extended so far, this time seems to be crucial. Besides increased size, the quality of having a flat with two levels/floors is also mentioned as a means to keep an appropriate distance. Then the youngsters may play their "heavy rock music" in the basement while their middle-aged parents relax on the sofa in the living room upstairs.

The wish for a community center is also a result of the situation that parents foresee will emerge when their children become teenagers. A shared, central, community center could keep the youngsters in the residential area, giving their parents some control about what they are doing. At the same time the need for more space in the flats, in order to meet the need for more distance between parents and teenagers, would be reduced.

14.16 Conclusion

Around the turn of the century several social theorists were interested in the trend towards increased human population density. The researchers were skeptical as to the results of the more complex organization of society partly following from higher population densities.

Different, new angles on the subject evolved after the Second World War. According to Mark Baldassare (1979) the three most important of them were *ethological determinism*, *cultural determinism* and *design determinism*. Most researchers were still negative to high-density living. Concepts like *crowding*, *overload*, and *specialized withdrawal* were developed in order to describe the negative effects of high demographic density. Jane Jacobs (1961) did however advocate the benefits of higher population densities. Jan Gehl (1996) that had a design approach to high-density living, built his work on her theories.

As already discussed, the Sjøveien area illustrates how groups of small units like the four-family house may support the development of close relations among residents. Meeting points and open outdoor areas where residents are exposed to each other are other important features of the area that contribute to the development of contacts. So far the data from the area are in accordance with the thoughts of researchers with a design approach, for instance Jan Gehl, with regard to architecture as support for the development of social networks in dense situations.

However experience of crowding seems to occur both among respondents from households with and without children. In particular, the limited possibilities for privacy in the outdoors seem to be an important cause. With regards to respondents from families with children, there also seems to be a connection between experience of high level of demographic density and level of neighbor conflicts. The parents seem to be more aware of and vulnerable to conflicts in the neighborhood. A reason for this may be that they tend not to retreat from the social areas in the face of conflict.

Findings in Sjøveien indicate that the four-family blocks, as a type of building, may be more inclined to give rise to crowding than apartment buildings or blocks of flats. This claim is based on the fact that respondents with a former home in the latter categories are the respondents that are most inclined to think that Sjøveien is densely populated. With regard to the families with children, it seems like the advantages of living in a residential area with a tight social network compensate for the disadvantages of crowding, at least during the period of having infants.

Residents' experience of demographic density in Sjøveien influences important aspects with regard to residence attractiveness. In many ways the experience of crowding in Sjøveien may be described as an unwanted side effect of the highly prioritized residence quality *Nice social environment*. The community-oriented parents that dominate the group of inhabitants seem to give an interpretation of this quality that implicates a rather high degree of social involvement. A property type that demands neighbor cooperation combined with common outdoor areas where neighbors are exposed to each other, helps the creation of ties.

PART 4:

A FUTURE RESIDENTIAL ALTERNATIVE

The first chapter in this last part of the thesis will discuss whether the Sjøveien area represents any permanent residential alternative to families with children. The second chapter presents a summary of major findings from parts 2,3 and 4 Further on, the implications of the study on design of future residential areas is discussed. Finally suggestions for future research on the topic of density and attractiveness in residential areas are presented.

15 Sjøveien as an alternative to the detached residence areas

15.1 Turnover among residents

The contrast between households with and without children with plans to move are striking. While as many as 26% of the respondents from childless households have specific plans about moving, only 17% of the parents have the same. And while the childless households are definitely heading for a detached property, the wishes concerning future residence type are more varied among the families with children that actually plan to move. The dream of a detached house is most pronounced among the “maybe movers” (households that signal that they maybe want to move from Sjøveien) in the category of households with children.

Among the childless households 48% have no plans to move, 26% will maybe move and 26% have specific moving plans. Half of the last mentioned group plan to move within two years and the other half within ten years. 50% of the typical “maybe movers” in the category of childless households want a detached house or a house on a farm. The other 50% want other property types. 83% of the respondents with actual moving plans in this category want a detached property. They want more privacy and many of them also want to live in the countryside. Several of them have decided to leave Trondheim.

Especially with regard to moving in the short term, the households without children dominate the picture of movers in Sjøveien. The actual households are further characterized by young age and short time of residence in the area. According to respondents, they move into the area, find out that it was not what they were searching for and then move out again after a short period. Most of them were primarily attracted to the area because of the localization by the fjord and because they thought that the property would be a safe investment since the area was gaining in popularity. According to informants belonging to the community-oriented group of parents, they don’t seem to have reflected upon the matter that living in a four-family-block area without any private outdoor spaces would make some demands on them with regard to collaboration and socializing.

The Sjøveien area has an uneven demographic structure with very few seniors. Information from the qualitative data points in the direction of an emigration of seniors in the 1990s when the families with children moved in. Today there is no significant emigration of seniors as the number of residents in this category already is marginal. Age segregation is maintained because of unequal recruitment of new residents.

The respondents from families with children are as already mentioned, less eager to move than the childless respondents. 17% want to move, all of them within ten years. 54.3% have no plans to move while 28.6% maybe want to move. Reasons for moving are different between those who actually want to move and the ones that maybe want to. The typical “maybe mover” among the family respondents wants another type of property, more privacy and a more spacious home, while the ones that actually have plans to move have other wishes. They may for instance expect changes in the family situation or they want a more central location. Concerning the respondents that have actual plans about moving, no specific dwelling type is dominant. Among the ones that maybe want to move, the dream of a detached house is pronounced. The typical “maybe mover” would eventually move because of wish for a detached property and more privacy.

15.2 Do the residents dream of a detached property?

As we can detect from the data about moving plans among inhabitants in Sjøveien the detached house is regarded as the favorite future property among respondents from households that want or maybe want to move. Among residents with actual moving plans however this alternative is most popular among respondents from the category of households without children. These households are as we know also most inclined to move. The families with children chose to settle down on a permanent basis to a much higher degree, and if they actually decide to move the detached house does not appear as the property alternative they most often go for.

The dreamers among the parents, represented by the “maybe movers”, cultivate their fantasies about a detached family home. But obviously most of them chose to let go of the dream and stick to their present reality in Sjøveien. The household economy may be a reason, but the questionnaire does not indicate that respondents from households with children that maybe want to move may not have the means to fulfill their dream. Their income is about average for the Sjøveien area, and in fact higher than the average income of respondents from households without children that have specific plans about moving into a detached property. Presumably there are other reasons that

make them stay in Sjøveien, despite a certain wish for a single family home and more privacy. Compared to a typical detached property area, the four-family-block area around Sjøveien has many advantages. The ones that are most often mentioned by the interviewees are the open common outdoor areas that function as a social arena to both children and their parents. Especially when compared to densely built up detached property areas with small plots and short distances between buildings, many inhabitants prefer Sjøveien because of its more open and airy organization and because of the spacious fields well suited for the activities of the children.

