The physicality of a place is part of its cultural scaffolding. Mobile phones and social media amplify difference, helping to reveal the nature of interpretative communities as decisive agents.

Interpretative communities as decisive agents: on pervasive digital technologies

Richard Coyne

The emergence of computer-mediated social networking amplifies concepts of shared and diffused agency. It seems that much is accomplished not so much by individuals standing out against the crowd, but by crowds of people forming, re-forming, interacting and sharing through highly responsive electronic media. So-called 'smart mobs'[1] are apparently capable of generating meaningful outcomes by collective action through mobile phones, social networks such as *Facebook*, and shared open-source enterprises as in open software development.[2] Contemporary theorising in the fields of human-computer interaction and digital media promotes concepts of ubiquitous, egalitarian, democratic, grass-roots, collective agency above concepts of hierarchical, heroic and individual creation, a shift thought by some to challenge accepted ways of designing and occupying space.

Participative design

Open source software development, crowd sourcing, the gift society and user-centred design converge on the idea of participative design. Collective agency and shared design and decision-making did not begin with computers. Public participation in the design and creation of building projects has a long history, which Charles Jencks aligns with 'the activist tradition',[3] drawing on eighteenth-century socialism and of course Karl Marx's reaction against society's apparent slavery to mass production and capital. Architecture wrestles with the relationship between traditions of idealised, autocratic and personality-centred creation on the one hand, and the traditions of participative, grass-roots, democratic design on the other. As well as political and social parallels, participative design in architecture finds resonances with the grass-roots deployment of technologies of digital communications.

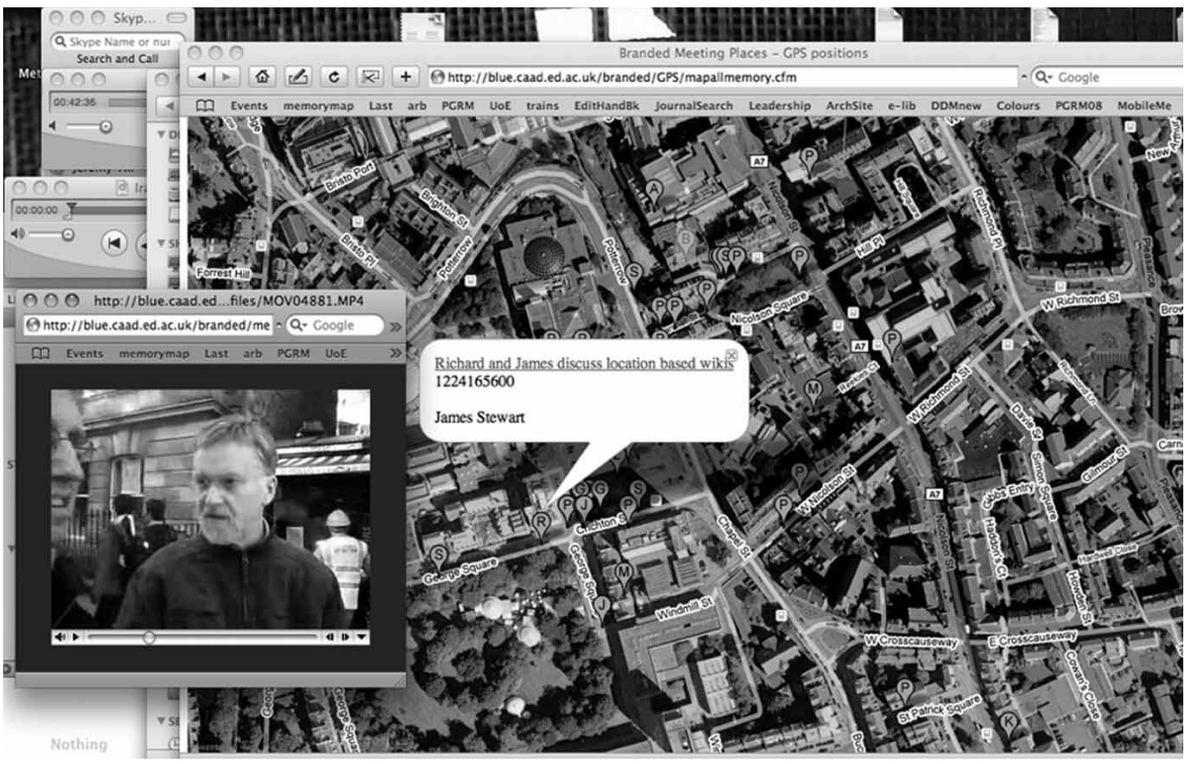
'... the Obama team proved to be the most successful in deploying mobile phone text messaging, social network sites (Facebook and Myspace), blogs and Youtube to tap into and mobilise the mood of a people. '

