Technology in Place: Dialogics of Technology, Place and Self

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Abstract. Ubiquitous and ambient computing – computationally enhanced built environments and portable products that aim to make computing available any-time-anywhere – has somewhat paradoxically put place at the heart of Interaction Design. In this paper, foundations are laid for a dialogical approach to place as an expression of the experienced relationship between people and space. Building on McCarthy and Wright’s dialogical conceptualisation of technology as experience, place is described in terms of the plurality of histories, interactions and meanings that characterise people’s different engagements with particular spaces. Implications of a dialogical approach to place are considered with respect to the further development within Interaction Design of concepts such as context, engagement, and interactivity.

1 Introduction

The focus of attention for Interaction Design is no longer just a box on a desk. Visions for the future of interaction such as ‘Ubiquitous Computing’ [1] and ‘The Invisible Computer’ [2], accompanied by the integration of information and communication technologies, have ensured that. Nowadays many people’s primary encounters with technology are in their incidental interactions with computationally and digitally enhanced portable products, buildings, and public spaces. In order to make a meaningful contribution to understanding people’s experiences and relationships with technology in these fluid contexts, Interaction Design needs to expand its conceptual repertoire. As well as attending to the relative certainties of planned interaction, it needs to develop an understanding of the immanent potentiality and possibility of incidental interaction in ambient environments. Interaction Design is only beginning to understand ambient computing. This paper, by drawing on philosophical, cultural, and psychological treatments of people’s experience and sense of place as they in turn settle and wander, suggests some foundations for a relational account of technology, place, and self that is a requirement for understanding ambient computing.

This is not only a conceptual task. It bears strongly on how we see Interaction Design practice developing in a world of context aware and ambient computing. As these technologies develop, practice is increasingly concerned with designing interaction spaces, not just devices. In this interaction paradigm, the user is embedded in a computational environment, and interaction may no longer involve deliberate and

conscious input from the user but instead may be triggered by incidental interactions or movements detected by sensors. With the obvious potential that ambient and location sensitive technologies offer for the personalisation and user-customisation of spaces, a theoretical understanding of relations between space and place, and a design practice geared towards enriching people's sense of place through digitisation seem to be central to ensuring a user-centred approach to ambient technology, situated displays, and location sensitive information systems.

Take students' experiences with technology as an example of the kind of dynamic, reciprocal relationship between people and portable, ubiquitous, ambient technology that motivates many of the concerns of this paper. Many students walk to college listening to their MP3 player. Some, who find the walk uninteresting, use music to take them out of their immediate surroundings. They may shuffle through their collection, play their favourites, or select a musician who suits their current mood or whom they know will get them energised for the day. Arriving on campus, still listening to the music, they go to one of the computer rooms, to check email and announcements on Blackboard (the teaching-learning support system) that might affect their lecture schedule today. Some log onto their chat rooms for a few minutes to see who's there and to say hello. Then they go toward the lecture room lingering in the hall until a track finishes before going into their first lecture. After the lecture, they walk to the library or the cafe, listening to music again, and texting friends to get in touch and to arrange to meet them later. In a laboratory in computer science some research students are having a video-conference with project collaborators in another country, demonstrating tools they have developed and discussing the technical problems encountered. Others down the hallway are looking at a display that is showing information on their lectures and meetings for the day, this information having been triggered by sensors that recognised them as they passed [3].

People interact with a variety of technologies, some experimental and some prosaic. In their interactions with them, they participate in defining what those technologies are and what they do. For example, at different times, they may use their MP3 players to evoke particular moods, make boring spaces more acceptable, create a personal or intimate space in a crowded street, and conjure up memories [4]. They may use their mobile phones to say hello, stay in touch, make arrangements to meet, store personal text messages, take and send photos, and play at taking photos of friends [5]. These interactions with technology can sometimes be planned, sometimes routine and almost ritualistic, and sometimes entirely incidental. In the light of this variety of interactions and relationships between people and technology, with technology deeply embedded in the ways in which people live their lives, the primary concern for HCI – and related activities such as Interaction Design and Computer Supported Cooperative Work – has become User Experience. When the technologies of interest are portable, distributed and embedded in our physical and social environment, people's experience of place and its mediation by technology becomes central.