The opportunities for cooperation between parents are good. Parents can use neighbors as babysitters and take each other's children along to leisure activities. When the children are playing outdoors all the parents in the area keep an eye on them. Also the collaboration with regard to maintenance of buildings and garden are important advantages to the parents. Most inhabitants are busy with work and child-care. They appreciate that the four-family block demands less maintenance work connected with house and garden than a detached property.

The lack of privacy in Sjøveien is nevertheless a problem, and it seems like respondents that want more privacy look upon the traditional detached house as the alternative that most likely will give them this wanted quality. The results of the questionnaire show that especially young couples without children are inclined to search for a detached house in order to protect their private life. This may come as a surprise because other Norwegian investigations so far have showed that the category of households that are most eager to purchase a detached dwelling is families with children. In Sjøveien it appears as if the parents find that the social and community-oriented lifestyle that the area promotes gives them advantages with regard to the raising of children that outweigh the lack of privacy to a certain degree.

In particular, residents with infant children are eager to underscore the importance of the neighborhood network in Sjøveien. Parents with older children tend to be more aware of the lack of privacy. Most often they have been living in the area for a while and are more tired of socializing with the neighbors every time they choose to stay outdoors. The questionnaire shows that there is a connection between moving plans and the age of the children. The parents that want or maybe want to move have children aged 9.8 on average. The parents that have no plans about moving have children aged 7.4 on average. This finding indicates that the Sjøveien lifestyle in 2000 was presumably best suited to the needs of the families with small children.

The finding corresponds with Edle Andersen's findings in *Meek Dwelling Cooperation* in 1987. Here the community-based neighborhood seemed to be most attractive to parents with small children. Couples with older children moved away and built their own detached property (Andersen, 1987). In Sjøveien there is so far no apparent tendency that a lot of families with older children move out of the area. And if respondents in this category actually move, they may just as well aim for a flat in an urban apartment building as a detached property.

There are however a considerable number of "maybe movers" in this category and as we know they might very well go for a detached home if they actualize their thoughts about moving. The limitations of the community-oriented lifestyle of parents in Sjøveien thus should be noticed. Despite representing a quality that is sought after by many parents it also seems to be a lifestyle that is time-limited, primarily attached to a special period in the life cycle of the respondents.

15.3 Sjøveien compared to the detached residence areas investigated by Støa

An important reason for the attractiveness of Sjøveien among the households with children is its successful interpretation of suburban values. Both with regard to the localization, the enclave quality providing security and identification and the possibilities for resident participation, Sjøveien realize the suburban dream.

The researcher Eli Støa wrote in her thesis: "Dwellings and culture" (1996) about the Norwegian housing estates built up with detached properties in the 1980s. Her aim was to map the reasons for the dissemination of this housing alternative. The answers that were given reflect an interpretation of the suburban dream that may be interesting to compare to the housing culture found in Sjøveien.

Støa detected that the most important reasons for building a catalogue house in the new detached house areas were:

- The wish for appropriate surroundings.
- The dream of building one's own house.
- The wish for acceptable design
- The opportunities for participation

The wish for appropriate surroundings in this case meant: "Living in natural surroundings close to the countryside", a statement that residents in Sjøveien would presumably also have supported. The pleasant location of the Sjøveien area is an important success factor that makes the area competitive to most other residential areas, including those ones built with detached properties. As we can learn from the quantitative data material from the five suburban residential areas Torvetua, Disengrenda, Reinen, Nobø and Sjøveien *Proximity to public leisure areas* are highly appreciated by all categories of inhabitants. Later on, respondents from our target group, families with children in particular, respond positively to this residence quality thinking of it as being of the utmost importance.

Proximity to green areas that remain undeveloped may also reduce potential pressure in residential areas caused by high demographic and physical densities. Usually detached property areas, like for instance the ones that Støa investigated, have been situated on the fringe of the urban landscape close to undeveloped land such as open water, woods and agricultural areas. This kind of location is however also attractive for the other types of housing that constitute the suburban assortment of residential alternatives. In particular, if plots still are within a certain distance from the city center they should be regarded as having an attractive suburban locality providing the "perfect mix of city and countryside".

The other reasons for building a detached property all have reference to the residents' opportunities for controlling their own housing situation by personalizing their house, participating in the building process and marking a private territory. Several of these opportunities are also present in Sjøveien, although in a slightly different form.

The residents in Sjøveien appreciated the process of renovating the houses and their surroundings and think of it as an important means to better their identification with the area. Personalizing their flat by altering the layout and implementing areas in the attic or basement have also played an important part with regard to the process of creating attachment to their home. Although the facades are kept intact, the interior works are of quite radical character, and should have the potential for adapting the property to the special needs of each family to a high degree. The common outdoor areas are also open to the users' interpretation thanks to their multi-functionality. Thus the residents in Sjøveien seem to have satisfactory possibilities for participation and influence on their own dwelling situation. What they lack when compared to the inhabitants in the detached areas that Støa investigated, is the ability to mark a private outdoor territory.

The investigated single-family house areas had, similarly to Sjøveien, groups of residents that were quite homogenous. The households were middle-class families with children and the parents were about the same age. The social homogeneity of the neighborhood was considered to be an advantage by the informants of Støa, securing quietness, peace and safety in the area. A safe and predictable neighborhood was especially important with regard to the security of the children. Also in Sjøveien the homogeneity of the group of inhabitants are welcomed by many parents.

According to critics, the search for homogeneity and conformity among residents is a typical suburban phenomenon. It should however be questioned whether urban residential areas are inhabited by residents that seek more human diversity. At least when it comes to new urban developments, marketers are eager to customize their publicity campaigns to specific sectors of the market; for instance seniors or young singles.

There are however also evident differences between Sjøveien and the investigated detached property areas. One of the most striking is that close neighborhood networks did not seem to be developed in the detached housing areas. Most of the residents chose to stick to their established networks. In Sjøveien on the other hand we know that the attitude towards neighborhood networks is different.

In the opinion of Støa the detached house areas were lacking in distinct hierarchies between public and private, sufficient distances between dwellings and adequate screening. The inhabitants emphasized the value of spaciousness in the area and attained light and openness despite the high physical density by avoiding high and dense physical screening like fences, walls, large trees and bushes in the outdoor areas. Privacy was taken care of in several ways despite the lack of screening. Personalizing the design and building process might for instance be regarded as marking ones territory in the neighborhood. Thus the spatial preferences of the residents in the detached dwelling areas don't seem to differ very much from the preferences of informants in Sjøveien. Spaciousness is regarded as superior to the need for extensive private screening.

Støa detected that finding the right balance between openness and privacy in the areas was of essential importance in order to avoid conflicts. The study of Sjøveien indicates that finding this equilibrium seems to be important independent of type of housing. The detached housing areas interpret this balance in a way that is slightly different from Sjøveien, giving more attention to privacy. Marking of personal territory by modest means is however

preferred to the use of physical screening dominating the space like fences, walls and bushes.