Prominent commentator on digital cultures, Howard Rheingold, highlights the role of the WELL (Whole Earth 'Lectronic Link), a community of early adopters in the mid 1980s who used simple digital bulletin boards to communicate, build community, organise self-help groups and construct political action from the ground up.[4] The US presidential campaigning of 2009 provided a milestone in the political uses of digital media, as the Obama team proved to be the most successful in deploying mobile phone text messaging, social network sites (Facebook and Myspace), blogs and Youtube to tap into and mobilise the mood of a people. Such media also assume a role in political defiance. The ready availability of multiple channels (particularly Twitter, Facebook and Youtube, as well as text messaging and video recording by mobile phone) had an impact on events following the presidential elections in Iran in the summer of 2009. The political role of digital technologies is given potent expression in Vicente Rafael's account of the displacement of Philippines President Joseph Estrada by a civilian-led coup in 2001:

> *The power of the crowd thus comes across in its capacity to overwhelm the physical constraints of urban planning and to blur social distinctions by provoking a sense of estrangement. Its authority rests on its ability to promote restlessness and movement, thereby undermining the pressure from state technocrats, church authorities and corporate interests to regulate and contain such movements* [...] *As a medium, the crowd is also the site for the generation of expectations and the circulation of messages* [...] *as a kind of technology itself* [...] *The insistent and recurring proximity of anonymous others creates a current of expectation, of something that might arrive, of events that might happen. As a site of potential happenings, it is a kind of place for the generation of the unknown and the unexpected.*[5]

Rheingold also quotes this excerpt. The crowd emerges as a technology activated by the capabilities of mobile phones. Note Rafael's reference to estrangement. These technologies do not only bind, unite and ensure accurate flows of information, but

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1 Colleagues and I have been developing innovations using mobile phones to explore how to deposit and retrieve digital documents in the environment, as if the environment is to become the library

render the familiar strange in various ways. Mobile phones and social media also provoke and amplify difference.

Distributed agency

Distributed agency was not a nascent process simply awaiting release by advanced communications technologies. In the humanities the problem of agency is often cast in terms of authorship, which concerns not only the origin of an idea but attribution, authority and the cultural context and practices by which society constructs individuals and ascribes credit to them. Discourses in the humanities reflect on the contingency of agency in any particular situation and on the application of concepts of the agent. In his seminal essay on authorship, Roland Barthes asserts: 'the text is a tissue of citations, resulting from the thousand sources of culture'.[6] If literary theorists wish to look for the author or putative creator as agent, then they may well alight on the nature of readership: 'there is one place where this multiplicity is collected, united, and this place is not the author, as we have hitherto said it was, but the reader'.[7] Authors are putatively singular, whereas readers inevitably present as multiples. The reader does not operate in isolation but is in the company of a whole community of interpreters. It seems that as much can be said of authorship, as a multiplicity.

Negotiating authority and agency is the business of interpretative communities. Concepts from philosophical hermeneutics draw attention to interpretative communities as agents of creation, affirming the inevitability of shared participation and distributed agency.[8] In fact it is the intellectual practices of that community that take precedence over individual authorship. For Stanley Fish writing about professional communities (lawyers, medics, architects), an interpretative community is not 'a group of individuals who share a point of view, but a point of view or way of organizing experience that [shares] individuals'.[9] Fish echoes Hans-Georg Gadamer's contention about conversation between two or more interlocutors. People are not entirely in control of their conversations. Interlocutors 'fall into conversation [...] the people conversing are far less the leaders of it than the led'. We conversants may think of ourselves as the agents of understanding, but it is more accurate to say that understanding or its failure is 'a process which happens to us'.[10]

Literary theorist Mikhail Bakhtin presents similar arguments in favour of the communality of understanding: 'verbal discourse is a social phenomenon – social throughout its entire range and in each and every of its factors, from the sound image to the furthest reaches of abstract meaning'.

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Social practices, human culture and private thought consist of a multiplicity of languages and voices: 'As a living, socio-ideological concrete thing, as heteroglot opinion, language, for the individual consciousness, lies in the borderline between oneself and the other'. Words and ideas are always 'half someone else's'.[11] Lest the theorist is tempted to deprecate concepts of individuality, Bakhtin's assertion points to the ambiguity and multiplicity of agency in thought, an in-between condition implicating a self and an other. Sociologist Bruno Latour elaborates this understanding further through the theatrical metaphors of actor-network theory (ANT), in which: 'the very word actor directs our attention to a complete dislocation of the action, warning us that it is not a coherent, controlled, well-rounded, and clean-edged affair. By definition, action is *dislocated*'.[12]

'Concepts of collective agency resonate with theories of situated cognition ... '

