Extra Care Housing: a paradigm shift

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Abstract

This paper sets out to investigate if and how a spatial typology for extra care housing (ECH) can be defined within the context of housing for older people in the UK. In particular, it focuses on the concept of domesticity in relation to the perception of public, semi-public and private domains.

Four sheltered housing schemes that have been remodelled into ECH within the past four years, have been selected as case studies. The spatial distribution of various public, semi-public, and private domains of the pre-remodelled and remodelled schemes have been analyzed quantitatively and interpretively, to determine how their distribution might help bolster or undermine the ethos behind ECH. Likewise, the spatial layouts of the sheltered, as well as the extra care schemes have been analysed syntactically, to determine how different spatial morphologies and their probabilistic functions might begin to help define ECH as a new type of group housing for older people.

The findings of the paper suggest that the extent to which the spatial configuration of a scheme affects one's notions of self-containment and control, has a direct impact on whether the scheme performs as a building or as a settlement. It is furthermore argued that the more a scheme functions as a settlement, the less institutional it may feel. Thus, as a typology, a successful extra care scheme can be defined as a building that works as a settlement.

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Introduction

In today's Britain, a drastic decrease in the birth rate and an increase in life expectancy mean that, progressively, older people constitute a much larger section of society. Consequently, the issue of choice and provision of appropriate housing for older people seems to be gaining more significance with each passing decade. As the number of older people in the society is on the increase, their changing aspirations (Hanson, 2001) which place particular importance on issues of privacy, autonomy, and independence, as well as a move away from institutional care provision to one that puts the focus on the individual, affect the way future housing models are developed. In the past decade ECH is one such model that has seen a growth in popularity. In fact, the recent focus on this intermediate level of housing and support has led many housing providers to consider converting some of their hard-to-let (Tinker et al, 1995) sheltered housing into ECH.

This paper sets out to examine how ECH, as a type of housing with integrated care, seeks to move away from the more institutional model of care provided in sheltered housing. Does bringing the various programmatic requirements and stakeholders of ECH under one roof offer a new spatial and social "model of care" in group housing for older people? To this end, the paper aims to investigate how various ways of achieving control and privacy in ECH might have an effect on the extent to which an environment might feel domestic or institutional.
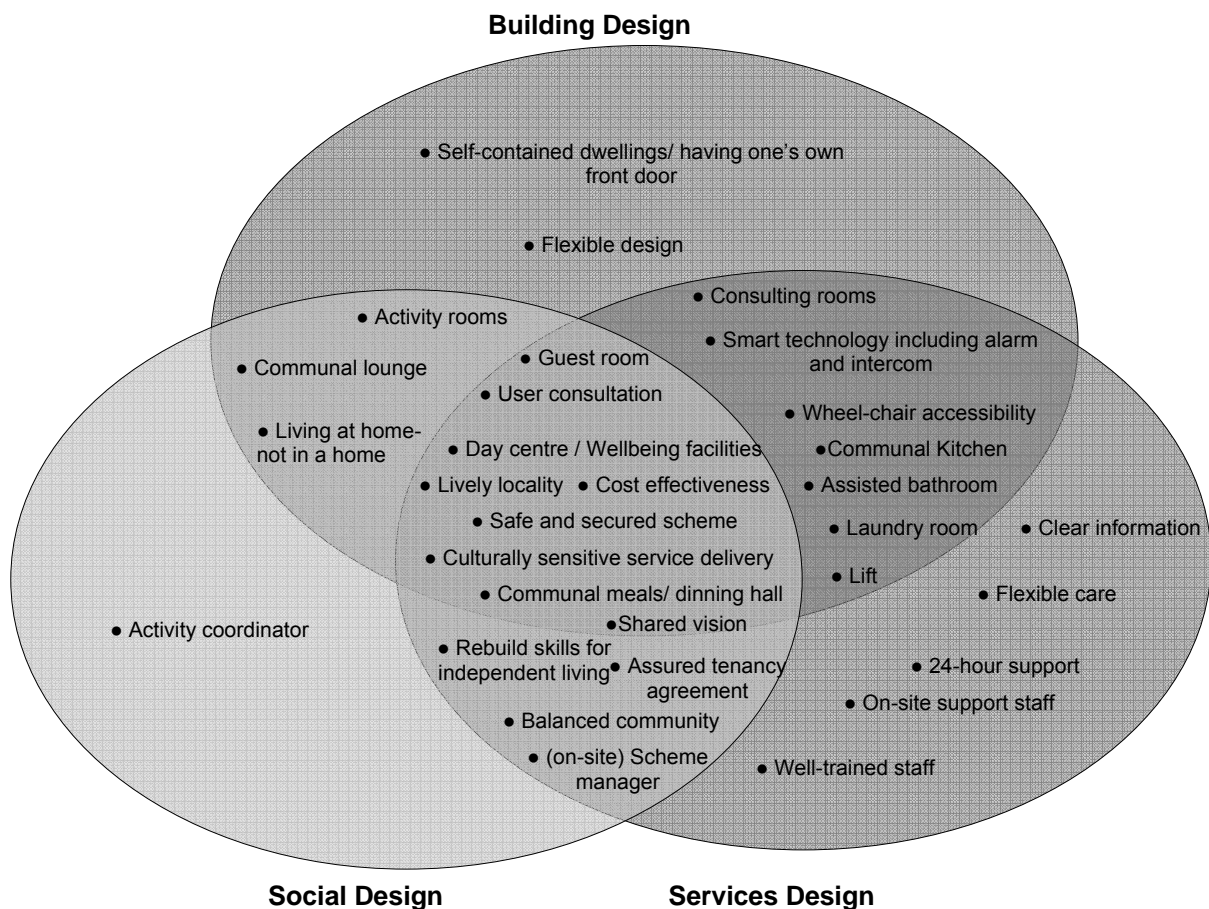
Four remodelled sheltered housing schemes from various parts of England have been carefully selected from a larger group of 10 cases that have been studied in connection with an ongoing EPSRC-funded[1] project that is investigating how remodelling has converted them into ECH[2]. In the selection of cases, care was takes to include a variety of examples that were considered to score differently in terms of their domestic ambience and spatial standards provided. The spatial distribution of various public, semi-public, and private facilities have been analysed quantitatively and interpretively to see how their distribution might begin to inform questions about the domesticity of each scheme. Next, a series of space syntax tools have been employed to syntactically analyse the spatial layout of each scheme to determine how their spatial configuration might have an effect on how control - over the expropriation of space - and various privacy levels can be achieved.