In Sjøveien the tolerance to physical screening and hindrances is even smaller. Here the need for spaciousness totally dominates the scene and privacy is sacrificed. In addition the opportunity for marking one's territory in the neighborhood by the means of for instance special architectural design is very limited as the exterior of the buildings are more or less preserved. Put together, these conditions combined with a high degree of common ownership indoors and outdoors lay the base of a community-oriented residential culture.

15.4 Vertically divided versus cross divided small-scale housing

As mentioned in the first part of this thesis a considerable amount of research has been executed in order to develop more satisfactory planning solutions for areas built up with vertically divided small-scale housing. The linear concept that emerged as a result of this work has proved to be advantageous in many respects. The choice of Sjøveien as a case area was committed on the basis of a wish to discuss whether a property type belonging to the category of cross-divided housing could also be a type of relevance within the segment of concentrated small-scale housing.

An important reason for the development of models for vertically divided housing was the abilities of the housing type with regard to protecting the privacy of the dwellers. This residence quality has been regarded as one of the main attractions of the detached property, and in consequence much work has been invested in implementing this quality in more concentrated housing.

When we are talking about the actual case, Sjøveien, the area is able to compete with vertically divided housing mainly because of the characteristics that are mentioned as advantageous when compared to dense, detached areas. Besides meeting the suburban values, the gain of open and spacious common outdoor areas seems to outweigh possible disadvantage caused by not having a private garden to most residents from families with children.

The quantitative test of residence qualities shows that the quality *Good protection of private outdoor places* is ranked as number 23 of 26 qualities and consequently isn't prioritized by the residents in Sjøveien. When compared to the other four suburban areas that had been mapped by the same test, the data from Sjøveien shows an evident downgrading of this special quality. The results from the other areas do not however support any claim about great importance of outdoor privacy. The quality is ranked as number 15

of 26 qualities on the list that shows the average score of all five areas with regard to importance of property qualities. This score, beneath the mid-range, may be representative of a more general attitude with regard to the valuation of outdoor privacy in concentrated small-scale housing.

The open building pattern in Sjøveien and the four-family block type with three free facades enable the dwellers to benefit from generous amounts of daylight and view. The residents appreciate this quality and open up the flats by tearing down walls in order to fully exploit the potential of having daylight and a view in three directions. The layout of the flats also benefits from the favorable access to light. The floor space of the flat is made more flexible as there are no fixed positions of rooms that demand daylight.

The pleasant view of the fjord that this special plot can offer is also made available in the outdoor areas thanks to the open building pattern. Protective screening that might have been a benefit to outdoor privacy, is not wanted by the informants in Sjøveien. They prefer the open character as they appreciate the esthetical value of the spaciousness of the outdoors and think their children benefit from the freedom of movement that the areas offer.

The open common outdoor areas that we find in Sjøveien are partly based on the special opportunities and limitations of cross-divided housing. The common areas with meeting points and the demand for collaboration in the four-family block attract owners that are interested in community and neighborhood. According to Gehl (Gehl, 1996) exposure and concentration of social activities are useful in order to create social networks in a neighborhood. Meeting points cover this need, but in order to make them work a certain demographic density is wanted. Thus in the case of Sjøveien a certain demographic density might represent a resource instead of just being a strain.

In residential areas that are solely based on privacy values on the other hand, a higher demographic density will presumably at best be regarded as an actual condition that has to be dealt with. Density in itself will never be evaluated as a benefit, as there are no desirable qualities that are connected with having more people around.

Another argument for developing community based property alternatives is the risk for making bad imitations of detached housing areas when erecting dense small-scale housing based on privacy-oriented solutions. The Sjøveien case illustrates that instead of offering a bad substitute it might be a better solution to develop residential areas based on alternative sets of values. An area with a strong identity of its own will most likely attract residents that are interested in settling down in this area and help develop its special potential.

Vertically versus cross-divided small-scale housing should not be a question of either the one type or the other. Instead both forms should be appreciated and developed on premises of their own. A more varied housing stock inside the segment of concentrated small-scale housing will be an advantage in itself, since the possibility that different residence seekers will find a property that is well suited to their needs will increase.

15.5 A community oriented residence culture with little tolerance to differences?

Any wish for a residential area with a mixed group of inhabitants is not shared by the majority of respondents in Sjøveien. They think that newcomers in the area should have a lifestyle in accordance with today's predominant community values, and use the appearance of the area to attract new people of the "right" kind.

In today's situation for instance it would hardly be thinkable to construct new four-family blocks without implementing balconies. With them sufficient privacy should be taken care of and most residents should be content. Nevertheless it is interesting to notice that several respondents from Sjøveien question the erection of new balconies in the area. The visual arguments are important to them. The original design of the houses does not include balconies and according to their view it is difficult to integrate them in a successful way on the clear-cut and classical buildings. But apart from esthetical reasons it turns out that fear of social consequences are just as important to the respondents.

As mentioned earlier it should be possible to claim that living in the Sjøveien area is more socially demanding than living in a more privacy-oriented, vertically divided small-scale housing area. The cross division of the buildings in Sjøveien implicates a higher degree of common use of space both inside and outside the houses. Residents frequently get in touch, both for good and ill. The social relations that occur may be of great value to many residents. As has been detected in this study, parents with small children appreciate in particular the close neighborhood network. The drawback of this frequent contact is that conflicts may easily occur if residents have different lifestyles and interests.

In order to avoid conflicts many informants think it would be an advantage to recruit newcomers with values that are in accordance with the structural solutions that already are chosen in Sjøveien. New dwellers should preferably

care about the social network in the community they are moving into since a high degree of collaboration among inhabitants is necessary in order to make the area prosper.

When potential newcomers visit the area for the first time it will be important that the signals that are communicated by residents and structural features in Sjøveien attract people that think they may benefit from the structural solutions that characterize the area, and are willing to invest time and energy in being social and adaptive. An area without balconies and where residents are found outdoors on the common lawn communicates a community-oriented lifestyle. If balconies are erected on the other hand informants fear that the area will attract newcomers that are mainly interested in withdrawal to privacy in beautiful green surroundings, enjoying the nice view of the fjord from their balcony. Both buildings and outdoor areas that demand neighbor collaboration in order to be well maintained, may suffer from decline.

The proximity to the fjord and nice green areas are without any doubt important qualities in the area, but with regard to the wish for close neighborhood relations the favorable location might in fact also be regarded as a problem. Potential inhabitants fall in love with the beautiful surroundings and neglect to take into consideration the social demands that the life in a four-family block will bring about. When the hard facts of reality appear after some time of residence, most of them will choose to move. In the meantime their neighbors will in the worst-case scenario, have been loaded with extra work on the joint property because the newcomers have not taken on their part of the responsibility. A high numbers of residents that are “coming and leaving” also will result in an unwanted turnover in the area.

