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## **Inside the eco-home: using video to understand the implications of innovative housing**

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### **Abstract**

As a method of qualitative research, video offers a means of looking into the world of a respondent and a means of stimulating a dialogue, both with the respondent and others. Video requires, however, the application of additional ethical procedures and may also increase refusal rates, if it is publicly disseminated. Applied to the home, the use of video reveals both practice and identity. Video records practice, showing how the spaces within a home are used at a particular time. For this reason, video is well adapted to understanding the implications of living in a home with an innovative design and technology, with all the complexities that this commonly involves. Equally, video communicates the appearance of the home and of its occupants to whoever is watching. Video is, therefore, intimately connected to identity and the home as a place.

Key words; eco-home, home, space, place, video

The development of innovative 'eco-homes' is a necessary means of implementing current national targets for carbon reduction. The housing stock is of such long duration that, in order to achieve the current UK target of an 'almost zero' housing stock by 2050 (DECC 2011, 30), dwellings built now should also be broadly carbon neutral and this is not straightforward. The aim of this paper is to reflect on the use of video-taped interviews and home visits to understand and show how 'ordinary' people use and respond to innovative eco-homes. In addition, in doing this, a contribution is made to how the home might best be conceptualised in qualitative research through a threefold or triadic distinction between practice, identity and materiality. The emphasis throughout is on the experience of living in innovative housing and therefore on practice and identity, rather than the material aspects of the home as represented by its technology, the physical design or energy performance.

The research was funded under a knowledge transfer programme and also involved the establishment of a Facebook site (<http://www.facebook.com/MyEcoHomeSHU?fref=ts>). The assumption was that much innovative eco-housing had been led by technology and that an

effort should be made to enable designers and developers to think from the users' point of view, as is good practice (Lynch and Hack 1984). The Facebook site also contains the response from the designers of two of the three schemes included in the study, showing how knowledge transfer helps promote mutual learning by all involved. However, as became apparent, the line between knowledge transfer and knowledge acquisition is capable of being crossed. The very process of preparing material for dissemination starts to raise questions about the implications of the method and about what is said or observed.

The paper has two parts. The first part is an extended introduction dealing with the context and procedures. The second part, entitled 'Interpreting the home' is about the video contents. This latter chapter is subdivided in turn into sections dealing with the methods and forms of conceptualisation, practice theory and identity theory.

### **The context**

The logic of video is not too different from that of other intensive qualitative research methods. Video enables a detailed interview and also enables observations of the context in which the interview is undertaken. Like other intensive methods it is time consuming and typically results in small-scale studies, characterised by detailed and often wide-ranging transcripts. Video has, however, particular strengths. In a conventional interview, the interviewer is in a privileged position because he or she can see the surroundings and read any non-verbal signals from the respondent. In a videoed interview, the interviewer's privileged position is diminished, though not eliminated. A video cannot reproduce the smells or the temperature in a home. Even so, the analyst can see into the interview; can go inside the home.

### ***Practical and ethical issues***

Equally, in presenting a world to the self and to others, video provides a means of engaging the subject, encouraging them to reflect, transforming research subjects into participants and giving them a voice in the output (Kindon 2003). A previous study by Pink (2007) involved

the principle of 'walking with video' to establish a dialogue with the users of a place. The present research has likewise encouraged a dialogue by showing the results to the participants.

In the present study, however, the audience of the video is not just the subject and the researcher or even the subject, the researcher and a small community. Instead, the audience is literally anyone who is interested and can access the Facebook site and other sites where the video is available. The audience is moreover substantial by most standards. For example, on 19 March 2013, immediately after completion of the funded period of the project, the Facebook site alone had, according to Facebook's own metrics, received 8,982 visitors.

The public character of the research meant, in turn, that the researchers had to be especially careful in negotiating access and gaining the consent of the various parties. Potential participants were made aware of the public character of the interview. They also received an information sheet detailing their right to withdraw and the timescales within which they could do so. Participants had to opt in to the project and if they did not do this, no filming took place. In the case of social housing, we also did not film where the landlord raised objections, as this would have almost certainly affected their willingness to comment on the completed video, as was part of the research design.

The research was intended, to include two estates that had been developed by social landlords for rent or shared ownership or a combination of the two, together with a third estate developed for sale by a public/ private partnership agency. The balance was intended to reflect the way in which social housing agencies have so far completed the majority of innovative, sustainable housing schemes in England. The schemes were selected because they possessed an innovative eco-feature, rather than any specific level of sustainability under the Code for Sustainable Homes or any other eco-rating system. However, the statistics for the Code are revealing as to the distribution of innovative housing by private and social housing developers. Innovative housing schemes can be equated approximately with schemes that have scored 4, 5 and 6 under the Code for Sustainable Homes. In 2012, of the 9,468 homes for which Code level 4 completion certificates were issued, 80 per cent were publicly funded. Similarly in 2012, of the 234 homes for whom Code Level 5 and 6 completion certificates

were issued 90 per cent were publicly funded.<sup>1</sup> Social housing agencies, by virtue of their dependence on public funding, are better disposed to innovative projects, if encouraged to do so by government agencies. Private developers are generally more cautious and conservative (Ball 1999: Carmona 2001) . As a point of comparison, a total of 128,700 were started and completed in 2012 in the relevant jurisdictions of England, Wales and Northern Ireland.<sup>2</sup>

As completed the social housing estates were not the same as those originally planned, however, owing to objections from landlords who had encountered unexpected problems and feared that publicity might either damage their reputation or cause too many complications for local housing managers. In one of the original estates, problems of reliability had arisen with a biomass heating system. In another, some tenants had gone to the local press complaining about high heating bills. In yet another estate, where the social landlord had agreed to go ahead, filming could not start owing to a lack of cooperation from residents who complained about poor design and maintenance and, in particular, about the flooding caused by an apparently faulty rainwater harvesting system. The residents did not want to participate in the middle of their dispute. Developers are often sensitive about their public reputation, as are residents and this extends to any form of adverse publicity deriving from a research report. Sensitivity is, moreover, not just confined to the use of video as a research method.