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[1] Engineering and Physical Sciences Research Council
[2] Remodelling Sheltered Housing and Residential Care Homes to Extra Care Housing, grant number EP/C532945/1, Anthea Tinker, Julienne Hanson, Fay, Wright, Ruth Mayagoitia-Hill, Alan Holmans and Hedieh Wojgani.

Although there are other housing types for older people with an integrated care component (e.g. residential care homes or nursing homes), ECH is new in the sense that its underlying principles include independence, social inclusion, and flexible care and support. The findings of previous research (Wojgani, et al, 2006) and a subsequent survey carried out amongst 115 service providers (Hanson, et al, 2006) have established and validated a number of architectural and social, as well as care and support elements, which collectively define ECH. Figure 1 depicts the degree of overlap between the different categories of building design, social design and service in ECH.

Building Design

- Self-contained dwellings/ having one's own front door
- Flexible design
- Activity rooms
- Consulting rooms
- Communal lounge
- Guest room
- Smart technology including alarm and intercom
- User consultation
- Living at home- not in a home
- Wheel-chair accessibility
- Day centre / Wellbeing facilities
- Communal Kitchen
- Lively locality
- Cost effectiveness
- Assisted bathroom
- Safe and secured scheme
- Laundry room
- Clear information
- Culturally sensitive service delivery
- Lift
- Communal meals/ dinning hall
- Flexible care
- Activity coordinator
- Shared vision
- Rebuild skills for independent living
- Assured tenancy agreement
- 24-hour support
- On-site support staff
- Balanced community
- (on-site) Scheme manager
- Well-trained staff

Social Design   **Services Design**

Figure 1: The interrelation of the design components of extra care housing

These characteristic features such as self-contained dwellings, communal lounges and assisted bathrooms are designed to bolster its underlying core values of independence, social inclusion and flexible care. It can be argued that the extent to which a balance is struck between achieving its main objectives and providing a domestic setting where the residents' sense of privacy, self-esteem and dignity is protected, play a major role in measuring the success or failure of an extra care scheme.

The effects of layout on control and privacy

Striking the right balance between privacy and sociability, in an environment where multiple stakeholders are brought under one roof to deliver various services, is not an easy task. A relatively recent piece of research on defining domesticity (Hanson et al, 2003) in relation to older people's housing and care choices suggests that there is a strong link between older people's perception of independence and their notions of self-esteem, self-determination and dignity. The Hanson study goes on to distinguish between five conditions deemed necessary to support domesticity in the area of housing, support and care services for older people in the UK. They include notions of privacy, control, self-containment, personalization and independence. The degree to which, these concepts are promoted or inhibited are considered to play a major role in how domestic or institutional an environment feels.

In ECH one of the main goals is to promote the residents' sense of independence. This is partly achieved through encouraging the residents to do as many of their chores as possible, and partly through the delivery of flexible care and support services. At the same time as there is an attempt to provide self-containment at the level of individual dwellings, there is also an effort to provide many of the services the residents might need on site. However, although concepts of self-containment and independence seem to be built into one's understanding of ECH, notions of privacy, control and personalisation become more ambiguous in an environment where various programmes and stake-holders with different degrees of privacy requirement are brought together.

As a housing concept based on the idea of 'neighbourliness' (Parry and Thompson, 2005), ECH is geared to reduce the social isolation of frail older people by providing access to community activities. In some cases the communal facilities serve as a community resource which brings people from the surrounding neighbourhood into the scheme. (Fletcher et al, 1999) Hence, because of the inherent nature of its programme, ECH brings various public, semi-public and private facilities under one roof. The question then becomes, how the right balance between the residents' privacy and their sociability is achieved without making a scheme institutional.