The arguments of the community-oriented residents are in a sense rational and understandable. Their way of thinking is well known and presumably found among inhabitants in both suburban and urban residential areas. In suburbia especially the esthetical codes of different areas have been used as segregating mechanisms. The results from such an attitude may however be a severe lack of tolerance to people that are different from oneself, and further on splits and controversies between different categories of citizens. Social considerations should however summon that the neighborhoods contribute to better understanding between different groups in society instead of confirming divisions.

15.6 “Move in time” or “Grow old in Sjøveien”?

The community-oriented parents in Sjøveien have moved into an area that reflects their lifestyle and continue to make it into their perfect domicile by making rules and guidelines according to their own preferences. According to respondents the community-oriented lifestyle that is practiced by many in Sjøveien today actually has a certain number of supporters. It should be possible to fill a couple of residential areas based mainly on collective solutions in a city with the size of Trondheim.

But the number of residents that can fully adapt to such a lifestyle and feel comfortable with it beyond the period when raising small children might however be more limited. It should be questioned whether this residential alternative represents a long time solution to those who live there or if it is merely an alternative that suits their need for a certain period in life.

The moving patterns of seniors in Stavanger that Barlindhaug and Gulbrandsen investigated in 1997 (Barlindhaug & Gulbrandsen, 2000) showed that most people choose to stay living where they are after passing 50. Just 14% of all movers were aged above 50. In Sjøveien we know that there was a considerable emigration of seniors in the 1990s. A reason for the high number of senior movers may however be due to the fact that they were tenants and decided to move away instead of buying the flats they rented. Maybe they detected that most newcomers were families with small children and decided to leave the area for that reason. If they had been homeowners at that time they might have been more difficult to displace.

It is not easy to say whether today's parent generation in Sjøveien will leave the area in the same way when they pass 50. Informants do not give any clear answers to this question. In fact they don't know themselves what they will think about their own situation at that time. If someone decides to move out that might start a trend. Nobody wants to be left alone when they become seniors if there are just the next generation of parents and their small children in the neighborhood.

In order to make a flat in a four-family house in Sjøveien become a permanent lifetime dwelling, it seems like the need for privacy has to be better cared for than it is today. If this is not done the group of Sjøveien dwellers in the future presumably will consist of solely families with small children since this group is most eager for close neighborhood relations and collective solutions. Adaptation for privacy without losing a sense of community will be a challenge that has to be solved if the flats in the area are going to be regarded

as permanent dwelling alternatives to the majority of residents. But anyhow, both possible outcomes with regard to the housing career of future seniors in Sjøveien are realistic. Thus it might be interesting to detect the consequences of the two alternatives with regard to residence consumption and ecological sustainability.

The “Grow old in Sjøveien” scenario may have positive implications with regard to the social diversity of the residential area. If more seniors choose to stay, the mix of residents may hopefully contribute to better contact between people from different generations. As long as conflicts are avoided, the childhood environment in the area should also benefit from a higher number of seniors, and the seniors themselves won't feel forced out from their homes. With regard to ecological sustainability the picture should also be satisfactory. Even if most flats are enlarged the size will not exceed 120 m² for the top floor flats and about 130 m² for those on the ground floor.

Compared to most Norwegian detached properties, these sizes are reasonable, and despite leading to a certain excess consumption of living area it is far better that seniors stay in their Sjøveien flats after the children have left the nest than that they stay in their oversized detached homes.

The “Move in time” scenario maintains the present imbalance with regard to age structure in the group of residents with the negative implications for the social sustainability that already have been discussed. Before giving any answer with regard to the consequences for the ecological sustainability, it is necessary to figure out the most likely further property options of the emigrating seniors. So far the data indicates that row housing or flats in urban apartment buildings or detached blocks are the most realistic alternatives for the senior movers. With regard to dwelling consumption these solutions will equal or be better than continuing to live in their Sjøveien flat.

The situation that seems to represent the most negative development with regard to ecological sustainability is if the teenager families start to move out of the Sjøveien area. Families with older children are in the most demanding period with regard to need for space. Data on house moves show that parents with older children are more inclined to move than those with younger ones. The benefits of the Sjøveien area seem to be more adapted to the needs of families with small children than teenager families. The ones with actual moving plans in this group don't seem to have any predominant favorite dwelling type, but the “maybe movers” in this group are quite unanimously going for a detached property. Thus a better adaptation to the needs of families with older children might be one of the most effective ways to heighten the sustainability of Sjøveien.

The typical detached property seeker in Sjøveien however is the young, childless couple that moves into the area because of the nice location but move out after a short period because of a wish for more privacy. Balconies and private space on the ground may keep them stay, but it should however be questioned whether a four-family block that always will demand a considerable degree of neighbor cooperation, is the right housing alternative for these couples. Maybe a row house would be a better alternative to a detached house to residents in this category.

15.7 Conclusion

The data from Sjøveien indicates that during the years of having infants presumably a considerable number of parents would prefer the housing alternative that Sjøveien can offer to a traditional detached home. There are several reasons for such a preference. Among the most important are the good conditions for children with spacious common outdoor areas well suited for play, and a high number of possible playmates in the neighborhood. The tight social network of parents is also important as it gives a positive contribution to the life quality of the adults by providing local friends, babysitters, social control with children in the outdoors and so on.

In addition to the social advantages Sjøveien also has other attractions that enables it to compete with most detached property areas. The location in green surroundings close to the fjord is of course important. It should be considered to be in optimum accordance with the suburban dream; “The perfect mix between town and countryside.” Also with regard to other suburban values like security, predictability, and opportunity for participation, Sjøveien makes a good case. Respondents and informants from households with children find the area esthetically appealing and identify themselves with the area to a very high degree.

The spatial organization of Sjøveien gives the area a more spacious character than most other areas with dense, low housing and similar plot exploitation. The detached buildings have generous distances to neighboring buildings and light and view are well taken care of. The spaciousness of Sjøveien equals the spaciousness of traditional detached housing areas and is an important characteristic when the areas’ ability to compete with this property alternative is evaluated.

Thus several factors make the area able to compete with the traditional detached areas as long as the target group is confined to the families with

small children. With regard to families with older children the picture is more complex. When children grow older many parents begin to feel a need for more privacy. At this point several of them start to look for another property, preferably a detached family house. When evaluating Sjøveien as a permanent dwelling alternative to the families, the need for more privacy in the outdoors that many respondents and informants speak of, has to be taken seriously.

The parents' wish for safety for their offspring is a basic motivation for the establishment of suburbia. Keeping the children in suburbia during the teenager phase has however always been a general suburban problem. The kids are bored and want more excitement and challenges than the green surroundings can give them. A residential area that offers more to the teenagers will have a competitive advantage to other suburban areas. Communal offers like for instance a community center should be more easy to erect and organize in an area like Sjøveien, that is based on common solutions in the first place, than in most detached dwelling areas.

Middle-aged and senior householders that move from the Sjøveien area do not look for oversized detached properties where they may grow old. They move into flats and row houses that bring about similar or reduced residential consumption. In order to prevent increased property consumption it will be more important that the area covers the housing needs of families with older children as this is a category that will be more inclined to choose a detached house.