Further ethical issues arose in relation to Facebook and the necessity of protecting the privacy of respondents. Their full names do not appear on the films- just their given first names. Care was also taken when filming to ensure that footage did not include valuable items or distinctive features that may enable identification of the specific property. In relation to the Facebook site, participants were deliberately not 'tagged' in the film so the Facebook site was not linked to any individual profiles. It is therefore impossible to trace the name or email address of the respondents solely from the Facebook site and its videos. In addition, Facebook issues alerts whenever anything is posted on the site so the site moderator can

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1 Calculated from Hansard, Written Parliamentary Answers, 26 March 2013: consulted May 2013 at <http://www.publications.parliament.uk/pa/cm201213/cmhansrd/cm130326/text/130326w0003.htm>.

2 Calculated from Tables 213, 214 and 216, Live Tables on House Building, consulted December 2013 at <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building>

respond immediately if any inappropriate material is posted. In the event, no problems have arisen.

### ***The preparation of the video***

Three different examples were eventually subject to investigation: Green Street (Nottingham), developed, in 2011 and 2012, by a public/ private company for sale, with six participating households; Henley Way (Rotherham) developed in 2007 and 2008 by a social housing agency for a combination of sale, shared ownership and rent and with five participating households and two groups of houses developed in 2011 and owned by the same social landlord in Greater Manchester at New Islington and Salford, with three participating households. In five cases, two respondents were present during the interview.

Respondents were asked to describe in their own words:

- their housing histories;
- their motivations for moving to current home;
- their feelings towards their current home and its technology;
- their sense of comfort;
- their attitudes and practices in relation to sustainability.

This aspect of the interview generally took place in the living room, as shown in the following screenshot.

#### Figure 1: The interview

The respondents were then asked to provide a guided tour of the home explaining the features of different rooms, together with the technology and how they understood this. Figure 2 shows a respondent explaining the role of a generation meter which records the energy from the photovoltaic (pv) cells on the roof of her home. Also shown in the screenshot is the isolation switch for the pv cells and the fuse box.

#### Figure 2: The tour

A preliminary interview was also undertaken with each respondent. The video interview and tour itself lasted at least an hour. The resulting individual videos were then collated and edited into a summary video that was presented to the participants in a local film

‘première’, intended to enable comment and feedback. Finally, the summary videos were posted on the Facebook site.

The eco-homes comprise two and three story terraces, with a few small detached houses at Henley Way. The scheme in Nottingham (Green Street) was designed to present a modern, contemporary image. The others have traditional elements, for example pitched roofs, but still remain distinctive compared to most recently completed houses in England.

### Figure 3: The houses

The houses at Henley Way are also distinctive in that some have, in the words of the respondents, ‘an upside down layout’ with the bedrooms on the ground floor and the kitchen and living room on the upper floor. Apart from this, the innovations lay in the details and the technology. The various dwellings possess high levels of insulation, supplemented in different schemes by solar hot water panels, photovoltaic panels, mechanical ventilation and, in one case, an air source heat pump.

## **Interpreting the home**

What do the interviews and home tours reveal about living in the eco-homes? From the viewpoint of residents, eco-features are sometimes invisible and intangible, unless the technology breaks down or is associated with different management or billing practices. For example, one type of innovative housing scheme involves a combination of heavy insulation and biomass district heating. From the user’s perspectives, dwellings in these schemes are like those in any apartment block or estate and have similar heating controls.

In addition, the occupants commonly stated that they preferred to live somewhere satisfactory on a range of criteria, including appearance, location and the characteristics of the community, apart from its potential for reduced energy use or sustainability. The following quotations, from an owner-occupier couple illustrate the point:

Male occupant

‘Although we may not have been drawn to the house through the eco-features, once we had seen the house and the eco aspects of top of that, it made a really good package.’

Female occupant (in the same interview)

‘You are not going to sell a house based on them (*the eco features*), people are going to buy a house because of the way it looks and the way they can feel they can live in it.’

The eco features were a bonus. They were part of a package, the house as home and this consists of many aspects but is also assessed as a whole (Walshaw 2011).

### ***Methods and forms of conceptualisation***

The focus of analysis is therefore the home, rather than merely the eco-features. How might analysis best proceed?

The sheer volume of information available in the videos, together with the diversity of factors that contribute to housing quality, suggests a specific strategy of enquiry and presentation, drawn in part from ethnography (Bajc 2012). The strategy involves neither deduction, in which research is presented as a series of hypotheses based on a literature review, nor induction where observations and trends lead to generalisations and prediction. Instead, the strategy is based on abductive reasoning, a pragmatic method ultimately associated with Charles Peirce, in which specific examples or events are analysed in a way that seeks to illuminate or alter theoretical understandings (Bertilsson, 2004; Chiasson 2005).