For about two decades now, HCI and Interaction Design have documented the analysis and development of distributed technologies that mediate people's experience of space, for example: EuroPARC's work on media spaces [6]; Ciolfi and Bannon's [7] use of humanistic geography to provide a technologically augmented experience of a museum; Turner et al's [8] phenomenological approach to enhancing the sense of place in virtual environments. Interaction Design has also, more recently,

shown some interest in people's use of portable technologies [9]. This work has been influenced by contributions from areas such as architecture [10,11] and human geography. It has also resulted in interesting discussions on the relative importance of space and place in interaction design. For example, a seminal contribution by Harrison and Dourish [12] argues that place is central to understanding human behaviour and should inform the design and evaluation of interactive systems. From their geographical perspective on place, which proposes that a sense of place can only emerge through physical immersion in a space, Ciolfi and Bannon distance themselves from Harrison and Dourish's notion of place, which can indeed be 'spaceless'.

Whereas different conceptualisations of space, place, and technology have obvious implications for thinking about virtual environments as places, they have less obvious but equally important implications for thinking about the experience of space and place more generally in Interaction Design. However, some characteristics of current conceptualisations limit their more general application and certainly limit their value in analysing the kinds of (student) experiences described above where movement between interactions with portable technologies and in digitally enhanced spaces is unremarkable. These characteristics include the following:

1. In some conceptualisations, 'place' seems to be restricted to stable structures such as buildings and public squares. This may be too restrictive, as Interaction Design needs to think about space and place in a way that addresses locative aspects of interaction with portable and fixed technologies, in bricks-and-mortar, and in virtual environments.
2. Understanding of 'experience' is uneven in conceptualisations of place in Interaction Design. In some cases it is underdeveloped and in others its development is unnecessarily tied to a particular methodology. A pragmatic approach prepared to address multiple dimensions and aspects of experience may be more useful.
3. The concept of 'agency' in people's experience of technologically mediated place is also underdeveloped. Given that one of the impetuses for developing the concept of place in Interaction Design was to elaborate the increasingly influential model of interaction as 'person-acting-in-context', this lacuna is curious and needs to be addressed.

The aim of this paper is to begin to address some of the limitations mentioned above and, in the process, to begin to develop a more inclusive language of space and place in Interaction Design. Specific objectives are:

- To suggest a way of conceptualising experience that clarifies some of the uncertainties about space and place in Interaction Design. In this regard, McCarthy and Wright's [13] conceptualisation of technology as experience will be used as the basis for a dialogical interpretation of place.
- To introduce the idea of the possibility of experiencing space and place while in transit to discussion of place as a way of integrating experiences of portability and experiences of augmented built space.
- To draw conclusions about how Interaction Design might progress understanding of the dialogue between technology, place and self and how this understanding might illuminate important questions about context, engagement, and interactivity.

2 Conceptualising Experience

In order to think about experience in a way that gives due weight to its social, individual and personal aspects, McCarthy and Wright [13] conceptualise it as an irreducible, dynamic interrelationship between person and environment, in which meaning has sensory, affective, and emotional dimensions as well as cognitive and socio-cultural aspects. They distinguish between the immediate experience that a person has and the meaning of that experience as it becomes known and thereby appropriated personally and communally. This draws attention to the ways in which immediate experience is associated with personal, social, and cultural sense making processes, specifically relational aspects of interpretation and reflection, and communal processes such as telling others of our experiences. Implicit in much of the foregoing is a sense of experience unfolding across time and space. This can be seen in both the transitoriness of the immediate experience and the spatio-temporal relations between the immediate and the lifelong.