16 Conclusions and implications

16.1 Research question 1; Major findings

What factors make the Sjøveien area attractive to families with children?

The four-family house area Sjøveien appears, as a residential area, to be very attractive by those belonging to the category of households with children. The area scores highly with regard to property qualities generally valued by suburban residents.

Results from the quantitative test of property qualities show that parents in Sjøveien want to live in a residential area with high degree of *Traffic security* located in *Proximity to public leisure areas*. The area should have *Nice social environment* and *Usable common outdoor fields* should be given a high priority. With regard to buildings they want *Practical housing* in *Buildings with high technical standards* with *Possibility for enlargement of the property*.

The differences with regard to the preferences of the total sample of respondents from the five suburban areas (Sjøveien, Disengrenda, Reinen, Torvetua and Nobø) are not striking, but the parents in Sjøveien stress the importance of practical and psychosocial qualities that influence the performance of the whole residential area more than just the separate housing unit. With regard to realization of desired qualities, the Sjøveien area performs very well despite certain under-optimized qualities. Especially the qualities *Usable common outdoor fields* and *Proximity to public leisure areas* are realized in full accordance with the parents' wishes.

The lifestyles of the parents are based on family values with a focus on the needs of their children. The Sjøveien area is regarded as a nice place to live with children. Large and open outdoor areas with plenty of grass and trees are considered as being well suited for the children's play. The suburban location in green surroundings should be considered to be in optimum accordance with the suburban dream; "The perfect mix between town and countryside." The enclave quality of the area contributes to

increased security and better social control. In addition the separateness and esthetical wholeness of the area helps the identification process of its residents, a process that also is supported by the good possibilities for participation.

Sjøveien has a dominant group that is more community-oriented than our picture of traditional suburbanites. The housing type invites for common use of areas both indoors and outdoors and makes the area especially attractive to parents that are interested in developing a close neighborhood network. This group has been predominant and the composition of the group of residents in the Sjøveien area tends to develop in direction of increased homogeneity.

The quantitative test of property qualities shows as we have detected, that the parents underscore the importance of *Good social environment* and *Usable common outdoor fields*. Their priorities concerning the psychosocial environment and use of the outdoor areas seem to be in conflict with the priorities of the respondents from the childless households.

Further investigation shows that there seems to be a connection between the two qualities. The common outdoor fields have an open layout without fences, hedges or other physical hindrances. The gardens around the houses are not separated from the common green fields, and the total impression of the outdoors is a visual continuum where the children may move freely about according to their own wishes. *Spaciousness* is the concept that the informants employ to describe the wanted appearance of the outdoors. The search for spaciousness expresses the spatial and visual ideals of the informants. Also indoors the search for spaciousness is evident.

The open outdoor layout contributes to the building of a social network between parents. The absence of visual hindrances leads to exposure of people and activities and thereby creating possibilities for contact between neighbors. Thus the open layout supports the social lifestyle of the community-oriented parents while other residents that want more privacy feel excluded. The esthetical appearance of the area seems to play a part with regard to the development of a homogenous group of dwellers. The struggle of power between different lifestyle groups in the area demonstrate this importance by the use of arguments that are partly based on esthetical considerations in order to defend physical characteristics that support a community-oriented lifestyle. Both the resistance against balconies and the open layout of the outdoors are defended by esthetical

arguments. Thus the fight for hegemony in Sjøveien is fought out with esthetics as a weapon, a phenomenon that seems to be well known from other suburban residential areas.

16.2 Research question 2; Major findings

What is the link between the factors that contribute to Sjøveien's attractiveness and the factors linked to the community's physical and demographic density?

The official wish for increased physical density in built up areas seems to be countered by the respondents' evaluation of housing attractiveness in Sjøveien. Building in the vertical dimension (two floors + basement and attic) and keeping a low BYA (percentage of plot covered with buildings) contributes to a more spacious layout than most medium dense small-scale housing areas with a similar degree of land exploitation. This spaciousness is appreciated by the informants who do not perceive the area as physically dense. Spaciousness is actually regarded as one of the main attractions of the residential area. Increased physical density both in the vertical and horizontal dimension seem to be strongly unwanted.

On the other hand the housing type and building pattern in Sjøveien still represents a kind of housing that has a considerably higher degree of land exploitation than the traditional detached area (23 family dwellings per hectare compared to 16 dwellings per hectare in the dense detached dwelling area Ole Nordgaardsvei, and about 10 dwellings per hectare in traditional detached dwelling areas). From this perspective this kind of housing still should be regarded as an interesting alternative if the aim is to build suburban residential areas adapted to the needs of families with children that have a higher physical and demographic density than traditional detached housing areas.

With regard to attractiveness and demographic density the connection seem to be ambiguous. A certain demographic density may be advantageous for the purpose of developing a neighborhood network. The meeting points for instance have to gather a certain number of residents and offer some activity in order to be attractive. And the housing quality *Good social environment* is highly sought after by the parents. But demographic density is just as helpful for the mentioned purpose until it reaches a certain level. If density exceeds this limit a state of crowding may occur.

In Sjøveien the limits of demographic density seem to have reached this point. An important factor in this connection is the outdoor layout. The predilection for spaciousness results in outdoor areas where residents are exposed to each other and thereby get in touch. At the same time this predilection brings about an avoidance of means of spatial enclosure (fences, hedges, etc.) that might define places suitable for private withdrawal in the outdoor areas. Many parents are also skeptical to the erection of balconies, partly because of esthetical reasons, but presumably mostly because they are afraid of losing the strong social network in the neighborhood. The resulting limited possibilities for privacy in the outdoors seem to be an important reason for *crowding* both among parents and those from childless households.

Concerning respondents from families with children there also seem to be a connection between experienced high level of demographic density and level of neighbor conflicts. The parents seem to be more aware of and vulnerable to conflicts in the neighborhood. A reason for this may be that they tend to stay outdoors to face the conflict instead of choosing to retreat indoors. This choice presumably is motivated by the strong desire for close neighborhood networks that we find among the majority of parents in Sjøveien.

The same factors seem to result in crowding indoors as in the outdoors. Conflicts have to be avoided, and it is important that each individual has the opportunity for withdrawal to privacy. The number of rooms has to be sufficient to cover the need for personal space, but beyond this the spaciousness of the flat resulting from open layouts with interconnected rooms for common use is given a high priority in order to avoid a feeling of being cramped.

Findings in Sjøveien support theories claiming that apartment buildings and blocks of flats are less inclined to give rise to crowding than concentrated small-scale housing. An important reason for this is that the former types secure the anonymity of the residents. More privacy and limited neighbor contact seem to reduce the number of conflicts and overstimulation and thereby prevent crowding. With regard to the informants with children in Sjøveien at least, it seems like the advantages of living in a residential area with a tight social network compensate for the disadvantages of crowding, at least during the period having infants.