The abductive method allows a researcher to develop and adjust analysis to specific social situations as the analysis proceeds. It is useful where the empirical material is theoretically rich or eclectic and where as a result a separate literature review would become unwieldy. It is, moreover, particularly appropriate to a study using video as it is, in part, a semiotic method that enables the mixing of visual and non-visual signs and information (Mick 1986).

The abductive method is implicit in previous studies of 'walking with video', undertaken by Pink, but is not identified explicitly. Pink (2007) and Pink and Mackley (2012) start by describing and assessing the characteristics of a place, a garden and home interior respectively and then go on to reflect on these in terms of practice theory as developed by de Certeau and Schatzki, amongst others. For de Certeau, everyday activities such as walking and cooking involve a 'process of appropriation' (1986, 97), a 'spatial acting out of place'.



For Schatzki (2001a, 21) 'practices are the source and carriers of meaning, language and normativity'.

Some clarifications are necessary. Schatzki (2002) defines practice in relation to three organising components- practical understandings, rules, and 'teleoaffective' structures, dealing with the motivational factors, aims and values associated with that task. In contrast, Gram-Hanssen (2010) and Shove and Walker (2010) treat technology as, in effect, a fourth component of practice.

Practice theory is intended to cover activities at the workplace as well as leisure activities and related forms of non-domestic consumption. Some flexibility in interpretation is, therefore probably necessary. Applied to the home, however, technology is not easily reduced to yet another component of practice. A home is more than a machine for living, as was the slogan of the modern movement in architecture and of Le Corbusier in particular (Marcus 2000, 8). The technology and form of a home are, in any case, too varied to be equated with a single technology. A caravan or a house boat is still a home, somewhere to live for its occupants. A home does not have to be a house. Yet the technology of a caravan or house boat is obviously radically different from a conventionally built house. The home is not defined by its architectural form and not by its technology but only by the presence of people living there (Habraken 1972, 15-18) and by the interaction between the occupants, the architectural form and technology and other relevant parties.

Practice theory involves a distinction between practices as entity and practices as performed (Warde 2005: 134). Practice as entity is the combination of understanding, rules and motivation factors. It includes specific activities associated with the home or elsewhere- for example cooking, cleaning, heating or gardening. Performance is the carrying out of those practices. The material fabric and equipment of the home, its technology and its location affects the ability to undertake performances and, partly through this mechanism, influences the various practices as entities. The materiality of a home is, therefore a means of supporting, preventing or discouraging practices, as the case may be, as well as providing the background to those practices. To note the variability of the technology and other material aspects of the home is not, however, to deny the way that these are an active force on practices, a series of

‘actants’ to use the language of actor network theory (Latour 1996). Indeed, it is only through treating technology and more broadly the material aspects of the home as a separate category that the impact of technology can itself be isolated.

At the same time, as has been long recognised, conceptions of the home as a machine, as technology for living result in a functional, utilitarian view of design. The home is more than a functional object. Likewise, it is more than an assemblage of rooms, plus a garden. It is everything that these and other physical locations, the local town or region, ‘stand for’ (Schutz 1945, 370). It is a ‘mirror of the self’ (Cooper-Marcus [1995], 2005) and, in addition, a store of memories of the past and dreams of the future (Bachelard [1958] 1994). The home is a means of both forming and projecting a social identity. As a result, identity theory as well as practice theory is relevant.

Video also provides a means of projecting identity. After seeing the summary video, one respondent, a middle aged professional woman living in an owner-occupied home, stated in an email:

‘It was a shock to see and hear ourselves as others might see us, and we continue to ponder our own sense of identity, which has been quite radically affected by this encounter with ourselves.’

The object of research, the home, and the research method, the video are therefore well suited to one another.

The separation of material aspects, practice and identity suggest, in turn, a three-way or triadic relationship, as in the figure below.

Figure 4: The home understood as a triadic relationship

Triadic distinctions have been repeatedly used to clarify multiple relationships in the human environment, for example by such contrasting theorists as Lefèbvre (1991, 33) and Canter (1977) and more recently by Sonda et al (2010, 4). Schatzki (2002) also uses a triadic distinction to summarise practice, so suggesting the possibility of nested triads within a triad. There is nothing magical about the number three, compared to say four or five. Even so, a triadic relationship is effective as the smallest number able to revealing multiple relationships and avoiding contrasts, oppositions and contradictions, as in bipolar analysis (Lefèbvre, 1991,

39). A triadic relationship enables a conceptualisation of different components- the home as a material object, as a set of practices and as a source of identity- as both separate to and an influence on one another.

Consistent with the principle of a triadic relationship, moreover, identity and practice overlap each other. The identity of the home grows, in part, from the familiarity of established routines, of living in the same place for an extended period (Schutz, *ibid*). Conversely, specific forms of social identity, an ethnic identity or a sense of the self as a particular type of consumer such as a green consumer, encourages the adoption of specific practices in the home. Practice and identity are different rather than contradictory and, as conceptual categories, may be used alongside each other to give a richer account than either used separately.

### ***Practices: the home as space***

The distinction between practice and identity is additionally useful because it helps distinguish between 'space' and 'place' in a way that conventional practice theory does not. Schatzki (2003), for example conjoins practice, spaces and places in a single phrase 'activity-place space'.

The distinction between place and space appears in apparently contradictory ways in different disciplines and languages. De Certeau (1984, 117) states, according to the usual translation from the French, that 'space is practiced place'. For de Certeau, therefore, space is occupied. In contrast, the Oxford English Dictionary (on-line edition) defines space as 'a continuous area or expanse which is free, available, or unoccupied'. More likely, correct English usage would reverse de Certeau's phrase so that place is a practiced space. Place in its common meaning in English acquires meaning through an association with activities and memories. A place generally has a name and therefore an identity. It is also commonly an object as well as a space for consumption. House buyers buy a home because it represents some type of affordable ideal. Space, in contrast, is a background concept, the space for something, which may nevertheless be turned into place once it acquires meaning.