Recent literature on how to address issues of control and access to various public, semi-public and private facilities in situations of group living tend to recommend the model of 'progressive privacy' as one of the more desired options.
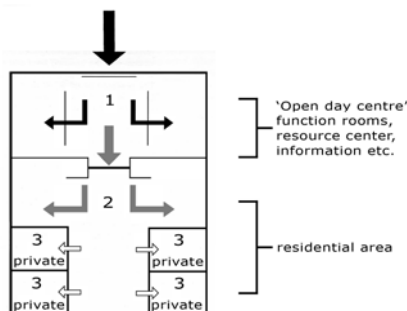
Figure 2: Concept Diagram of Progressive Privacy (after Torrington, 1996)

As defined in Remodelling Sheltered Housing (Trotter, et al 1998), 'progressive privacy´ breaks up a scheme into three zones to include a public and communal space with an open door and a 'pop in' area where people from the community outside are encouraged to enter, a selection of more sheltered areas, which are not freely open to everyone from the outside and where entry is restricted to people who have a reason to be there, and the private dwellings which are fully controlled by the individual residents.

The concept of 'progressive privacy' ranks each constituent element on a scale of ascending privacy with the most public spaces close to the main entrance and the private dwellings the farthest away from the main entrance. However, as the diagram indicates this approach to zoning requires clear boundaries that are set not necessarily by the residents, but either by the designers or the 'people in charge'.

A syntactic, more subtle alternative to achieving control and various privacy levels has been described in another piece of research conducted in the context of restrictive settings in the United States (Peatros, 1997). Some of the findings of this research suggest that the probabilistic function[1] of space can be employed to achieve control through natural surveillance. The study found that in restricted settings where measures of control and surveillance were implemented through abrupt transitions and hard boundaries, it resulted in a more formal interaction between the staff and the residents, and contributed to the institutional feel of the facilities. In the case studies where the generative effect of spatial configuration on 'the probabilistic spatial patterning of movement and interaction' were supported by the programme, however, control and surveillance were achieved through 'natural surveillance', and a more complex hierarchy of transition. This resulted in a more relaxed and informal social interface between staff and residents.

In a different study of a more domestic environment where residence is the principal purpose of the building, Peace et al (1982) examined how the residents and staff of residential care homes perceived and used the buildings in which they lived and worked. This study found that in the context of group living where different parts of the programme require various degrees of privacy, circulation spaces can have multiple functions. It was found that they can serve as a link between various programmatic elements (e.g. communal lounge and bedrooms); define boundaries between different zones of public and private; or provide buffer zones between bedroom areas and public areas, for example. (Peace et al, 1982; 19) In investigating the collective and individual lives of the residents, it was established that the public/private distinction rested, at least in part, upon rights of access to particular spaces and that different users have different rights of access. (ibid; 16-17)

In ECH, the building users fall into the three groups of residents, staff and visitors. While for the residents the scheme is primarily a place where they live, and for the staff, it is a place of work; for the visitors it might mainly serve a community resource. Achieving the right balance in satisfying the needs of different groups of building users, without institutionalising the scheme, poses a challenge in a setting that has primarily a domestic function, because most environments with similar mix of requirements and users tend to be institutional buildings.
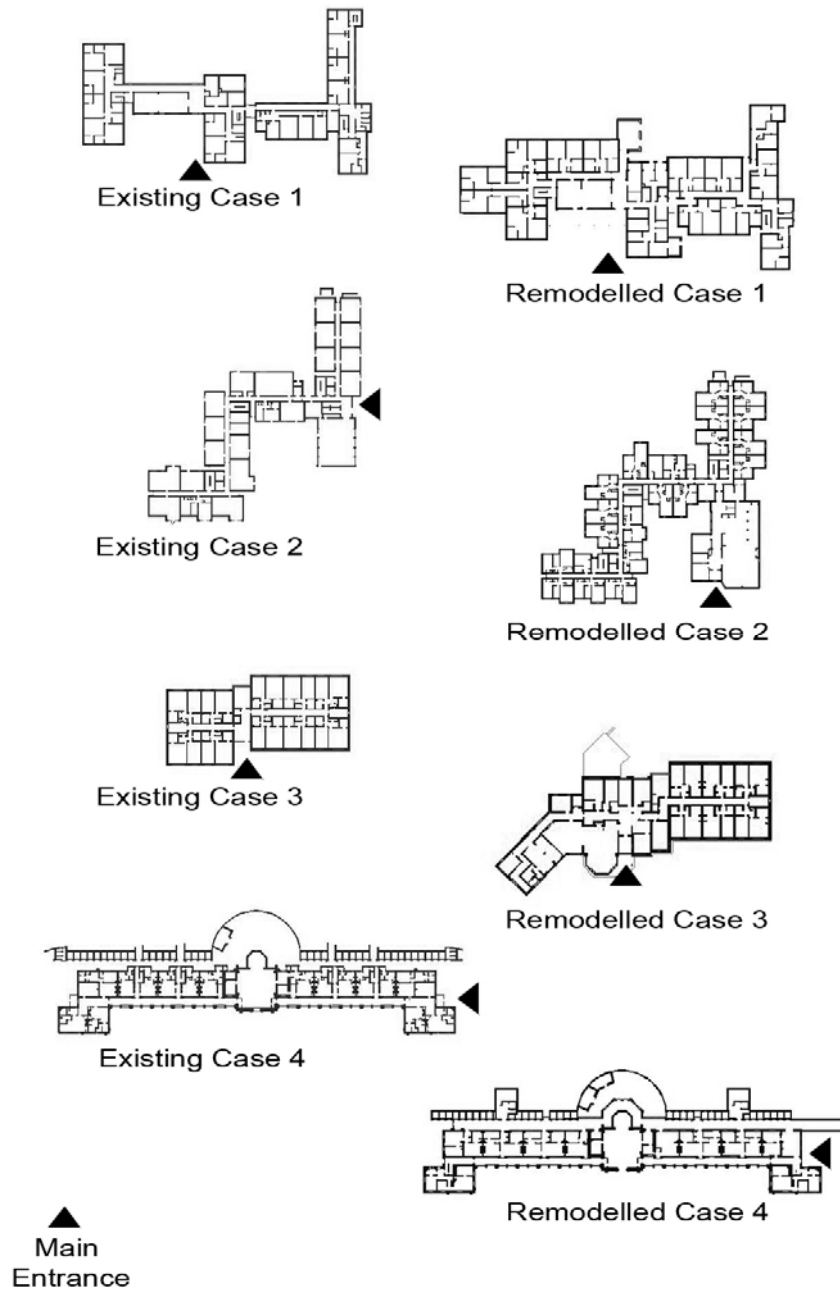
In their 1984 book 'The Social Logic of Space', Hillier and Hanson discuss the role of space in generating and controlling encounters. They argue that various building users fall in the three categories of inhabitants, visitors and strangers. They define inhabitants as people with special rights of access to and control of buildings, whose social existence is mapped into the category of space created by the boundary of space defined by the building. Visitors on the other hand, are characterised as a subset of strangers who may enter the building temporarily, but may not control it. Visitors, as opposed to strangers, have a legitimate reason to cross the boundary of a building, but have fewer rights than the inhabitants, in that they have no control over the building and their social individuality is not mapped into the structure of space within the building. Hence buildings are abstractly defined as a certain ordering of categories with a system of control, where the interface between the inhabitants and the visitors is controlled.

