Places to Think With

Non-Place and Situated Mobile Working [DRAFT]

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Abstract. In this paper we address the issue of mobile working from the point of view of two disparate sets of theories: those pertaining to concepts of distributed cognition, and those pertaining to non-place. In the process we consider the work environment of the peripatetic worker (designer) in terms of the apparatus of physical environment, social being and cultural setting. We draw on our findings from practical research into non-place and our work in sound design. We provide pointers for greater understanding of work environments and designing for mobile technologies that support designers on the move.

Keywords. mobile working; situated cognition; place; non-place; sound.

Mobile work environments

Some environments appear to be more conducive to working than others. This matching of work environment, task and the worker is dependent on a range of factors: a library is a quiet place close to reference sources; a private office provides freedom from distractions; conference rooms enable interaction and discussion. But there are other environments that some people, for some of the time, find necessary, and even enjoyable, as work environments, such as noisy railway carriages, busy coffee shops, boring airport waiting lounges, and windy park benches. The suitability of such places for work is rarely considered in their design, but in some cases such environments can be positively conducive to work. Clearly, no place suits all people, and all work tasks, all of the time. Furthermore, in the manner proposed by the early theorists of cyborg enhancement, the mobile cognitive worker can apply a range of personalised devices to customise their work environment via: personal mood enhancing sound systems (iPods), mobile phones, digital cameras, PDAs, laptops, and Bluetooth, wireless and other mobile network systems. The mobile worker is in the company of the contemporary urban flaneur who deploys mobile telephony and related network systems in the pursuit of leisure, pleasure, diversion and new forms of sociability (Bull, 2000; Laurier, 2001).

We focus our research on mobile working that is cognitive, that is, working that we commonly describe as requiring thought, analysis, reflection, decision making, composing, writing, and designing, that can be assisted by tools available in the personalised mobile environment. Given the availability of such tools, is it possible for some architectural settings to be more conducive to effective thought than others? Can such environments and mobile tools be designed to enhance thought? We conjecture that spaces and devices can be designed taking account of their cognitive aspects, though not in a direct and causal way. It is changes in setting, variety of environment, and dynamic movement across thresholds that contribute substantially to the effectiveness or otherwise of the contexts of mobile working.

The question of “spaces to think with,” is a new framing of an old problematic. Frances Yates indicates the ancient legacy by which orators would use the environment around them to structure and remember the main points of their
arguments (Yates, 1966). But this recourse to spatial mnemonics was not purely instrumental. There was also a sense of participating in the divine order. In fact, for Plato, the concept of Intellect was of a supra-individual and divine stratum of coherence into which all of humanity could connect. Thought (as Intellect) was understood spatially through concepts of transcendence. There is also the persistent legacy of the Romantics drawing on the environment for personal inspiration. The Romantic grand tour was on occasion enjoyed by creative individuals to study, contemplate, and mine foreign and unfamiliar territory. For the newly mobile British bourgeoisie, continental Europe was at one time a territory “to think with,” a role also extended to “the orient.” As outcomes of the colonial impulse, museums, galleries and specimen gardens fulfill a similar role. Spaces aid thought in the obvious case where one seeks out specific information, such as mummification practices in Egypt, or the leaf pattern of a Banksia oblongifolia. But such environments also function as places in which thoughtful associations can be made, and one could participate in a sense of Platonic ordering, and participate more fully in the Thought of humankind (Hooper-Greenhill, 1992).