McCarthy and Wright describe their approach to experience as dialogical. The dialogical approach starts with the idea that experience is a bit like a conversation that always involves at least two consciousnesses. Conversation is a useful metaphor for the dynamic aspects of experience as it is now well understood that, in a conversation, meaning is always changing as a consequence of what comes next. Even as both parties to a conversation seem to settle on an understanding of a point that has arisen in the conversation, the utterance being made by one of them may unsettle that understanding and suggest an alternative sense or meaning. One of the reasons for this of course is that each utterance has many meanings, a history of use, and a number of voices associated with it. So the dialogical approach to experience draws attention to the ways in which people engage in activity with half an eye to what might be about to happen and half an ear to the nuances of what already has happened. In this sense, experience is responsive to the other and to the future, it is in relation to or in dialogue with the other and anticipating or oriented to possible futures.

The dialogical metaphor can usefully be taken further in conceptualizing experience. Dialogically all unity is accomplished and not given, and moreover it is always accomplished relationally. In terms of the focus of this paper, this suggests that any unified or settled sense of place, or indeed of self-in-place, is accomplished through the relationship between self and place, and increasingly in Interaction Design through the relationship between space and place. Dialogically, buildings and their walls are understood in terms of the relations that sustain them – as are selves and their boundaries with others and places and their boundaries with other places. Dialogicality insists that any unity – such as the unity of place, technology, or self – is composed of many voices in conversation, for example the voices of past experience in that place or with that technology or the voices of one's own past that evoke a past self who is resistant to or embracing of change. It also insists that that unity is unfinished, always open to being changed by the next event.

In terms of understanding user experiences with technology, dialogicality stretches the analyst's imagination in a number of directions. It draws attention to anticipation of experience, reflection on experience, and the dynamic relations between them including the possibility of reflection influencing anticipation and vice versa. For example, reflection on similar past experiences colours anticipation of a new experience

but anticipation of how one might reflect on experience not yet had can also colour the experience and its anticipation. It also takes corporeality – which is very influential in phenomenal accounts of place – into meaning making and back such that a sense of the distinction between self and other is as much due to the sensation of boundary and the inability to see self in the world as it is to interaction with others. A dialogical perspective takes evaluation into areas concerned with the quality of experience and, in the case of the issues so far raised in this paper, with the relationship between technology, place, and self in experience – for example toward consideration of whether particular technologies extend or diminish spaces of possibilities for people, and enrich or impoverish their sense of self [14]. In adopting such a perspective, interaction design and evaluation would exercise creativity by giving shape to a world that is always open and unfinished. Among other things, people do this by constructing spaces, places and theories.

3 Dialogics of Place and Technology

Making a contrast between space and place begins to clarify the role place (and space) can play in Interaction Design. Space is an abstract, disembodied description of the world. According to Descartes, it can be expressed in terms of the dimensions of height, breadth and depth or even further reduced to the X, Y and Z axes of analytical geometry. From an Interaction Design perspective therefore space describes structure and abstract possibilities for interaction. The basic idea that human activity is influenced by the physical environment has been appropriated by Interaction Design in a number of ways, one of the most influential of which has been the use of Alexander's architectural theory of patterns [15].

With space in focus, attention is on the physical environment as a container-like context of interaction. The underlying assumption is that the spatial properties of an environment can be designed to influence the way people act in and use that environment. A simple example might be the way in which a space, such as a football ground, is designed for efficient entry and egress of large numbers of people and to provide as good a view of the football as possible for as many people as possible. These aims may be met by having a large number of entrances-exits with clear, unambiguous routes to the seating areas and steeply banked all-seater stands to provide a clear view for as many people as possible. While this approach to design might be well and good in theory, it is not so straightforward in practice. When football grounds in Britain were being re-designed in this way in the 1980s – for crowd safety and control reasons – there was strong resistance from die-hard football fans. Many of them had a very strong attachment to their grounds just as they were. They had a particular attachment to the standing-only terraces where, in some cases for many years, they had stood week after week in teeming crowds and rain. Abstract, structural, spatial descriptions of interaction miss this kind of experience of place.