They further argue that while interior spaces of many buildings are defined as places of social reproduction with a high degree of determinacy, the exterior urban fabric[2] is a place for social production with a level of structure. Whereas a building might be characterised by some level of formality and 'imposed' order, settlement space is characterised by informality and an inherent configurational structure, which might give rise to such probabilistic functions of spaces as 'natural movement'[3] (Hillier, 1996), 'natural surveillance' and co-presence.

Institutional buildings and settlements are therefore two scenarios where a mix of programmes are brought together to serve a variety of user groups. Hillier and Hanson (1984) stipulate that the difference between building space and settlement space lies in the way they generate and control encounters. In a building where the corridors are controlled by the powers of an institution (the staff) the interface between the inhabitants and the visitors are much more controlled than in the spaces of streets where there is an absence of institutional power and less rigidity between various zones.

At this point, as a move away from institutionalisation, the question becomes if in principle ECH can employ the inherent underlying rules of the settlement structure on its circulation spaces to achieve both control and privacy and also provide a sense of community[4]? And if so, to what extent does the fact that a scheme works as a building or a settlement affects one's perception of how domestic or institutional it feels?

Case Studies : an overview

Existing Case 1

Remodelled Case 1

Existing Case 2

Remodelled Case 2

Existing Case 3

Remodelled Case 3

Existing Case 4

Remodelled Case 4

▲
Main
Entrance

Figure 3: Plans of the existing and remodelled case studies

In order to explore the interrelationship between the social, organisational, and physical environments which constitute ECH, four remodelled extra care schemes in England have been selected as case studies. In particular, the paper seeks to examine how the interface between the public, the semi-public, and the private spaces in ECH work, and to what extent it might begin to define a type that is different from other types of housing for older people. Table 1 provides a quick glimpse into the variety of the cases.

	Case study 1		Case study 2		Case study 3		Case study 4	
	Exis.	Rem.	Exis.	Rem.	Exis.	Rem.	Exis.	Rem.
No. of stories	2	2	2	2	5	5	2	3
No. of units	34	29	39	39	33	32	30	30
One-person units	31	25	29	38	33	25	30	21
Two-person units	3	4	10	1	0	7	0	9
Total capacity	37	33	49	40	33	39	30	39
Footprint (m²)	715	1223	1190	1534	554	765	1287	1959
Total net area (m²)	1367	2185	2107	2570	2112	2578	2567	4131

Table 1: Summary of the basic data of the four case studies

A preliminary analysis of the data provided in Table 1 reveals case 4 as the largest in terms of total net area (4131 m²) of the scheme followed by cases 3 (2578 m²), 2 (2570m²), and 1 (2185 m²) in descending order. In terms of total capacity, case 2 is the scheme with the largest capacity (40) followed by cases 3 and 4 on equal ranking (39) and case 1 as the smallest (33) of all four schemes. Considering the sizes of the building foot prints, this makes case 3 the densest scheme with 20 m² per person and case 4 the sparsest with 50 m² per resident. In terms of the overall net area of the building, case 2 with 64.3 m² per resident is the scheme with the least generous spatial standards and case 4 the scheme with the most generous with an average of 106 m² per resident.