**Situated Cognition**

What is thought? According to cognitive theorists (Gregory (ed), and Zangwill, 1987), classical theories of cognition (as advanced by Descartes) place thought, mind and cognition firmly within the organ of the brain. It all happens inside, with the environment providing the distractions or noise, or the environmental conditions that keep the body in a comfortable state so that the brain can get on with its work. More radical conceptions of cognition however advance a series of propositions that push cognition further and further into the environment. The case has been made well by Rodney Brooks and Andy Clarke (Clark, 1997; Clark, 2001; Clark, 2003) in the context of studies into robotics: “The true engine of reason … is bounded neither by skin nor skull” (Clark, 1997 p.69). As evidence for their thesis they cite experiments that show how “lazy” the brain is in accomplishing even simple cognitive tasks. The brain’s task is mainly to make connections, complete patterns, and draw on the elaborate “scaffolding” we call society, culture and context: “Advanced reason is thus above all the realm of the scaffolded brain: the brain in its bodily context, interacting with a complex world of physical and social structures.” The role of the brain is to “support a succession of iterated, local, pattern-completing responses” (Clark, 1997 p.191).

The language used by these researchers into the philosophy of robotics is not architectural, though they share an interest in the theories of Martin Heidegger and Merleau Ponty, who write about the human condition as primarily one of “being-in-the-world.” What are the implications of situated cognition for architecture? There is no simple correspondence between environment and thought. The theories of situated cognition do not suggest direct mappings between thoughts and architectural interventions. So we can dismiss the idea that architects can create places that make the inhabitants more intelligent, thoughtful, passive, active, better behaved or creative. To assert as much is to buy into long-discredited theories of environmental determinism. Environment and cognition involves a much looser fit.

Clark does not address spatial design directly, but in writing about office work refers to the short cuts workers assume in adopting practices, norms, and procedures. No individual worker is necessarily in control of a particular problem solving exercise but deploys the devices of the firm and its context. There is no
agent controlling cognition at any level in the organisation. We may extend this
conjecture to design in general. Designers deploy procedures, typologies, standard
solutions, precedents, in fact, in the language of hermeneutics, they draw on a
background of experiences, variously understood as a framework, paradigm,
horizon, or field of prejudices, that are not of the designer’s making, but part of
the intellectual matrix of the design discipline (the norms of the architect’s
particular culture or sub-culture for example) (Snodgrass, and Coyne, 2005). The
shifting conventions that constitute architectural design already take into account
the optimal deployment of our environment as a space to think with, even if the
architect does not consciously seek to design spaces as such. This does not rule out
innovation, or suggest that a designer is incapable of going against the grain, but it
challenges the autonomous agency of the designer, and any presumption of
omniscient designernly control. The designer is as much at the behest of their
cognitive scaffolding as the inhabitants and users of the spaces they seek to create.

How do theories of situated cognition inform concepts of mobile working?
According to a naive kind of situated cognitivism, the mobile designer working on
their laptop in a park sees a brook, a bicycle, and a flower bed, and performs a
pattern completion exercise to infer a thought about information flows and
colour, that may or may not be relevant to solving the problem at hand. (Perhaps
she is designing a house extension, or sorting out the office accounts on her
laptop.) Here the environment acts as a source of associations, metaphors and
stimuli through which to think. But this account already assumes cognitive
autonomy on the part of the mobile worker. Situated cognition presents the more
radical proposition that our environment is already structured in a way that assists
certain outcomes. In other words, the spatial operation of cognition is reflected in
the fact that we are culturally predisposed towards parklands as places of quiet
contemplation and inspiration; our entire perception of such spaces is culturally
loaded; the objects around us, natural and otherwise, are caught up in networks of
interconnections, about which any particular instance provides a reminder. Sitting
in a park while reconciling the office accounts suggests a very distant coupling
between thought and environment, until we reflect that the park and its history
are brought about by the same social and cultural processes. Through our
participation in culture we are as much at home with spreadsheets as parklands,
and the physicality of the park is just one part of this cultural scaffolding within
which thought is constructed.