Nevertheless, de Certeau's definition is revealing in literally stripping out the notion of place from studies of practice. In this perspective, bodily activities are the starting point for practice, as is elaborated by Reckwitz (2002) and is also a theme in earlier phenomenological approaches (Merleau-Ponty [1945] 2002). The body provides a primordial means of experiencing and understanding space, through movement and through sensations, including of sensations of heat and cold, comfort and discomfort.

Bodily movements are only a starting point, however and, following Schatzki (2001b) are probably inadequate as a basis for mediating between the self, space and places. The relation between people and their surroundings is not passive. People have the ability to reflect consciously. Moving to a new home, especially a different 'innovative' home is moreover a change of personal context that is itself capable of promoting a process of reflection, as was sometimes recognised in the interviews. For example: in the words of a professional woman, working part-time and living in an owner-occupied house,

‘ This development really makes you feel conscious that you are trying to do something’

However, the potential for change is likely to be mediated by the organising components listed by Schatzki- practical understandings, rules and motivational factors. Of these components- the category of rules only appeared as a significant variable in the occasional mention of the practices for waste disposal and recycling, for which rules are specified by the local authority. Perhaps because the home is defined as part of the private sphere of life, there was no obvious shared sense of how best to undertake domestic activities and no shared sense of good practice in relation to energy use in the home. Different individuals in the home make their own judgments of comfort, convenience and taste and have to cover the necessary costs. The home is distinct, for example, from the workplace where the employer exercises control (Lo et al 2012).

The other two components of practice- practical understanding and motivational factors deserve more detailed consideration.

The level of practical understanding was characterised by a continuum of marked variations. At one extreme was a retired engineer who was fully conversant with the

workings of the electricity industry and had managed to register his home as a power station to gain full monetary benefit from the photovoltaic panels on the roof. For this householder, moving into an eco-home was an empowering experience as it allowed him to use the skills and knowledge developed during his career.

At the other extreme were various householders, all social housing tenants who were either paralysed by or struggled with the new technology. For example, one respondent, an unemployed single mother of seven, stated that she never touched the controls on the central heating system from the day she moved as she did not understand them; another, a single mother of four in part-time employment stated she had been advised to leave the thermostat permanently at 30°C; another, a mother of three in part-time employment, believed at first, though she now knew otherwise, that the panels on the roof (for hot water only) would deliver free electricity.

Levels of practical understanding would almost certainly have been higher if residents had received more guidance. Both of the participating housing associations recognised the need for more support for their, partly on the basis of the evidence in the completed videos. The following comment, made by the mother of three, illustrates the problem:

‘I got told it was an eco-home and you would save money and things like that, but the day that I came to sign for the keys, so did a lot of other people. So you had to meet at the door number of your house, you would come in because the door was open and a woman gave you a folder .... And then she just went.’

Over time, however, tenants were able to give each other advice, notably at Henley Way. Here the neighbours had also obtained advice from one of the researchers during earlier technical research exercises.

Between paralysis and empowerment, others explained how they had learnt how to operate the equipment from reading the manuals and other sources, as in the following example, made by the professional woman in part-time work and living in an owner-occupied house.

Question

‘How are you getting on with some of the more unusual equipment in the house?’

Answer

‘It’s taken me quite a long time to learn how to use all the equipment ... And you caught me

out with the air extractor because that was the one where we did not get a manual .. and the one that I still do not know how to use. But I think I made a definite effort to learn how to use the things and I just had to....’

Adapting to an innovative technology presupposes some motivation on the part of users. Motivation in relation to innovative eco-homes means essentially the degree of commitment to sustainable consumption and, in principle, involves an almost infinite number of degrees of commitment. For the sake of simplicity, three examples will suffice: a ‘deep green’ consumer for whom sustainable living is a central concern; a cost conscious green consumer, mostly interested in reducing energy bills and a non-green consumer for whom the central issues are cost, comfort and ease of operation and little else.

For the deep green consumers, most of whom lived in the scheme in Nottingham, living a sustainable life-style required an effort to learn how to make the best use of the various domestic technologies and the heating system. However, for the greenest consumers the eco-home as provided did not go far enough. It was not very different from a conventional home. In any case, as exemplified by the following quotation from a professional couple, sustainable living was about life-styles, not really about equipment.

Female occupant

‘We used to have a car where we lived before and had to drive everywhere and used to do shopping once a week or once a month. Here the great advantage is that we can just go out each day, get to know people, go to the local shopping centre and just buy what we need for the day and live quite a different way.’

Male occupant

‘We are still doing without the a fridge and freezer and it is working very well. We give back the cost of storage to the shop rather than ourselves and we just go out each day and buy things we need. It is important to say that it is nothing miserable, like doing without. It is an alternative life-style, but it is an enjoyable one.’

As the respondents noted, such a life-style was possible because both worked from home and the house was conveniently located for services and public transport.