Methodology

Given the complexity of the issues at hand and their multifaceted dimensions, analysis has been conducted at two levels. First, comparisons are drawn between the four case studies in terms of possible similarities or differences in their general spatial configurations. Furthermore, a quantitative analysis method, which has mainly been developed for the EPSRC-funded research on remodelled extra care schemes, was employed in which all the characteristic constituents of extra care housing were colour coded according to the 6 categories of private, semi-public, public, staff only, other, and circulation. Each category was defined on the basis of the pattern of access and control, and perceived 'ownership' of the spaces:

- Private: accessed by residents only, others require permission for access, individual ownership permanent , e.g. self-contained flats

- Semi-public: accessed by residents and staff, but on an individual basis, individual ownership temporary, e.g. assisted bathrooms, guest rooms, communal laundry
- Public: accessed by residents, staff, and visitors, collective or institutional ownership, e. g. lounges, entrance halls, circulation routes, dining rooms, hairdresser's room, treatment rooms, buggy store.
- Staff only: accessed by staff only, institutional ownership, e.g. sleepover room, scheme manager's and carers' office, commercial kitchen, staff laundry.
- Other: institutional ownership: accessed by staff only, e.g. service areas, mechanical rooms.
- Circulation: accessed by residents, staff, and visitors. Institutional or public ownership. e.g. circulation routes

Once all the plans had been colour coded, and the net areas of various categories been calculated, statistical analysis was conducted to determine the weight of importance placed on each category and how that might begin to inform the ethos of the scheme in terms of domesticity and institutionalisation.

Secondly, the quantitative approach has been complemented by a syntactic analysis (i.e. j-graphs, axial analysis, convex analysis) in order to examine and study the implications of the various configurations and spatial layouts of each case study. To this end, a succession of space syntax methodologies has been employed to measure values of axial integration and convex properties of the public and semi-public communal spaces in each scheme. The aim of the analysis was to detect and measure the effects of remodelling on the configuration of the public and private spaces and hence their possible implications for the private and collective lives of the residents.

From rigid boundaries to flexible buffer zones

The analysis of the before and after remodelling of each case shows that while in all sheltered schemes the integration core lay outside the building proper, in the remodelled schemes it is incorporated inside the building envelope. At the same time in all cases the public facilities tend to be situated in close proximity to each other and to the main entrance of the scheme. Furthermore, the local integration axial maps of the majority of the cases have highlighted that the communal facilities form an integration core that corresponds with the public domain of the scheme, much like a public square in a settlement. (Figure 3 serves as an example) On the other hand, all residential dwellings are mostly in the more segregated parts of the scheme.
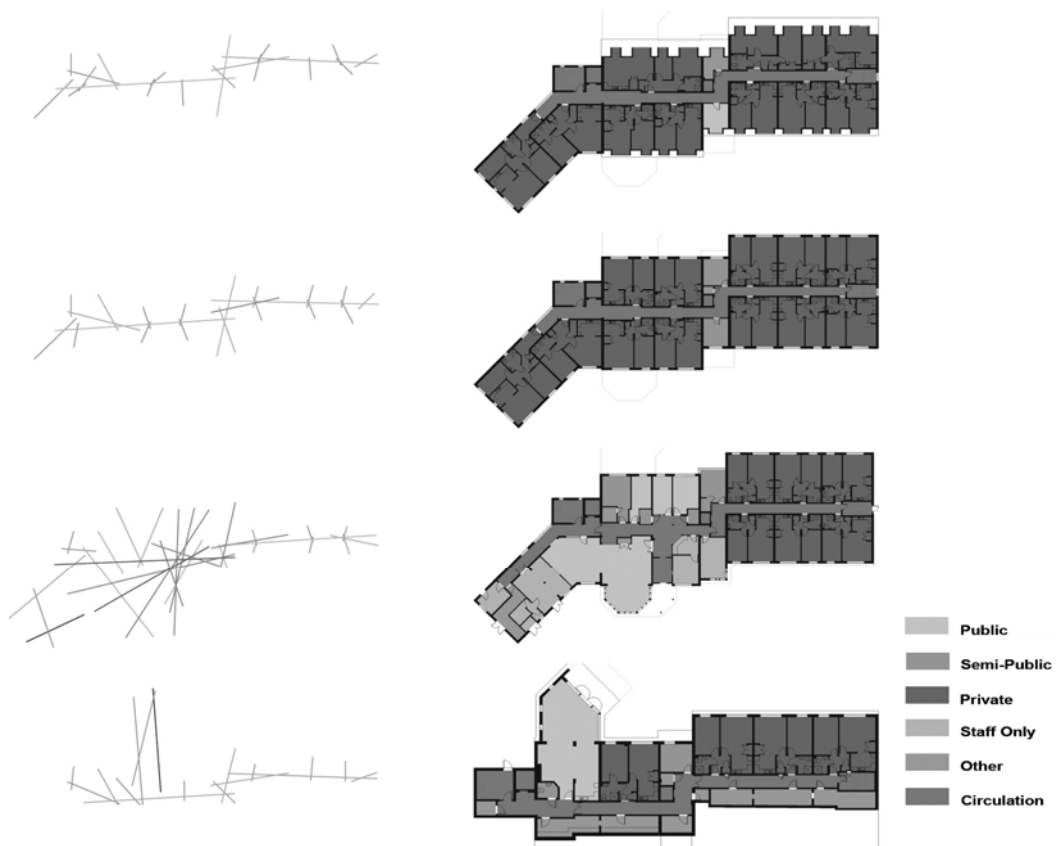
Figure 4: Local Integration axial map of the remodelled case 3, and the floor plans color-coded according to their privacy gradient.