Place and Cognition

Much research in architecture, urbanism and geography addresses concepts of place
(Relph, 1976;Norberg-Schulz, 1980). Places are rich, meaningful environments in
which we experience a sense of being at home. A place is often distinguished from
a mere space, which is a measurable, scientific entity. Places are thought to be
under threat from increasing standardisation, uniformity, industrialization and
globalisation. The rhetoric of place exhorts architects to be concerned with place-
making, rather than simply the formal configuration of patterns of spaces. Place-
making is partly an antidote to a strand within modernism towards
internationalisation, where one place in the world is ostensibly the same as any
other. A design studio at its best might typify a work environment that is place-
like. It contains artefacts of creation, drawings, models, a certain sociability, and
the paraphernalia of production and critique. The home is one other common
example linking place and memories (Bachelard, 1964). By way of contrast there
are placeless spaces, hostile, alien and foreign environments in which most people
arguably do not feel at home: freeway interchanges, vacant plazas at night, bomb sites, and abandoned buildings, but also the conspicuous products of deliberative design, sometimes labeled as “non-places,” to be discussed in the next section.

Is there a relationship between place and situated cognition? The literature on place concerns itself less with issues of cognition than memory and meaning. A place is redolent with meaning and significance. We conjecture a simple parallel. Places are those physical environments in which there is a ready complicity between culture, sociability and human practices. In Clark’s terms, in a place the cognitive scaffolding is in place, the resources by which the kinds of problems humans frame and resolve are readily to hand. The architecture and the artifacts within it provide the memories, the significations, the signs, the visual and spatial languages, and the sounds, through which all the other social, cultural and linguistic components can operate. In other words the ensemble that is place is conducive to the operations of thought, appropriate to the condition in which the human finds herself in that place. For the mobile worker, a place is a space for thinking with, or, in the language of situated cognition, a space in which the cultural, social and physical scaffolding is in place for effective thought to occur, by whatever agency.

The cognitive resistance of non-places

Are some environments resistant (or neutral) to the processes of cognition? In contrast to places, non-places are “dumb” spaces, in which the chief cognitive demands are way-finding, following a bureaucratic procedure, or mere consumption (Augé, 1995). These spaces tell us what to do, through literal signage, and the configuration of circulation routes, gates, controls, and counters: characteristics of airports, malls, supermarkets, motorways, hotels, banks, call centres, and certain bureaucratic spaces. In contrast to traditional places, where orientation and belonging are predicated on the knowledge that accrues through sedentary and localized inhabitation, non-places are designed to be experienced by transitory and mobile subjects: shoppers, commuters, corporate nomads, tourists, itinerants, migrants, virtual workers, and designers on the move. Augé suggests we enter into a contractual relationship with non-place when we cross its thresholds and engage with it. Our visual field is littered with directions and instructions, while aurally we are pacified with musak, chatter, and white noise. Mobile workers, such as designers, increasingly find themselves working in these non-places, as they complete drawings or designs on the train, the airport lounge, the coffee shop, and travel to meetings and conferences. In turn aspects of non-place are brought back into the office or studio, if they have one. The office is sometimes an adjunct to peripatetic design in non-place, or subservient to the exigencies of time zones, global commerce, and international regularisation.

If we assume the individual as the unquestioned agent of thought then non-places tell us what to think and what not to think. But more precisely, in the language of situated cognition, non-places implicate a limited range of human action, being and engagement. Thought is not encouraged beyond the limits of the space’s own particular cognitive project, typically limited to wayfinding, getting crowds from A to B, carrying out certain transactions (purchases), and herding people through a process (such as getting on a plane). Non-places deploy signs and symbols in the supposedly unambiguous language of the propositional clause (“wait here”), rather than relying on the rich layering of custom, history, and meaning found in places. A sign saying “wait here” would be superfluous in the vestibule of a cathedral or temple, as the appropriate behaviour or action is already inscribed in the architecture and ritual practices of the place. Neither would we require a text
saying “think of god,” or “consider your finitude” in such places. In fact it could be said that we are already caught up in such thought by virtue of being in the sacred place or participating in its rituals. According to certain ethnologists, such as Eliade (Eliade, 1965), ritual is a kind of thinking that often bypasses the necessity for personal reflection or personalised knowing or belief. By way of contrast, our participation in the un-aspirational thought of non-places operates in a generic way, easily adjusted to the contingencies of the particular process by an adjustment to the signage. You can wear an iPod in a museum or church, but it is fair to say that as places for mobile working, non-places require personalized digital enhancement to provide the cognitive scaffolding for thought that takes one beyond the thoughts of the space. The mobile worker seems to require the iPod, mobile phone, and laptop in order to compensate for the cognitive deficiency of non-places.