Inhabitants' experience of demographic density in Sjøveien influences important aspects with regard to housing attractiveness. In many ways the experience of crowding in Sjøveien may be described as an unwanted side

effect of the highly prioritized dwelling quality *Nice social environment*. The community-oriented parents that dominate the group seem to give an interpretation of this quality that implicates a rather high degree of social involvement. A housing type that demands neighbor cooperation combined with common outdoor areas where neighbors are exposed to each other, helps the creation of ties. Many residents are parents with small children, a stage in the life cycle when tight neighborhood networks seem to be especially welcomed. The lack of possibilities for withdrawal to privacy is however noticed, and to respondents from households without children and many parents with older children it is considered to be a problem that overshadows the benefits of the social network.

16.3 Research question 3; Major findings

To what degree is the Sjøveien area able to compete with detached dwelling areas as a permanent housing alternative for families with children?

The data from Sjøveien indicates that during the years of having infants a considerable number of parents would prefer the housing alternative that Sjøveien can offer to a traditional detached home. There are several reasons for such a preference. Among the most important are the good conditions for children with spacious common outdoor areas well suited for play, and a high number of possible playmates in the neighborhood.

The tight social network of parents gives a positive contribution to the life quality of the adults by providing local friends, babysitters, social control with children outdoors and so on. According to respondents most areas built up with detached houses that they know do not offer tight neighborhood networks. They have few places where neighbors may meet and few reasons for collaboration that possibly could act as a catalyst for contact.

In addition to the social advantages Sjøveien also offers other attractions that enables it to compete with most detached housing areas. The location in green surroundings, close to the fjord is of course important. It should be considered to be in optimum accordance with the suburban dream; "The perfect mix between town and countryside." Also with regard to other suburban values like security, predictability, and possibility for participation Sjøveien makes a strong case. Respondents and informants from households with children find the area esthetically appealing and identify themselves with the area to a very high degree. The dream of a

detached dwelling is presumably to a high degree built on a wish for realization of the traditional suburban values. In order to compete, other housing alternatives have to give a valid answer to the quest for the suburban dream. Sjøveien appears as an interesting alternative because the area realizes several suburban core values in a convincing way.

The spatial organization of Sjøveien gives the area a more spacious expression than most other areas with dense low housing and similar plot exploitation. The detached buildings have generous distances to neighbor houses and the light and view are well taken care of. The spaciousness of Sjøveien equals the spaciousness of traditional detached housing areas and is an important characteristic when the areas' ability to compete with this alternative is evaluated.

Thus several factors make the area able to compete with the traditional detached area as long as the target group is confined to the families with small children. With regard to families with older children the picture is more complex. Parents often move into the area when their children are babies or toddlers. After some years the children have matured and have become more independent from their parents. At the same time the parents, that so far have indulged in the tight social network of parents, begin to feel a need for more privacy.

At this point several of them start to look for another home, preferably a detached family house. We know that so far few of them actually realize this dream. The advantages of Sjøveien and reluctance to break up the friendship ties of the children presumably keep them back in Sjøveien. But when evaluating Sjøveien as a permanent alternative to the families, the need for more outdoor privacy that many respondents and informants report of has to be taken seriously. Presumably implementation of balconies would solve much of this problem, but the present outdoor layout should also be evaluated.

The possibility for extending the dwelling is an important feature that prevents teenager families from moving to single family homes. Extended flats of about 120-130m² are by most respondents evaluated as having an adequate size for a family with four members. The size allows for privacy for each individual without squeezing the spaciousness of the flat. A layout on two floors gives the different generations the possibility for keeping a certain distance. The parents seem to welcome a certain distance to the kids at this stage but at the same time they are afraid of losing control. Keeping them back in suburbia is important to them. A community center that could offer leisure activities and gather the young

people together is mentioned as a means to achieve this. Presumably a community center could make Sjøveien more able to compete with detached housing areas with regard to the needs of teenager families.

The Sjøveien area as it appears today is primarily adapted to the needs of families with children. Households without children are nevertheless also represented among the inhabitants. Most of these are young and middle-aged, very few are seniors. Whether today's parents will continue to live in the area when their children move out and they become seniors, is an open question. Both the "Grow old in Sjøveien" and the "Move in time" scenario are possible outcomes. Middle-aged and senior households that move from the Sjøveien area do however not look for an oversized detached house where they may grow old. They move into flats and row houses that bring about similar or reduced housing consumption. In order to prevent increased consumption it will be more important that the area covers the needs of families with older children as this is a category that will be more inclined to choose a detached house.

16.4 Implications for architectural design

The Sjøveien area is obviously attractive to the target group of this investigation; families with children. The success of the area is the result of several factors among others the fantastic location by the fjord, the spacious common outdoor areas, nice atmosphere among residents and generally a high score with regard to qualities that meet the suburban core values.

In order to learn a more general lesson from this specific case it should however be questioned to which degree the four-family block as a type contributes to this attractiveness and whether the case inspires us to new interpretations of this type of housing as a more concentrated alternative to the detached home.

The four-family type may be described as a small apartment building with a central staircase giving access to the flats. Most often the flats have a private balcony or small private outdoor place on the ground floor. In areas built up with a certain number of four-family blocks common use of the entire plot of the residential area, like in Sjøveien, is not unusual.

Most four-family houses that exist in Norway today were built in the period from about 1920 to 1960. In the last decade they gained popularity again and accordingly there are some new developments built with this

type of housing. The new projects do not however show any future-oriented development. They are merely bad copies of old models. Thus it could be interesting to ask whether the Sjøveien case may contribute to the development of the type and related types of cross-divided housing.

16.5 The importance of meeting the suburban values

If the aim is to build attractive suburban residential areas that are more concentrated than the detached house areas the new developments should aim at meeting the suburban values and ideas. The ideal suburban location provides a perfect mix between city and countryside. Proximity to public leisure areas is an important quality. In addition the distance to the city center should be moderate.

Traditionally the areas built with detached housing have occupied the most attractive plots that fulfill these demands. If the aim is to build more concentrated but still attractive housing in suburbia, attractive plots with the most favorable suburban locations should be sought. In order to attract middle-class couples with children it will be an advantage if areas with concentrated housing are erected in city districts with a high social status. By such a location it should be possible to avoid stigmatizing of concentrated housing as alternatives only for people with low incomes.

Clear demarcations and distinct esthetical character with room for variation may help the residents' identification process. The enclave quality that we detect in Sjøveien is an example of how this demand may be given a physical interpretation. The enclave quality contributes to increased identification, security for the children and adequate social control and is an important means to realize the suburban values of the dwellers.

16.6 Physical density and building pattern

When planning for increased physical density we have to find a usable balance between "horizontal" and "vertical" density. Dense low-rise housing represent high "horizontal" density and is characterized by a high BYA (Percentage of plot area covered with buildings) and a relatively high TU (Total plot exploitation, expressed by total floor space as percentage of the plot area). High-rise housing on the other hand

represents the extremity of “vertical” density and is characterized by a low percentage BYA but a high percentage TU.