The j-graph analysis show that in all cases, but one (case 1), the total number of steps of depth required to cover the whole scheme has increased as a result of remodelling. Table 2 sums up of the range of steps from the main entrance for each case, where elements of public, and semi-public facilities, as well as private flats can be encountered.

	Case 1		Case 2		Case 3		Case 4	
	Exis.	Rem.	Exis.	Rem.	Exis.	Rem.	Exis.	Rem.
Public	1	1-4	2-3	3 [5]	2-6	2-7	3-7	3-9
Semi-Public	4-9	3-7	2-7	4-9	5-6	2-6	2-6	3-8
Private	4-10	3-8	3-8	5-10	3-7	4-8	2-7	3-10 [6]
Total no. of steps	10	8	8	10	7	8	7	10

Table 2: Comparison Chart of the Justified Graphs

All in all, while the private dwellings tend to be 3 to 4 steps from the main entrance and reach deep into the scheme, the depth of semi-public and public elements varies. In terms of the semi-public, although in all cases, they are between 3 to 5 steps away from the main entrance, in cases 1 and 2 they reach relatively deep into the scheme and the number of steps (5 out of 8, and 5 out of 10) where both semi-public and private elements can be encountered is higher. In cases 3 and 4, the semi-public zone stops at a slightly shallower point and the

overlap of the semi-public and private zones in terms of number of steps, is smaller (3 out of 8, and 3 out of 10). In some cases (cases 1 and 2) the overlap of the public zone with the other two categories is much smaller or non-existent, whereas in others it reaches very deep into the building. Figure 4 provides a comparison between the four cases.
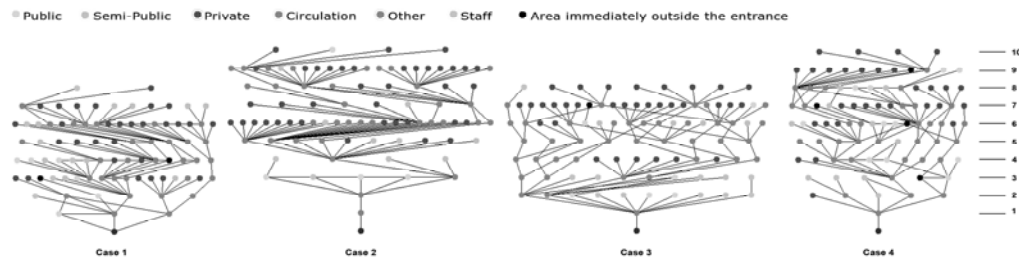
Figure 5: J-Graphs of the remodeled case studies – justified from the main entrances into the schemes.

One way to interpret these data is that in cases where the boundaries between the various zones are more relaxed, the potential for encounter and co-presence amongst the inhabitants (the residents and the staff) and the visitors (people from the community) is higher at each step into the scheme. On the other hand, in cases with a more rigid separation between the public, the private and the semi-public zones, there is a stronger control over the 'interface between the inhabitants and the visitors' (Hillier and Hanson, 1984) as a result of the reduced variety of spatial choice at various steps of the scheme.

In cases 1 and 2, for example, control and the definition of each zone is dictated by their situation within the scheme, whereas cases 3 and 4 seem to draw less rigid boundaries between their various zones. This is also clearly sensed in the scheme where the circulation corridors were intentionally designed in such a way as to evoke the idea of a public/urban space. As in case 3, shown earlier, in case 4 the central circulation route works almost like a town square, as it is not only lined with a mix of various programmatic elements, communal lounge, library, assisted bathroom, private flats, and so forth, but it can also be accessed and approached from multiple directions at various levels. The fact that this space is partly two or three stories high and as wide as a local street, might be the reason why residents and staff refer to it as the 'thoroughfare' (Figures 6 and 7). What is most striking about this the 'thoroughfare' is that almost all different programmatic entities open onto it at one level or another. As such, control over what is regarded as public or private seems to be handed over to the inhabitants of the scheme, and is bolstered by the configurational properties of the space.

Figure 6: 'The thoroughfare' with views to the upper and lower floor circulation.

Figure 7: 'The thoroughfare' on the main (first) floor.