Thresholds as Thought Events

Theories of situated cognition point to thought as active. Thought (and by extension, mobile working) is not primarily a private inner conversation, but requires tools, devices, and interventions. The most valuable use-object is verbal language, but as designers we can think of any intervention into the environment as a thought act. We are constantly making changes to the environment. Designers provoke new understandings of particular spaces when they intervene, and change that environment. To plant a tree in a courtyard reveals the courtyard in a new light. To wear an iPod to church would probably reveal something about the rituals of the place, by virtue of the resistances that would set up. Mobile phones with cameras in the schoolyard expose something new about the dynamics of peer and family relations amongst schoolchildren. The thought that is design often implicates conjectures, interventions, and experimentation.

As the surrealists taught, thought events can have this character, of placing objects out of their usual contexts to produce a set of jarring and unusual relationships (an anvil and a sewing machine, an iPod and a crucifix). The metaphors used by researchers into situated cognition assume a certain stability and evolutionary progression to more elaborate and effective scaffolding for thought. But the scaffolding can be rattled. No less so than by the designer moving into and out of environments. To place a designer in a new setting, eg to design part of a hospital while sitting in a café at the zoo, may certainly take thought into new territory, but it is also the movement itself that provides mobile working with its cognitive space. From the point of view of design, thought happens at the thresholds, which places the mobile worker, as a crossing of thresholds, at a particular advantage. Clark alludes to the boundary aspects of cognition, but when he turns to design readily succumbs to the allure of seamlessly melded technologies (merging of machine with body). From our point of view design is abetted by a more agonistic (violent) disposition towards the edge condition (Coyne, 2005).

Thinking Through Non-place

We are currently part of an interdisciplinary team examining the characteristics of non-place and the technologies supposedly deployed to make such places more inhabitable. We have held a series of workshops in settings commonly designated as non-places: a hardware superstore (B&Q), and a major UK airport (Stansted). At the hardware workshop there was ample evidence of how participant researchers tended to use the superstore as “a place for thinking with.” One group collected items in a shopping trolley to illustrate something about lifestyle.
Someone was provoked to consider gender issues through a photographic examination of gendered products on the shelves. Someone else considered all the waste products of the store and how they are dealt with. After the event one of the researchers produced a collection of photographs of people carrying long sticks around the shop, an aspect of hardware shopping that escaped the rest of us. One way of looking at this phenomenon (of using things from the environment) is to say that a researcher had an idea and used the shop as a way of illustrating it. Under the concept of situated cognition, however, it is more accurate to consider that many of those thoughts were in fact provoked by the space, completed by the space, or that we made connections, completed patterns, filled in the gaps, provided by the space. More radically, in the language of situated cognition, we could assert that the environment, its social and material formations were implicated in what we call thought.

But the cognitive aspects of the B&Q experience gained much by virtue of its contrast with other experiences. Augé’s description of non-place implicates travel, rights of passage, moving from one region to another. In non-place we are in limbo, as when the initiate is given up to the forest outside the safety of the village community (Turner, 1967). In returning, the initiate returns as an adult, aware, transformed, edified and in a new cognitive condition, by virtue of the ritual passage. Thought is abetted by the passage through moments of place and non-place, memory and amnesia, the generic and the local.