Whereas space describes abstract possibility, place describes histories of experiences, interactions, and meanings. It can be construed in terms of the expectations, intentions, needs, desires, history, and feelings that people bring to a particular space or environment. For example, some football fans go to matches to be part of the club and often go to a particular part of the ground – the part of the ground frequented by

the same group of fans for years. For these fans, the ground is not abstract possibility but a living place full of history, memories, and friends. It is the place where they express deeply-felt loyalties and commitments and where they have made and sustain longstanding friendships. They think about it during the week and feel at home there on Saturdays to the extent that they would feel displaced anywhere else if there was a match on at that time in their ground. Other equally loyal football fans are less committed to the history of the ground and more concerned with its suitability for the current team and its safety for those attending.

In contrast with some earlier Interaction Design approaches to place, the dialogical approach attempts to deal with the complexity and plurality of experience of place, engaging with material and ideal, corporeal and cultural, sensory and reflective, as well as the constitutive relations between these perspectives. According to the dialogical approach, analysis of the experience of a place requires attention to both the immediate sensory transaction and the ways in which the immediate experience transforms in the telling. For example, in a football ground, the excitement of the noise and the fear of the pressing crowd become highlights in the story of the event and moments of achievement in the construction of an identity. In this sense, place interpenetrates the play of identity and the playful construction of self, always embodied and also always languaged.

Take the sense of place associated with the coffee house or café culture, for example. From the 17th century, coffee houses were places where people engaged in critical discourse on the times, politics, social conventions, and art of the day. They were community places where people would expect to become engaged in conversations with friends, acquaintances and strangers. Contrast this sense of the place with the sense contrived by contemporary coffee house chains. Starbucks might create a comfortable space, but not a socially, culturally, and politically engaging place. It may be that virtual cafes and chat rooms provide something closer to the public place created in the 17th century coffee houses (see [16] for a detailed discussion of coffee house culture). In this case, it is the sense and quality of engagement that makes the place, regardless of the physical environment and physical immersion.

Emphasising place has implications for Interaction Design. In general, it directs designers and analysts toward the experiential concerns of users as they relate to the spaces in which they live. The following specific implications of a focus on place are particularly noteworthy.

- It draws attention away from physical structures and structural constraints toward community, identity, familiarity, feelings, relationships, and discourse. It also draws attention to people dwelling, however temporarily, feeling the security of rules and boundaries respected. This suggests an experiential starting point for designing and critically evaluating technological interventions in places such as homes and public squares, and for analysing people's use of mobile technologies.
- It suggests that the physical environment should no longer be seen as a container-like context shaping the way people act in and use space, rather as a participant in a dialogue between person and environment (including technology).
- From this perspective, the context of activity and interaction refers to a transaction between person and environment/technology, which, in Interaction Design,

has been primarily characterised as *engagement*. Laurel [17] defined engagement as “a desirable – even essential – human response to computer mediated activities” and it is clearly the characteristic response of many people to computer games, MP3 players, and mobile phones.

- It suggests that any attempt to design for engagement has to address the interaction space, not just the technology.
- It also suggests a critical edge for analyses of interactivity. For example, some engagement in football grounds is positively toned with community and intimacy and other engagement negatively toned with violence between those committed to different communities or with the passivity of a distraction from another reality. This kind of analysis may also provide a useful means of identifying positive and negative absorption with mobile phones and MP3 players.
- It accommodates chat rooms and other virtual places. The dialogic of place depends on located sensory and cultural transaction, not just physical placement. It follows the cultural understanding that people experience a sense of place in films and novels and that the author’s success or failure at creating a sense of place (and time) can often be a critical point. In Interaction Design, this might also be the pragmatically more useful conclusion as it enables analysts to also make place-space distinctions in analyses of Internet or VR interactions.

Whereas a commitment to the importance of place in Interaction Design raises the above issues and suggests tentative directions for addressing them, a closer analysis of the dialogical experience of place – the sense of being in place – will help further to explore these issues for Interaction Design.