Designing the corridors as a public zone provides the scheme with the highest potential for co-presence and movement, both of which are employed as control mechanisms. At the same time, in order to deal with the issue of privacy, sections of the circulation space, such as the bridges that connect the main corridor the flats, serve as buffer zones between various programmatic elements. Despite the fact that many transitional areas and changes of direction are provided in order to increase depth in terms of access, visibility is for the most part retained and much improved compared to the sheltered scheme. These subtle transition zones help ameliorate the move from one zone to another, and create soft boundaries that help relax the sense of imposed control.

As the more successful (less institutional) examples of our cases suggest some designers are intuitively designing the communal and the circulation spaces as public elements where there is a less rigid separation of various zones. In case s where this design intention has been successfully carried out, a walk down the main circulation core can, to a certain degree, be compared to walking down a street where one may encounter a library, a corner shop, and a residential unit all in one block.

Another aspect that can influence perceived notions of control is the placement of the scheme manager's office. In most cases, the manager's office is clearly visible not only from the main entry hall and parts of the communal areas, but for people approaching the scheme from the outside. This model of 'scheme-manager-as-concierge' creates a sense of overt surveillance and hierarchy. In contrast, when the manager's office is carefully situated in a strategic place where the comings and goings of the scheme can be 'naturally' surveyed, the institutional feel of the scheme is greatly reduced. In case 4, for example, although the manager's office is not readily visible from outside, the view from the office allows for complete control over the entrance area of the scheme. There is, however, no direct access or views to the communal lounge from the manager's office. As the public facilities tend to be located in the area of the main entrance to the building where the scheme manager's office is usually located, and since they tend be the most integrated parts of the building, the integration core can simultaneously act as a domain of probabilistic encounter and as a sphere of surveillance, especially by the scheme manager. The strategic placement of the manager's office seems to impact on one's perception of control and thus has a direct effect on how institutional a scheme appears.

In all the remodelled cases, some of the most integrated spaces in the scheme are the circulation corridors where such facilities as the laundry room or the assisted bathrooms are situated. (Figure 7 serves as an example.) Locating semi-public facilities that require a degree of privacy on a corridor where the potential for chance encounter or co-presence is highest, might not always be a good thing. However, in all cases the assisted bathrooms that were located on the ground floor, had a transitional zone to act as a separator from the public corridor in order to ensure some degree of privacy to their users. Still, this does not seem to be an optimal situation because it is not unrealistic to assume that given the option, the residents would prefer to undertake private activities like bathing and laundering in a more private area of the building or even optimally in their own flats.

■	5.41 to 5.76 (1)
■	4.37 to 4.72 (1)
□	3.68 to 4.03 (1)
□	3.33 to 3.68 (3)
□	2.98 to 3.33 (1)
□	2.29 to 2.64 (5)
□	1.94 to 2.29 (6)
□	1.6 to 1.94 (10)
■	1.25 to 1.6 (21)
■	0.9 to 1.25 (10)
■	0.56 to 0.9 (12)
■	0.21 to 0.56 (7)

Figure 8: Remodelled Case 1 – Local Integration

Another finding seems to indicate that although in all cases the private dwellings are located in the most segregated spaces in the scheme, the relative integration levels of the corridors immediately leading to them seem to vary from scheme to scheme. This confirms the findings of Peace et al (1982) in relation to the role of circulation spaces in residential care home. The fact that circulation spaces display a range of integration values suggest that potentially parts of the circulation space might be more suitable for linking the more private parts of the programme, while others might better serve the semi-public facilities. So in cases where the corridors are most segregated, the privacy of the residents can be much better secured than in the corridors with higher integration values, as the chance that outside visitors will find their way to the more segregated corridors is significantly reduced. This could be a good thing in a setting where vulnerable older people would like to avoid unwanted visitors that might seek to take advantage of them or disturb their peace and quiet. On the other hand, as in cases 1 and 4, it might be advantageous to have a range of public, semi-public, and semi-private circulation routes with varying degrees of integration values to create a smooth transition from the more public spaces to the more private. At the same time, this type of arrangement would provide the more sociable residents with an opportunity to talk to passers by as in a normal street.

On the level of spatial standards, while the average flat sizes have increased as a general trend, closer examination of the spatial distribution of various programmatic categories reveals some enlightening results. Table 4 sums up the percentage of increase or decrease in the average net area dedicated to each person for each category of programme in each example. As the figures indicate,

the only two categories that have seen an increase across the board are 'public facilities' and 'circulation'. This trend falls in line with the aim of bringing communal and social programs into the scheme. Since ECH acquires a partially public or communal face and because it is mainly geared towards a vulnerable older clientele, it is not surprising to detect a move towards more generous circulation spaces that comply with wheelchair accessibility standards.

	Case Study 1	Case Study 2	Case Study 3	Case Study 4
Semi-Public	215%	80%	74%	16%
Semi-Private	-24%	13%	175%	0%
Private	128%	54%	8%	29%
Staff only	22%	14%	220%	-22%
Other	-11%	85%	28%	113%
Circulation	28%	43%	34%	10%
Total	79%	50%	8%	24%

Table 3: Comparison Charts of the spatial distribution

At the level of private dwellings the trend seems to be a general increase in size, in order to provide self-contained flats. However, it is more useful to view this in association with the category of semi-public, because enlargement of flats tends to allow for the inclusion in the private domain of the residents of at least some of the previously semi-public functions. In case 1 for example, where the increase in percentage of private area is highest, the net area of the semi-public spaces has dropped by 24%. This is one of the cases where the sheltered housing scheme had the highest number of bed-sits, most of which have shared bathrooms. As a result, the average flat size in the pre-remodeled scheme was a meagre 21.8 m². In order to bring the flats to the required standard of self-contained units and to bring some of the functions of the semi-public facilities into the flats, there had to be a relatively high increase in their net area.