Our own experience at the non-place workshops perhaps helps to explain how the threshold contributes to cognition. Cognitive effort seems to be directed towards comparison and contrast, brought about by transition, threshold conditions and tarrying at the boundaries. In the case of Stansted, some of the researchers only understood the “thinking” of the environment by inadvertently testing its limits. As neither travelers, staff nor plane spotters, but researchers, we seemed immediately to be at odds with the cognitive scaffolding of the environment. Within an hour we had infringed three security protocols. One person walked along a road past the administration block taking photos and was told to return to the main building, two were taken back to the security office for using a video camera outside the main building, and someone set off an alarm by “rattling” a security door. We think there were no signs forbidding any of these actions. The environment is under constant surveillance, the flows of people are regulated and can be assumed correct by other means. As a cognitive space, there is a sense in which the airport has a mind of its own, or different to our own, or the scaffolding that constitutes the thought of the airport is only revealed to us in the breach of some unstated protocol or other, when it is “rattled.” Thought seems to operate as a testing of boundaries, traversal, and even transgression of the threshold condition. Friction at the boundaries is intellectual grist to the researcher and designer’s creative mill.

Non-place and Sound Masking

Consideration of the threshold also brings to mind the role of sound. Sound is commonly presented as a spatial factor inhibiting effective work. We readily say that a space is too noisy to work in, whereas we are less likely to say the colours are too bright. Sound above a certain threshold of amplitude or coherence is associated with noise, a frictional impediment to smooth information transfer according to standard communications theory. It is also an impediment to effective mobile working. Personalised sound systems provide a method of reducing sound intrusion for the mobile worker. There are sound masking
headphones equipped with microphones on each earpiece, and that amplify the background noise one would normally hear, but in reverse phase. The resultant cancellation effect reduces ambient background noise for the listener. These systems have to be worn, but there are also sound masking techniques in which an environment is populated with an array of microphones and loudspeakers. The loudspeakers dynamically transmit ambient sounds (music, white and pink noise, natural and abstract sounds) at appropriate frequencies, amplitudes and locations in response to obtrusive and incidental noises in the environment. So a loud conversation at a table in a coffee shop or the clatter of cutlery, would be masked (in part) for the neighbouring tables. Such techniques are now made feasible by the reduced cost and size of sensitive microphones and speakers, and the flexibility of software for fine-tuning the techniques. We have conducted experiments in such sound masking using MAX-MSP signal manipulation software.

Sound masking by these various means pushes non-places further into the realms of the generic, anonymized and individual, perhaps supporting the classical view that the mind requires a quiet, undisturbed environment to do its work. Our quest for peace and quiet to get on with the job, and the deployment of elaborate sound masking devices seems to militate against the argument that thought is situated and depends on the cognitive scaffolding of the environment. Sound masking suggests that the mind needs to be divorced from the environment, that it operates best in a state of undisturbed contemplation. There are several ways to answer this challenge, one of which is to appeal to the concept of the thresholded nature of both our spatial and cognitive experience. Few workers want continual quiet or continual vibrancy and noise. Cognition seems to require a tarrying on the edge of solitude, moving in and out of different spatial and cognitive conditions. The quest for sound masking does not favour the independent autonomy of the mobile cognitive worker, but attests to opportunities to move in and out of such environmental conditions, further affirmation of the need to subtly modulate the environment, but also to provide opportunities for comparison, contrast, the unexpected, and the transgression of borders: the entailments of mobility. The technologies we have mentioned provide the option of moving into and out of particular environmental conditions. If such modulation can be accomplished with sound, then perhaps the same applies to lighting, imagery and the array of sensory experience, as a means to enhancing threshold effects and their related cognitive consequences.

Our conclusion is that spaces are configured and signed, not just to “convey meaning,” as containers for cognitive agents (people), or embodying ideas (or ideologies), but as actively complicit in thought, and we can design and deploy products, devices, systems, apparatuses, and handheld technologies that support “spaces to think with,” particularly by attending to spatial transitions, boundaries between conditions, and thresholds.

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References