For the cost conscious green consumer, the home is literally a machine to be manipulated for the best results. The houses in Henley Way are well-suited to this, as they have meters showing exactly how much electricity is being used and how much is being generated through the photovoltaic (pv) cells. For bureaucratic reasons, most residents have

been unable to obtain feed-in tariffs from the electricity company. In this context, some residents, including the respondent cited below, realise that on bright and sunny days they are exporting free electricity to the grid, electricity that they can also use free of charge. Here is the statement of a professional man with a young child and living in an owner-occupied home

Question:

‘Do you use the meter to tell you when to use the tumble drier?’

Answer

‘Yes, partly actually. The tumble drier uses 2.7 kilowatts. There is no way my pv can cover that. The highest energy generated by the pv cells is about 1,000 watts, 1,100, 1,200 watts. That is the total. If I use my washing machine and then my oven and then two appliances together, I am covered. Anything above I have to pay’.

As is apparent, this respondents was carefully monitoring energy use. Here and in some other dwellings, the pv cells were pushing the occupants to a different rhythm of electricity use, at least in the summer.

Not all respondents have been persuaded by the possibilities of an eco-home, however. For some, the eco-feature are not important, either because their concerns are elsewhere or because they feel defeated by the technology. Here is the view of a young woman who faced the daily challenge of balancing work commitments with the demands of running a home and raising her children.

‘I do not see any benefit. I don’t get how I am supposed to benefit from this being an eco-home, other than the fact that upstairs, perhaps you do not need the heating on..’

Question

‘Before you moved you here, were you kind of ‘eco-minded’?’

Answer

‘Not really no .....When I got this, I was like: right we will. You do try and change because you have an eco-home, you try and do everything different. But I would say that I am back to square one again. I do not do anything different.

This respondent recognised that the home is warmer than where she lived before. However, the crucial issue is how the home performs on other relevant criteria, for example its size in relation to the needs of the family, its ease of maintenance, its degree of acoustic insulation and the characteristics of the neighbourhood.

In-depth qualitative research encourages a focus on details and on individuals. De Certeau and Giard ([1980] 1994) suggest, for example, that, because everyday life conceals a

multitude of diverse, individual practices, its study can only aspire to a 'practical science of the specific'. For others, in contrast, everyday life is about routines and is influenced by the structure of society. In particular, for Bourdieu (1994, 1-13), activities and preferences are best understood as a bundle of habits, a 'habitus' whose characteristics enable a classification of an individual's social position and are ultimately related to class. Individual variation and diversity are not necessarily inconsistent with the existence of broad patterns, however. Practices can be invented and reinvented, but within the limits of the resources available.

Class is also relevant to the differences in response between the residents of different eco-homes, notwithstanding marked individual variations. Some respondents, notably those living in Green Street, had more choice in where they lived, more choice in whether to live in an innovative home, more self-confidence and cultural resources in dealing with technology and with professionals and fewer resource constraints. For example, one Green Street resident explained that they did not like the layout and equipment in the bathroom and were saving to undertake modifications. Those living in social housing could not envisage any such possibility.

### ***Identity: the home as place***

Social identity is summarised by the question 'who am I?' Social identity implies therefore an implicit comparison between the self and others, in terms of likeness and difference and shared or differential experiences. It involves 'a feeling of biographical continuity' that people can 'grasp reflexively and, to a greater or lesser degree, communicate other people'. (Giddens, 1991, 54). Place identity refers to those aspects of identity formed by the physical surroundings of the self. To talk about the identity of a place is an implicit claim to belong somewhere, to be at 'home' somewhere (Easthope 2004).

Because identity is maintained through a process of communication, it is, to cite Giddens (ibid, 54) again, 'not found in behaviour ... but in the capacity to keep a particular narrative going'. The question is therefore to work out ways of analysing that narrative. Earlier work by Cooper-Marcus ([1995], 2005) and Bachelard ([1958] 1994) is, however,



only of limited value as their analysis is conditioned by a desire to conform to different schools of psychoanalysis- Jung for Cooper-Marcus and Freud for Bachelard.

A study of working police officers, undertaken by Glaeser (1998), is more helpful. Glaeser identifies four specific but generally applicable processes of 'identification', ways in which the self is linked to something else (people, urban space, buildings etc) and therefore four ways in which place identity is created and maintained. These different ways refer respectively to the initial **reading** of space, an exercise that is about interpretation; the **writing** of space largely based on the presentation of the self; the **placement** of the self in space and finally the **anchoring** of life-stories in extended readings and narratives that combine time and space.

Of these various processes, the **reading of space** does not apply to spaces such as the home that are already familiar and taken for granted for their occupants. It is about initial impressions and the factors that influence those impressions.

The second process of identification, that of **writing space**, is more easily applied. It is about a person making a visual mark on the world and so ensuring that specific spaces become associated with specific people. In relation to the home, writing space usually goes by the name of personalisation (Cooper-Marcus and Sarkissian 1986, 66-75) and covers a wide range of potential and very common modifications, including the decoration of the interior and the entrance point, small-scale extensions and gardening. For their occupants, such modifications make the home distinctive, often consume large sums of money and involve both time and thought.

The interviews did not ask questions directly about personalisation. The personal taste of the occupants was mostly apparent in the background to the video, in the décor, family photographs and pictures and, in one case, through the presence of plant pots on a patio. Likewise, personalisation arose as a background factor leading occupants to either like or dislike their home. A retired professional man, living in an owner-occupied home, commented, that a period of settling in had allowed him and his partner to 'put our stamp on it to make it (*the dwelling*) like a home'. In contrast, another respondent, the young woman trying to balance home and work commitments, felt defeated by evidence of disrepair, such

as small patches of dampness, the marks left by contractors in repairing these and other faults and also by delays in the repairs going ahead.