By the same token, in order to strike the right balance between the private and the semi-public facilities, the net area of the semi-public facilities had to be reduced. The fact that there is a wide range of changes in the percentage of semi-public facilities is a reflection of the standard flat sizes of the pre-remodelled schemes. In case 3 for example the sheltered flats were already rather self-contained. On the other hand the scheme did not have adequate semi-public facilities to fulfill the requirements of ECH. Generally, this shift of emphasis from the semi-public communal facilities to the private dwellings is part of the overarching move away from the institutional towards a model of care that provides services within the domestic setting of older people.

Conclusion

As a housing type with flexible care and support requirements, ECH has a list of architectural constituents that are meant to help bolster an ethos of independence and social inclusion in a flexible care and inclusive environment. While promoting 'neighbourliness', and encouraging ties with the wider

community, as a housing type, ECH seeks to integrate the required programmes necessary to deliver various care and support services, as well as social and well-being programmes that help improve the quality of life of its residents.

This paper has discussed ways in which various components of ECH are brought together in order to ensure they receive their appropriate level of privacy. The concept of 'progressive privacy' suggests that programmes requiring similar levels of privacy, should be grouped together and be clearly separated from those whose privacy requirements differ. However, this paper argues that 'progressive privacy' has to be far from formulaic, as drawing a clear line between various privacy zones may contribute to a sense of institutionalization where order and control are exerted from top down. Analysis of the more successful examples in this study seem to suggest that a mix of different programmatic entities at each step into the building not only offers variety and change, but can render a scheme less institutional. In such settings control can be achieved through the inherent structure of the configuration, as in a settlement.

The findings of this paper seem to further confirm the hypothesis that in order for ECH to achieve its goals and objectives it needs to work as a settlement at multiple levels. The central findings are two-fold. Firstly, it is important that the public facilities are situated in the integration core where the potential for through movement and co-presence is high. This automatically lends control to the circulation space that subtly connects various public elements. Through co-presence and encounter the residents can police the space and one-another and hence create a 'virtual community' in the same way as one experiences in a local street.

Secondly, it seems crucial that the control of various programmatic requirements (i.e. the non-domestic ancillary or communal facilities) is achieved through subtle means e.g. buffer zones, rather than hard boundaries and abrupt transitions. This implies that defining clear zones between various public and semi-public elements is not necessarily something to strive for. Furthermore, programmes of a semi-public nature such as assisted bathroom and the laundry room should be provided inside the individual private flats. Doing this allows the circulation spaces to serve as the interface between the inhabitants (the residents and the staff) and the visitors of the scheme (people from the wider community) and thus become more of a public space much like a street, without impinging on the privacy of the residents. Simultaneously, it emphasizes the front door of the flats as a clear boundary between the public and the private domains while at the same time helping reduce the level of formality and imposed order in the circulation spaces.

The paradigm shift from building to settlement seems to be crucial in distinguishing between how control is achieved and privacy protected. This indirectly impacts on notions of domesticity and control, and even perceived 'ownership'. Once the circulation spaces become a zone where control and access is granted to an equal degree to the residents, the staff and the visitors, the scheme may become like a retirement village with a sense of community where people come together, rather than a home where people are brought together because they all have similar care needs.

This mix of variety and the self-sufficiency of the programmatic requirements of ECH in combination with the different degrees of privacy brought under one roof,

make it an easy target for institutionalization. This paper suggests that the degree to which an ECH scheme functions as a settlement rather than a building is key to achieving its aspirations and objectives of empowering its residents by bolstering their social inclusion and improving their quality of life.

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[1] "… probabilistic function concerns the generation of movement, awareness, encounter and communication as a by-product of configuration over and beyond the requirements of particular organized activities." (Peatros, 1997, paraphrasing Hillier and Hanson, 1984)

[2] The urban grid is the pattern of public spaces linking the buildings of a settlement, regardless of its degree of geometric regularity. (Hillier, 2001)

[3] Movement generated as a result of configuration.

[4] The idea of the spatial metaphor of settlement in buildings is in essence not new, although its application in the domestic setting is. Examples where some kind of a "main street" is proposed as a unifying factor for the organisation housed, has a long and distinguished history in a series of flagship buildings (e.g. office, lab buildings, schools, etc.) that have been deemed to have achieved this objective, but the metaphor has not always been able to deliver in terms of creating or sustaining a community among the building's occupants.

[5] In cases where only one element from the category is separated from the rest of the group, to avoid distortion that would skew the actual picture of the scheme, that element has been left out. In case study 4 for example there are only 1 flat out of 30 that is within one step reach from the main entrance, whereas 97% of the dwelling units are 3-10 steps away.

[6] See 5.

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