4 Being in Place

As an experiential construct, the category ‘place’ is generated by the ways in which people live in the world and the sense they make of their living. Experience involves acting and being acted upon, sensing and feeling both, and transforming them into an emotional and intellectual sense. The particular embodied aspect of human experience requires place [18]. More than that, the sense people make of their experience, individual and collective, makes use of place. These aspects of experience of place are dialogically engaged. The sense of being at home in a particular place or not at home in another is a sensory and affective sense, given cultural expression and meaning in reflection and recounting, and transformed in future by those emotional and intellectual threads of experience. In this way, as sensory and affective experience becomes transformed in thought and story, a building, the top of a mountain, and a chat room can become significant places for people – not just physical structures, natural landscapes, or digital discourses, but also meaningful and heartfelt places. When they become places, they become encultured, such that the natural landscape – as a place – is no longer just natural but also cultural. Dialogically, place and culture depend on each other, one not being possible without the other.

What can Interaction Design learn from spaces in which people don’t easily feel at home or in place? People can enjoy a couple of hours in an airport reading a book or on a motorway mindlessly getting from one place to another. But when this happens, it is the enjoyment of not being engaged, the temporary sense of release from the

weight of community and identity. Marc Augé [19] called these spaces ‘supermodern spaces’, arguing that, although they can offer pleasant temporary freedom, as they lack the quality of place, they contribute little to the quality of experience and the growth of self. In fact, one of the characteristics that contributes both to their potential for the momentary pleasure of disengagement and to their lack of any sense of being in place is the way in which people are abstracted in them. They don’t have the quality of place in part because they receive people as anonymous units without identity into a contractual relationship that may indeed require the user to identify themselves by producing ‘papers’ – passport, ticket, or driving licence. In these supermodern spaces, people may be reminded of the terms of the contractual relationship if they step out of line. It is clearly not their place, they are not even fully acknowledged as a person there. In this sense, a sense of place and a sense of personhood dialogically constitute each other.

5 Dwelling, Being in Place, and Wandering

There is a danger with the way it has been discussed so far that the sense of being in place will be associated with being in a fixed location. Casey [18], in his analysis of the two ways to dwell – dwelling as residing and dwelling as wandering – suggests that being in place is not a static thing. Building a place to call home, a stable habitable location, that becomes a particular dwelling place, trades freedom of movement and the possibility of displacement for constrained movement and a clear definition of what is here and near. In building residences, people not only change the look and meaning of the landscape, they also change themselves as subjects from body subjects into making subjects or agents. As makers or fabricators of places – from homes to cities – people also become social and societal subjects by creating places that people inhabit together. These places also bring the density of lasting value to life experience, as dwelling opens up new possibilities for future experiences of education, contemplation, being together for a time, and organising futures together.

But people can also have a sense of place as they wander. People can in some meaningful way dwell in public spaces like arcades and parks as they move about them, shopping or just hanging out. People can clearly have a strong sense of place about a city as they wander around its winding streets. Increasingly, people dwell on street corners and in the buses, trains or cars in which they spend hours travelling to and from work. But the experience of wandering can be considered dwelling only if the people involved feel settled. In contrast, if people’s wandering is exploratory, if they are trying to find a place, get oriented, or simply moving between places, there is no dwelling or being in place. Casey identifies two characteristic features that give people the sense of being settled or in place: repeated return or re-accessibility and familiarity. For him, being in place involves the kind of familiarity that comes from continually returning to the place and on each return knowing that it is the same place.

Augé’s suggests that in supermodernity, people spend much of their time wandering in supermarkets, airports, hotels and on motorways. According to Augé, spatial overabundance in supermodernity makes the construction of bounded spaces of signification, places that people experience as meaningful without having to think about their meaning – familiar and accessible places perhaps - difficult. This is so at a num-

ber of levels. Seeing somebody walk on the moon can make walking in our own patch seem trivial and the construal of the personal significance of that patch problematic. When the location of products in a supermarket is regularly changed, people can feel disoriented even if it is their regular supermarket. It can be difficult at times to even know the direction in which one is travelling on motorways that are undifferentiated except for the occasional appearance of a road sign. Airports offer few places for quiet time alone or for meaningful social encounters – hard to have in serried rows of seats in a warehouse-like lounge. A question for Interaction Design then is whether ubiquitous and portable computing and communications technologies can be used to enrich these experiences by promoting a sense of place.