The choice of horizontal versus vertical density will influence how the qualities of space and place, but also privacy and public use will be expressed in the area and to which degree the area is perceived as densely built up. The areas’ expression of these qualities will in turn affect how the area handles the increased demographic densities that normally are implicated by increased building density.

The four-family block area Sjøveien has a %TU that is quite similar to dense low-rise housing. An open building pattern does however result in a lower %BYA that contributes to a more spacious expression. This spaciousness is appreciated by the residents that don’t experience the area as densely built up. By and large the spatial preferences of the informants in Sjøveien incline to underscore the importance of space *at the cost of* place. The quality of place is defined in a modest degree, but the meeting points in the area are adequately articulated for the purpose of connection making. The quality of the neighborhood networks in Sjøveien presumably do not differ very much from what we may expect to find in a dense low-rise housing area dominated by the same category of residents. Places defined for privacy and withdrawal are however lacking in Sjøveien. In new residential areas this need should be better taken care of either by balconies or by small private places on the ground.

The findings in Sjøveien indicated that the building pattern in Sjøveien characterized by generous volumes and relatively long distances between houses contribute to the attractiveness of the area and may act as model for new housing projects. The low %BYA provides for light and view, giving a feeling of spaciousness and give in addition generous outdoor areas. The grouping of the detached volumes should vary. Various groupings of houses create more diversified outdoor areas. Groups of houses with different characteristics may also act as domiciles for various categories of inhabitants and invite development of subcultures within the area. As long as the subcultures do not seriously conflict, cultural diversity should be welcomed as a contribution to a more heterogeneous and exciting suburban residential area

16.7 Planning of the outdoor areas

The planning and layout of the common outdoor areas holds an important clue to the success of residential areas built up with four-family blocks or

other types of small apartment buildings. In order to avoid conflicts of interest between different categories of residents, the different parts of the outdoor areas should be diversified with regard to size and character. Different groups of users should have the possibility to find their special domiciles within the outdoor areas where they have the possibility to make the rules and be busy with their favorite activities. It will be an important task of the architects to define areas in such a way that conflicting activities are avoided.

Presumably this indicates a certain degree of special adaptation to certain activities but without a design that is so narrow that it gives no room for user interpretation. Social meeting places that gather people from different categories will also be necessary in order to build a common feeling among all neighbors in the area. The allotment gardens in Sjøveien show that this kind of meeting places may have a positive effect even in an area characterized by disagreements and a tendency to segregation. The outdoor areas should offer both silent places with opportunities for withdrawal, places for special activities and plain open spaces. Areas that are open to user interpretation, for instance nature, should not be forgotten. Variation, consideration and generally high quality are important clues.

16.8 The potential of the four-family block regarding psychosocial integration

Grouping of residents in small clusters like in a four-family block may have evident advantages with regard to the psychosocial adaptation of residents. Previous research works by Andrew Baum and Stuart Valins (1977) that have been referred to in this thesis show that students living in dormitories with students' rooms organized in small clusters had a better psychosocial adaptation than students living in dormitories with long corridors giving entrance to the students' rooms. While the students in the "suite" dormitories were exposed to a small group of other students living in the same cluster, the "corridor" students had to deal with a much higher number of fellow students. The "corridor" students became stressed and showed withdrawal behavior. Social groups did not occur, and the students felt unprotected. Suite residents, on the other hand, were better able to develop comfortable and effective ways of dealing with each other.

Findings in Sjøveien support the effect of small clusters of residents in order to build a foundation for the social network between neighbors. The respondents generally report affinity between those living in the same

block despite potential conflicts. The questionnaire shows that the category of inhabitant that are most inclined to have their closest neighbor relations in the same block in fact are the childless. This may be due to the circumstance that the meeting points in the outdoor areas that are common to all residents are most frequented by children and their parents. But also the parents show a tendency to develop close relations to neighbors living in the same house.

The grouping of the four-family block facilitates the creation of social ties. But also with regard to psychological well being the housing type may be beneficial. The four-family blocks in Sjøveien are clearly defined units with their own characteristics that separate each individual building from the total group of buildings. This individual character better the possibilities for the residents' identification and belonging.

As a contrast most areas built up with blocks of flats offer the inhabitants large housing units with similar appearance. Certainly the blocks in most cases have several separated stairways that give a physical basis for the creation of social networks. The physical characteristics that facilitate identification with the residence are however lacking. Thus the four-family block may be more adapted to the needs of families with children, as parents want to keep a high degree of social control in the residential area, and wish that their children should be able to develop a feeling of belonging and safety.

The vertically divided types and the detached housing also lack the socially integrating effect of the four-family block. Private entrance and garden ensure the family's need for constituting oneself as a separate unit, but the other types do not offer equivalent possibilities as the four-family block with regard to development of social interaction between neighbors.

The size of each group of households have to be limited if its aim is to have a psychosocial integrating effect. A group of four families is small enough to offer a high degree of social control and big enough to offer mediators if there for instance is a conflict between two of the households. Presumably the number of flats could be increased to about six without losing the positive integrating effect.

The garden that surrounds each block is of importance too. Despite the lack of visual borders between the garden of each block and the common outdoor areas in Sjøveien, the residents of each block feel that they have a certain territorial claim on the plot of their building. Children often choose to play close to the entrance and they keep their toys and other personal

belongings on the plot. The garden creates a basis for activities that take place in the entire outdoor area, and offers security and a place to withdraw. Especially the most protected gardens function in this way.

The benefits of the four-family block with regard to psychosocial integration should be possible to transfer and implement in all types of small apartment buildings with a limited number of flats. The size and layout of flats should preferably vary. This could be a way to attract a more diversified group of residents. In order to avoid conflicts between for instance people of different age and phase of life it might however be an interesting idea to dedicate some houses for specific categories of resident.

In blocks with a mix of different households, the lower floors might be disposed by families with children while the upper floors with the best view might be better adjusted to the needs of childless households. In Sjøveien parents emphasize the importance of having easy access to the ground. Entrances to the upper flats are on the second floor, which is tolerable. Entrances on the third floor might function in case of need but are not wanted.

16.9 The potential of building flexibility

The flats in a four-family block have three free facades that provide for excellent conditions for daylight. In order to make the most of this favorable circumstance, the layout of the flats should be arranged in a way that gives all areas in the flat contact with view and daylight. The alterations of the flats in Sjøveien illustrate how important it is that the entrance area welcomes residents and visitors with inflows of daylight and visual contact with the common rooms. There is no excuse for designing rooms without daylight in a four-family block. Light, view and open layouts meet the demands for spaciousness.

The daylight conditions also open up for a more flexible use of rooms and possibilities for remodeling of the plan. It will of course be a prerequisite that the facades are provided with an adequate number of windows of suitable size. All windows of the four-family blocks in Sjøveien are identical and have a quite generous size. With regard to the flexibility of the plan this is a great advantage. The possibility to alter the flat is important to the informants. Both the practical usability and the psychological identification process benefit from flexibility.