‘What is the point of building something so nice to look at and so good if you cannot repair them and you cannot keep the upkeep to it.’

To compound the problems, this same respondent explained how the unusual shaped windows in the living room meant that she could not get ready-made curtains of the correct dimensions ‘unless you want to pay £300’ and this she could not afford.

The respondent’s reference to ‘looks’ is itself significant. The home considered as a place, as part of a person’s identity, acquires meaning not just through a process of involvement in activities, but through its visuality (Degen et al 2008: Rose 2012, 2), its qualities as a visual object and its association or contrast to other visual objects and to other sensory experiences (noises and smells). A good home is one that looks ‘good’.

Looks and appearances also arise in another dimension of spatial social identity- that of *placing self*, reading the self as part of a larger social entity. Placing self operates through a repeated comparison of one place and another, as well as to the use of such linguistic tropes as outsiders and insiders, people living ‘over there’ or ‘down the hill’ and ‘here’. Connecting a person or a group to a place, or excluding them, brings in turn a set of established meanings associated with that place.

In making these comparisons, the meaning of a place arises not just from how residents and other users assess a place, for example a neighbourhood, but also how they think that others assess that place (Suttles 1972, 13). In addition, as is evidenced by the history of social housing in Britain and elsewhere, unusual housing forms or merely poor quality housing have a specific role in promoting an identity of social exclusion and ultimately of stigma (Goodchild 2007, 91-6). However, problems of dissatisfaction and in some cases feelings of stigmatisation are also caused by the absence of a sense of choice amongst social housing tenants. Choice is itself an aspect of housing quality (Furbey and Goodchild, 1986, 48)

The occupants of the eco-homes either positively liked the appearance of the eco-homes or were indifferent towards their appearance. The specific design and visual factors

that led to problems in the post-war social housing stock are mostly absent from the eco-homes.

A broad parallel may nevertheless be drawn with the previous experience of unusual designs in social housing, albeit with reference to the internal rather than the external layout. The ‘upside down’ houses at Henley Way generated very varied evaluations. For some, the upside down arrangement had advantages in providing a spacious living room, with good views. For others, it posed various practical difficulties. The following negative comment was made a by an unemployed middle aged woman and her daughter living in one of the rented properties.

Younger woman

It is different to other houses, different sleeping downstairs. ....

Question

Why do you think it is built as it is.

Younger woman

People designed it to test and see how it goes; to see if people liked living this way up.

Middle aged woman

Wanted to see what people prefer- living upstairs or downstairs. I prefer living downstairs.’

By living in Henley Way, the occupants, as they saw it, had become unwelcome participants in a design experiment. Involvement in this design experiment had also marked off their homes as different and potentially inferior to those elsewhere.

The various accounts of the home are about a specific place at a specific time or over a period of time. If the latter, the accounts commonly take the form of a narrative that reveals the daily lives of people or reflects on their biography, either retrospectively or prospectively. In other words, understandings of the home, like other understandings of place provide a means of *anchoring the self* in the world, drawing together time and space.

The home is sufficiently rich in personal association to enable the use of the archetypes used to classify literary works, above all, the romance and the tragedy (Glaeser 1998). Romance stands for the fulfilment of wishes, for the positive transformation of life in favour of a desirable future. In accounts of the eco-homes, romance arises in the process of discovering that another, better life-style may be possible. Tragedy, in contrast, involves a narrative of loss and decline. Tragedy may have a romantic element at the start, but it ends in

disappointment or catastrophe (Fry 1957, 162) In accounts of the eco-homes, tragedy arises when the move has failed to match its promise. It also involves a loss of control, so that the house controls the occupants rather than *vice versa*.

The romantic, positive narratives are not necessarily about pursuing a sustainable lifestyle, merely that the move to a new home offered the possibility of a new start that would meet the aspirations of the individual and their partner or family. An example is a retired professional couple who lived in an owner-occupied property in Green Street.

Female occupant

We lived in a large-ish, very much traditional family house, 4 bedroomed, bay windows, leaded lights, very pretty ....

Question

Could you perhaps explain the process how you ended up here?

Male occupant

We found out from neighbours. .... Taking their directions, we found a building site. ... What was really important was a show house. ... In terms of the impact of this really very modern house, on three levels, we were bowled over by the way in which the space, which was not particularly generous, was used to create a really efficient, effective, attractive living space which was in complete contrast to what we were used to .....

We were also impressed with the predicted running costs. .... We looked at the potential savings, we could see how we could capitalise on the equity in our house and ... then we could make some money available to travel more. ... Now that we are getting used to this new form of living, we are getting used to the idea that it was actually a sensible step.'

Implicit in these comments, is a recognition that living in an eco-home takes some getting used to, but that it is worth the effort in the end.

In contrast, for the young woman trying to balance work and home commitments, the new home was not worth the effort.

'I moved here from a terraced house.'

'Question'

What attracted you to this place?

'The first thing that attracted me, obviously, was that it was a new build and it was all this eco-housing and everything was supposed to be cheaper and good for the environment. I would not say that's how I found now that I live here. ... The bills are higher; everything is higher, to be fair'

In the first year after moving in, the respondent simply did not understand how the systems worked. However, even after these were explained, problems have persisted.

'I've given up. I do not try to control it (*the house*) any more. The bills come. I pay them the best I can. I try not to have the heating on at all, if I don't need it.' .... 'I hate the place, honest. I would say now, it stresses me out. I have gone from somewhere I thought "Oh yes, I can make that a nice home" to "Oh my god, what have I taken on". At some point I have even said, take me back to the terraced.'