Interaction designers, working with ubiquitous computing, have a choice. Like the architects who have gone before them into these spaces, they can impoverish people's experience or enrich it. They inevitably intervene in people's experience of space and place but can do so in a manner that is sensitive to people's creation of places of signification and their experience of collective, community and individual identity or they can ignore these processes and put people heavily in parentheses, to borrow another evocative phrase from Augé. Think about the airports you have been through. How many of them have facilitated the creation of places of signification and how many of them have been more like warehouses, with the people passing through them treated as objects in transit? Interactive technologies can be used to support either construction of airport space. If interactive technologies are to be used to support the creation of places of signification, they can also be designed to support experiences of place and being in place.

6 Technology and Place

If interaction designers want to help people feel in place, they need to engage them at the level of their personhood, not just treat them as anonymous and equivalent units. Mobile phones and MP3 players seem to facilitate this kind of engagement by enabling users to personalise the products and their use of them. For example, MP3 users create tailored music collections and listening preferences, and use their players to manage space – by creating bubbles of familiarity in unfamiliar spaces and by creating zones of comfort in crowded spaces [4]. Mobile phone users treat some texts as very personal gifts [9]. Mobile phones also allow people to capture the intimacy of interpersonal relations while moving from one place to another in a public sphere blurring traditional boundaries between public and private, intimate and extraneous [20]. Designs have also attempted to make use of some of these qualities of mobile phones and their technical capabilities to create places populated with 'familiar strangers' in generally anonymous urban spaces [21].

The 'familiar strangers' project creates place anew each day by lightly connecting people who simultaneously use a particular public space. Similarly the RIOT!1831 project [22], re-made place in Queen Square, a large Georgian square in the heart of Bristol, England. It used hand held computing technology and GPS to stage an interactive play about a riot that took place in 1831 in that square, connecting people in that square in 2004 to the events in that same square in 1831. People enjoyed the experience on the old Bristolian dialect and the sense of privacy that they had in a

public space. In interviews, people talked about being immersed in the riots: *"I didn't even see people. I kind of switched off and I was there at the riots"*. Others referred to the importance of being in the right place for the action in the play: *"one of the clips we got in the centre was of them climbing up on the statue on the horses back when you were standing next to the statue."*

'Familiar strangers', RIOT!1831, and people's experiences with mobile phones and MP3 players show how technologies can be used to take advantage of the unfinalisability of place and its constitutive cultural relationship with personhood. According to Casey, it is the cultural and experiential being in a place that give a place a sense of reality or as he puts it a felt density, the sense that there is something of lasting value in it. A mountain-top may become a place of lasting significance because of the quality of experience associated with it. Initially there is the sensory and affective thrill of climbing it. This is the dialogue of acting on and being acted upon that gives sensory evidence of lived experience. The social context, the people with whom the climb was made, for example, gives the achievement another equally important dialogical grounding. Finally there is the reflection and recounting, the dialogue extended over time that makes it a communal and cultural experience. Through the lived experience, the experiment of climbing and recounting, a concept becomes a place. Now instead of being an image to behold it is a place to experience. For Augé, place "is in one sense... an invention: it has been discovered by those who claim it as their own" (p.43). People create physical and social boundaries to mark what would otherwise remain unmarked and perhaps unrecognised. In this very strong sense, people and the contexts that they act in and experience make each other. This is the dialogical context, born of engagement, that was referred to earlier – and 'familiar strangers' and RIOT!1831 are examples of how Interaction Design can intervene in the dialogical process of person-place making.