The flexibility of the four-family block is also helpful in other ways when the aim is to develop a more sustainable housing alternative that is able to compete with the detached house. The teenager period presumably is the most demanding with regard to need for living floor space. During this period it is also of critical importance that the families choose to stay in the areas with concentrated housing instead of moving into a detached property. Housing elasticity that makes it possible to regulate the flat size according to needs for space may be a helpful means in order to keep the teenager families. In Sjøveien residents may enlarge the flat by implementing areas in the basement or attic. In order to arrange for the reverse process, reducing the floor space when the family size shrinks, the common central staircase plays a crucial role. Keeping it intact is a premise for a potential splitting of large family flats as the new small flats have to have entrances with access from the central staircase.

Common indoor areas may also give a positive contribution by increasing the attractiveness of the residential area and reducing the need for living space. Presumably a community center could make areas with concentrated housing more able to compete with detached housing areas with regard to the needs of teenager families. Common indoor areas would compensate for limited floor space per resident in the flats, and in addition give the youngsters a place to meet at an appropriate distance from their parents while still keeping them in the suburban residential area. In order to test the validity of this hypothesis investigations of residential areas with common indoor space have to be executed.

16.10 Questions for further research

The investigation in Sjøveien is a single case study of a specific housing culture. It would therefore be interesting to test whether the findings in Sjøveien have validity in a wider context. A quantitative investigation with a more extensive sample of respondents could for instance map the occurrence of phenomena found in Sjøveien in other Norwegian suburban residential areas.

One of the findings that could be interesting to follow up is the predilection for spaciousness outdoors and indoors at the expense of protective screening that is a common visual ideal in Sjøveien. It would be interesting to find out whether this ideal is widespread among Norwegian suburbanites in general. In the thesis of Støa (1996) that has formerly been referred to, findings from interviews indicate that predilection of a spacious visual ideal at the cost of visual screening may be widespread

among Norwegians. Also Saglie (1998) found in her interviews predilections for spaciousness among residents. Predilection for spaciousness may be conflicting with the wish for a more compact city. A more extensive quantitative investigation may confirm whether these findings have any wider relevance.

Among respondents in Sjøveien a community center is presumed to be a means that can make the area more attractive to teenager families. In order to test this assumption, residential areas with existing community centers should be investigated.

The connection between common, open, multi-functional outdoor areas and tendency to increased homogeneity among residents is also interesting for further research. This finding is in many ways controversial and may question the benefits of common outdoor areas. On this background it would be interesting to test the validity of this finding in a wider context. Is the tendency to segregation found equally in any residential area or do the structural conditions in Sjøveien make the area especially exposed to segregation?

The Norwegian housing sector has as mentioned earlier been protected against serious social conflicts. Nevertheless there may be characteristics of the Norwegian housing culture that we so far have not acknowledged as problems that deserves a closer look at. Demographic segregation of residents may be mentioned as a typical example.

After the Second World War most properties have been built in new residential areas in the suburbs. All properties in a specific area are of the same age and most often also of the same type. Lack of variation brings about a homogenous group of inhabitants with regard to social class but also age.

In later years this already established tendency to segregation seems to increase even more. The price gap between the better off areas and the more modest ones is growing. Large price gaps between the residential areas is a well known phenomenon in many other countries, but in Norway the political ideas about equality have had a significant impact, and social differences with regard to economy have not been striking. Economic differences on this scale are therefore a comparatively new phenomenon in Norway, and as such they are receiving little attention at least from researchers.

We have however been used to demographic segregation with regard to age and phase of life during the post war period, as most citizens have grown up in suburban residential areas where all the parents moved into their newly built house at the same time, were the same age and had children belonging to the same cohorts. Today we still see that the suburban new areas built up with detached properties or more concentrated small-scale housing are being filled with young families with small children. The sales advertisements in the newspapers offer good environment for children, proximity to natural recreational areas, possibility for enlargement and individual adaptation and participation and so on.

But in addition we also see a new phenomenon; sales advertisements that offer central localization, garage in the basement and elevator connection to your flat, life-cycle standard, high finish and easy maintenance. The recipients of this message are not young families, but senior citizens aged 50 plus. New residential areas that are inhabited solely by seniors, and in some central city districts this type of development has resulted in a population mainly constituted by pensioners.

The social consequences of age segregation on the scale that we see today are not yet investigated. The phenomenon is not really problematized, maybe because we already have been used to age segregation in the years of suburban developments with homogenous groups of inhabitants. But some likely negative consequences may be traced. In Norwegian society today the different generations meet in very few arenas. The parent generation and their children very often live in a part of the country that is far away from the grandparents. Many senior workers have retired from working life and meet their fellow pensioners in social clubs especially adapted to their needs. The parent generation and their children on the other hand spend their hectic everyday life by running between home, kindergarten, school, workplace and leisure activities for the children.

If people from different generations do not meet in the residential area, where should they meet then? And what happens with the solidarity and tolerance between the generations if they live parallel lives without any contact? Politics traditionally has been characterized by a struggle between different groups for benefits and rights. Class struggle has been, and many will say still is, a severe conflict in our society. But do we in addition see a generation struggle? People from different classes have usually been living in different residential areas. Today we see the same with regard to different generations.

The densification strategy may unintentionally play a negative part in this development if planners and architects are inattentive. More concentrated housing usually leads to reduced outdoor space per resident. As a consequence more frequent “collisions” because of higher demographic density may occur, leading to fights for hegemony between conflicting groups.

The study of Sjøveien shows in general several positive characteristics with regard to social responsibility. Residents engage in the neighborhood network, they help each other when necessary and collaborate for the benefit of the area. Conflicts of interest between the households with children and the households without children are however detected. Especially with regard to the open layout of the common outdoor areas, absence of private outdoor places and the character of the neighborhood network the contrasts between the needs of the two household categories are striking.

Experience of crowding seems to increase with the level of neighborhood conflicts. As we know households from different categories frequently have conflicting interests. According to this logic a homogenous neighborhood with residents with similar interests would be less exposed to crowding. The tendency to increased conformity in the group is a well-known phenomenon in suburban and presumably also in urban residential areas. A reason for this search for like-minded neighbors may be that householders try to avoid conflicts.

In Sjøveien we can detect several factors that may lead to increased homogeneity. One of them is the open, multifunctional layout of the outdoors. The possibilities for user interpretation seems to lead to a fight for hegemony and power of definition in order to avoid conflicting activities. A possible way to handle this problem is to give the outdoor areas a more predefined functionality if the aim is to maintain a certain diversity of resident. A higher degree of specification with regard to design and layout might however weaken the possibilities for user participation and thereby the inhabitants' identification with the area. And as we know the possibilities for participation and identification are important housing qualities in Sjøveien that make the area able to realize suburban core values and compete with the detached areas. Thus further research on the topic should have an aim to detect in which way outdoor areas may be designed in order to avoid conflict of interest between different age and household categories, and still be the object of user interpretation and identification.

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