As is apparent from these two contrasting narratives, the experience of living in an eco-homes varied dramatically in a way that had no single cause, but was the cumulative impact of different design philosophies, very specific technical failures and the personal circumstances and expectations of respondents.

The romance and tragedy provided the main narrative genres. However, respondents occasionally used other genres, such as satire or comedy, to reinforce their message. A notable example of comedy was the comment, by two separate women respondents using very similar phraseology, that their home 'must have been designed by a man'. Only a man, it was suggested, could have designed a home that was so difficult to use.

## **Conclusions**

The pattern of response provides an insight into the contrasting issues involved in the development of innovative housing for those who can actively choose where they live, as in owner-occupied and shared ownership housing and for those who are more dependent on the allocation practices of social housing agencies. For those with choice, the prospects for innovative eco-homes depend on the size of the potential market and this comprises a mixture of committed green consumers and cost conscious green consumers who want live in a good quality modern home with reduced heating costs. A market exists. However, doubts must remain about the scale of that demand. For developers building for sale, much also depends on whether they can provide the 'bonus' aspects of an eco-home without sacrificing costs or other aspects. In any case, for committed green consumers, all of whom lived in the Green Street scheme, the eco-homes did not go far enough in requiring or permitting a low energy life-style.

For social housing, the prospects for innovative schemes depend essentially on the funding regime. However, social housing designers and developers might still pay attention to the preferences and demands of their tenants and the way in which these are linked to both the use of the home, the practices that are undertaken there and its implications for identity- for example its appearance and social acceptability . The tenants in the present study repeatedly found difficulty coping with technical complexity and with non-standard fittings and were also commonly suspicious of any unusual design features, notably the ‘upside-down’ layout. Complexity was also an issue for those who had bought their home, though it did not figure as prominently in the interviews.

An understanding of how best to use eco-feature is a necessary precondition for those features to be used correctly and for the potential of low energy/ low carbon designs to be realised. A logical response, as the social housing landlords have recognised, is to train staff so that they can provide more support. Peer support from local residents can also help.

However, a lack of understanding should not be equated merely with a lack of training and certainly not with a lack of intelligence on the part of users. The issues involved in the use of complex, innovative low energy design and renewable technologies are not easy to anticipate, even by professionals. The likelihood is, moreover, that the complexity in domestic energy systems will increase in the future as the drive to reduce carbon emissions uses a wider range of renewable sources, involves domestic energy storage and also seeks to optimise the overall use of the system. Understanding complexity from the residents’ view is therefore a priority and one to which qualitative social research .can surely contribute.

As part of any qualitative research strategy, video is useful in its versatility- in combining both a method of research and a method of communication. This latter ability to communicate is, of course, the main reason why video is a powerful device in the presentation of results and in knowledge transfer, including any future exercises in public involvement and staff training. Video also brings outputs to the attention of a wider audience than a traditional report. Videos still have to be edited, much like the qualitative comments in any research report have to be analysed and collated. In addition, videos have specific disadvantages in the additional ethical procedures necessary to safeguard the interests of the

respondents and the likelihood that refusal rates will be higher, if the plan is to disseminate the video to a public audience. The use of video is therefore a question of judgement as to whether or not the advantages outweigh the disadvantages.

Finally, it is unlikely if the full implications of an eco-home can be understood without accepting the logic of the abductive method, that analysis should be open to new possibilities and to different theoretical arguments. In the case of the eco-home, practice theory remains a useful, multifaceted perspective. However, an eco-home is also a home with all the implications for identity implicit in the idea of home.

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## **References**

- Bachelard, G. (1994) *The Poetics of Space*. Beacon. (French original 1958)
- Bajc, V. (2012) 'Abductive Ethnography of Practice in Highly Uncertain Conditions' *The ANNALS of the American Academy of Political and Social Science* 642: 1, 72-85
- Ball, M. (1999), 'Chasing a snail: innovation and housebuilding firms' strategies', *Housing Studies*, 14: 9-22.
- Bertilsson, T.M. (2004) 'The Elementary Forms of Pragmatism: On Different Types of Abduction' *European Journal of Social Theory* 7:3, 371-89
- Bourdieu, P. (1998) *Practical reason: on the theory of action*, Stanford University Press, Stanford, Calif (French original 1994).
- Canter, D. (1977) *The psychology of place* London: The Architectural Press Ltd.
- Carmona, M. (2001) *Housing Design Quality: Through Policy, Guidance and Review* London: Spon Press.
- Chiasson, P. (2005) 'Abduction as an aspect of retroduction', *Semiotica* 153-1/4 223-242
- Cooper Marcus, C. (2005) *House as a Mirror of Self: Exploring the Deeper Meaning of Home*. Berwick, Me, Nicolas-Hays (1995 US original).
- Cooper Marcus, C. and Sarkissian, W. (1986): *Housing as if People mattered*, Berkeley,