One of the interesting features of these interventions, in terms of the design of place, is their stretching of the temporal boundaries of engagement. Laurel's [17] characterisation of engagement as bounded by the start and end of a discrete experience is challenged by experiences of place that include anticipation based on previous experience of the place or the story of the event (e.g. Queens Square and/or the 1831 riots in the RIOT!1831 case) and the potential for reflection and recounting that is likely to change future experiences of the same place. Interaction Design informed by the dialogics of place, technology and self should think of engagement in this extended manner.

In turn, a perspective on extended engagement throws further light on how relatively stable, ontologically pre-existent notions of place emerge. Having created their boundaries or contexts, the fantasy of those who inhabit a place is that it is a closed world about which everything that can be known is already known – a kind of provisional finalisation. For those who inherit them, places constitute "a means of recognition, rather than knowledge" (p.33). A place then is a space of signification in which inhabitants recognise themselves, the codes, sounds, sights, rules, and boundaries. They don't have to be told them or learn to know them. If they belong to this place they recognise them, if not they don't. Invention and fantasy notwithstanding, people experience and treat place as real. People experience places as welcoming, homely or comforting, and they try to re-create place. As Augé notes, people manage space to symbolise different aspects of identity. People create public spaces in which shared

identity can be symbolised and experienced (e.g. public parks, museums, and cinemas) particular spaces in which community identity can be experienced (e.g. parish halls, seating areas, and local shops), and singular spaces in which individual identity can be symbolised and experienced (e.g. homes, work spaces, gardens). However a notion of engagement bounded by cycles of activity or even the materiality of action can result in a reified conceptualisation of place that misses its dialogical invention or construction. Appropriating such conceptualisations for Interaction Design runs the risk of missing the potential for creativity and invention in the relationship between technology, place and self.

Missing the potential for creativity and invention takes attention away from a final critical point – mentioned earlier – which refers to the attention Interaction Design pays (or does not) to the extent to which particular technologies extend or diminish spaces of possibilities for people, and thereby enrich or impoverish their sense of self. This goes to the heart of what kind of interactivity – or interaction spaces – are being designed. A hypothetical distinction might be helpful here, between places such as Queen's Square or an airport being technologically augmented and people's experience of public space being mediated by their use of their MP3 players. McCarthy and Wright [23] have argued that this use of MP3 players can be seen as interpassive rather than interactive. To the extent that activity with and through technology replaces engaged, felt, responsible relating with a substitute that extracts some aspect of relating from fully felt form, it reveals passivity, not agency or activity. In this context, it might not be too far-fetched to think of the process of engaging people with the history and feel of a place, as RIOT!1831 did with Queens Square, as mutually interactive, and the process of blocking out the feel of a place with an MP3 player as one-sided interpassivity – engagement without feelings of mutually relating. There is an agency in it but it is the agency of resistance or avoidance rather than engagement. However, it is important to note that these concepts are also dialogical, as apparently one-sided relationships can in fact involve a subtle, expressive response, where for instance disengagement with lifeless space is replaced with engagement with living music.

7 Conclusions

This paper has outlined some of the key features of a dialogics of technology, place and self. The dialogical approach described and used in the paper is concerned with the work involved in creating space and place, the relationships that sustain them, and the potential entailed in their unfinalisability. In this novel contribution to Interaction Design, place is both material and ideal, corporeal and cultural, stable and mobile.

Making place central in the Interaction Design of ubiquitous, ambient, portable, and virtual computing draws attention to the sensations and feeling, thoughts and emotions, and the plurality of voices in situated interaction. The implications of this re-centring of place for a number of concepts that have been influential in Interaction Design for the last decade or so - context, engagement, and interactivity for example - have been considered.

As place and personhood constitute each other in the dialogical approach to place, the approach creates the potential for Interaction Design to contribute to discourse on

whether technological interventions extend or restrict spaces of possibility for people and for their sense of self. This can be seen as a response to the need, identified earlier in the paper, for a strong conceptualization of people's experience of space and place as the basis for a user-centred design of pervasive and ambient computing. However, as was clear from this paper, if Interaction Design is to fulfil this potential, it has to attend to both personal experience and cultural and historical understandings of self and place.

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