- California, The University of California Press
- De Certeau M. (1984) *The Practice of Everyday Life*, University of California Press, Berkeley (French original 1980)
- De Certeau, M. and Giard, L (1994) « Une Science Pratique du Singulier » in De Certeau, M., Giard, L, Mayol, P. *L'invention du quotidien 2. Habiter, cuisiner*, Gallimard, Paris, 353-61.
- DECC- Department of Energy and Climate Change (Corporate author) (2011) *The Carbon Plan: Delivering our low carbon future*: Presented to Parliament pursuant to Sections 12 and 14 of the Climate Change Act 2008: London, Crown Copyright.
- Degen, M., DeSilvey, C. and Rose, G. (2008) 'Experiencing visualities in designed urban environments: learning from Milton Keynes' *Environment and Planning A*, 40, 1901-20
- Easthope, H. (2004) A place called home *Housing, Theory and Society*, 21:3, 128-138
- Frye, N. (1957) *The Anatomy of Criticism: Four Essays* Princeton, NJ: Princeton University Press.
- Furbey, R. and Goodchild, B. (1986) *Housing in Use: a study of design and standards in the public sector*, Sheffield, Pavic Publications.
- Giddens, A. (1991) *Modernity and Self-identity: Self and Society in the Late Modern Age* Stanford, CA Stanford University Press
- Glaeser, A (1998) 'Placed Selves: The Spatial Hermeneutics of Self and Other in the Postunification Berlin Police' *Social Identities*, 4:1, 7-38.
- Goodchild (2007) *Homes, neighbourhoods and cities: Planning for housing in Britain*, London, Ashgate
- Gram-Hanssen, K.(2010) 'Residential heat comfort practices: Understanding users' *Building Research and Information*, 38:2, 175-86.
- Habraken, N.J. (1972) *Supports: an alternative to mass housing*, The Architectural Press, London.
- Howlett, R.J., Lahkhmi, C.J. and Shaun, H.L. (eds.) (2009) *Sustainability in Energy and Buildings*, Proceedings of the International Conference on Sustainability in Energy and Buildings (SEB 09), Springer, Berlin.
- Kindon, S. (2003) 'Participatory video in geographic research: a feminist practice of looking?' *Area* 35:2, 142–153
- Latour, B. (1996) 'On actor-network theory: A few clarifications' *Soziale Welt* 47:4, 369-81 [online] URL [www.bruno-latour.fr/sites/default/files/P-67%20ACTOR-NETWORK.pdf](http://www.bruno-latour.fr/sites/default/files/P-67%20ACTOR-NETWORK.pdf)
- Lefèbvre. H. (1991) *The Production of space*, Oxford, Blackwell (French original 1974).
- Lo, S.H., Peters, G.-J., Y., and Kok, G. (2012) ' A Review of Determinants of and Interventions for Proenvironmental Behaviors in Organizations' *Journal of Applied Social Psychology*, 42:12, 2933-67.
- Lynch, K. and Hack, G. (1984) *Site Planning*, Cambridge, MA, MIT Press.
- Merleau-Ponty, M. (2002) *Phenomenology of Perception*, Routledge Classics, London (French original 1945).
- Mick, D.G. (1986) 'Consumer Research and Semiotics: Exploring the Morphology of Signs, Symbols, and Significance' *Journal of Consumer Research*, 13:2, 196-213.
- Marcus, G.H. (2000) *le corbusier : inside the machine for living*, New York, The Monacelli Press.
- Pink, S. (2007) 'Walking with video' *Visual Studies*, 22:3.
- (2008) 'Mobilising Visual Ethnography: Making Routes, Making Place and Making Images' *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* 9:3, Art. 36, [online] URL: <http://nbn-resolving.de/urn:nbn:de:0114-fqs0803362>.



- Pink, S. and Mackley, K.L. (2012) 'Video and a Sense of the Invisible: Approaching Domestic Energy Consumption Through the Sensory *Home*' *Sociological Research Online*, 17 (1) 3 [online] URL: <http://www.socresonline.org.uk/17/1/3.html>.
- Reckwitz, A. (2002) 'Toward a Theory of Social Practices A Development in Culturalist Theorizing' *European Journal of Social Theory* 5:2, 243–63
- Rose, G. (2012) *Visual Methodologies: An Introduction to Researching with Visual Materials*. Sage Publications Limited (Third edition)
- Schatzki, T.R. (2001a) 'Introduction: Practice Theory' in Schatzki, T., Knorr Cetina, K. & Von Savigny, E. (Eds.) *The Practice Turn in Contemporary Theory*, London, Routledge. 10-23.
- (2001b) 'Subject, Body, Place', *Annals of the Association of American Geographers*, 91:4, 698-702
- (2002) *The Site of the Social. A Philosophical Account of the Constitution of Social Life and Change*, Pennsylvania State University Press, University Park, PA.
- (2003) 'A New Societist Social Ontology' *Philosophy of the Social Sciences*, 33: 2, 174-202
- Schutz, A. (1945) 'The Homecomer', *The American Journal of Sociology*, 50:5, 369-76
- Shove, E. and Walker, G. (2010) 'Governing transitions in the sustainability of everyday life', *Research Policy*, 39:4, 471-6.
- Sonda, G., Coletta, C, and Gabbi, F. (2010) *Urban Plots, Organizing Cities*, Ashgate, Farnham, Surrey
- Suttles, G. D. (1972) *The Social Construction of Communities*. Chicago, Il, The University of Chicago Press.
- Walshaw, A. (2011) 'From House to Home: residents' perceptions of housing modernisation' *Journal or Urban Regeneration and Renewal*, 4:3.
- Warde, A. (2005) 'Consumption and Theories of Practice'. *Journal of Consumer Culture* 5:2, 131–53.

Figure 1: The interview



Figure 2: The tour



Figure 3; The Schemes

Green Street, Nottingham



*Barry Goodchild*

Henley Way, Rotherham



*Barry Goodchild*

New Islington, Manchester



*Great Places*

Figure 4: The home understood as a triadic relationship