As a further elaboration of its multiplicity, the sociability of agency does not necessarily exist as an assembled group of people, but persists as traces through the environment. Concepts of collective agency resonate with theories of situated cognition, which dissipate agency into social practices and language, but also human physiology, devices, spatial organisation and the environment.[13] In the context of studies in neuroscience and robotics, philosopher Andy Clark appeals to concepts of the 'scaffolded mind' in attributing agency. He asserts that: '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'. If we are to think of the individual, then the role of individualised cognitive apparatus is to 'support a succession of iterated, local, pattern-completing responses'.[14] The individual as agent is to be thought of as a piece in a cognitive jigsaw, a machine component, or an organism in a vast ecology of thought. Following Latour and Rafael I would add that such environmentally situated cognitive processes are not smooth and trouble-free. Not only are such processes highly dynamic, interdependent and complex, but agency and its attribution are agonistic.

There are coherent political, theoretical, philosophical, sociological and biological arguments for affirming notions of distributed and complex agency. I wish to elaborate on two ramifications for architecture of the concept of distributed agency: place as a source and medium of agency, and the role of digital communications devices.

Agency and place

There is clearly no simple correspondence between environment and thought. The theories of situated cognition do not support long-discredited theories of environmental determinism,[15] as if architects can create places that make the inhabitants more intelligent, thoughtful, passive, active, better behaved or creative. Environment and cognition involves a much looser fit. Consider a scholar or clerk working on an accounting problem in the reading room of a library designed in Neo-Classical style, as in the case of the former reading room of the British Library, where Karl Marx did much of his writing, or the National Library in Edinburgh. It is tempting to think that the knowledge to which the scholar has access is all in the books. The space is incidental and contributes little to the work task, other than providing comfort and convenience. Those more interested in the architecture than the books might note how the scholar in the library observes the paintings, wall friezes and configuration of pilasters, and performs a pattern completion exercise to infer a thought about economics, capital and social change, that may or may not be relevant in addressing the problem at hand. Here the environment acts as a source of associations, metaphors and stimuli through which to think. Drawing assistance from the environment in this way no doubt occurs, but this account already assumes autonomous agency on the part of the scholar in the library.

Concepts of distributed agency present the more radical proposition that human environments are already structured in ways that assist certain outcomes. In other words, the spatial operation of cognition is reflected in the fact that human beings are culturally predisposed towards libraries as places of contemplation and inspiration; the entire perception of such spaces is culturally loaded; the objects that permeate human sociability, natural and otherwise, are caught up in networks of interconnections, about which any particular instance provides a reminder. Sitting in a library while writing notes and essays on political economy, or reconciling the office accounts, suggests a certain coupling of thought to environment. The library and its history are brought about by the same social and cultural processes as the thoughts that take place within it. Through the library users' participation in culture they are as much at home with social history, ledgers and spreadsheets as they are with libraries, and the physicality of the library is just one part of this cultural scaffolding within which thought is constructed.

'... the environment acts as a source of associations, metaphors and stimuli through which to think.'

Theorists of the embodied mind, and distributed agency, often draw parallels between intelligent thought and the way organisms have co-evolved with their environments. So certain species of fish apparently 'exploit aquatic swirls, eddies, and vortices to "turbocharge" propulsion and aid maneuverability'[16] in excess of what they could accomplish by brute strength alone. The physiology of the fish apparently exploits fluid phenomena that occur in nature, abetted by currents and by rocks, but the fish is also capable of producing these

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vortices itself. Translating these processes to human thought, a step not unusual in neuroscience: when interlocutors 'bounce ideas around', they are not so much the agents of this process as one of the rocks, or the current that is as much decided by the configuration of the rocks as it determines their configuration. The books on the library shelves serve a similar but substantially more conspicuously structured and easily comprehensible role, explicable in terms of the instrumental nature of language as a highly sophisticated socially configured system of tools.

Devices and agency

To throw digital devices, such as mobile phones, digital cameras, personal digital assistants, laptops and smartphones into this cognitive scaffolding is to provoke three further architectural responses. First, the convergence with architecture and urbanism focuses attention on the social ramifications of these technologies, e.g. a further promotion of, or demonstration of, a 'splintering urbanism',[17] urban communities as battlegrounds of the local and the global, hierarchical organisation and the ad-hoc. Second, theorists and practitioners alike might deploy these technologies in enhancing public engagement in spatial practices and decision-making: forays into e-democracy, the soliciting of public engagement in political decision making, and giving citizens a public voice. Third, architecture can experiment with these technologies, or work with those who do, to explore new modes of interaction in spaces. This latter strategy can lead not only to the creation of useful tools, but exposes something about the nature of human environments, 'provoking a sense of estrangement' as Rafael asserts.

Colleagues and I have been developing a suite of innovations using mobile phones to explore how to deposit and retrieve digital documents in the environment, as if the environment is to become the library. These experiments amount to tagging digital documents with locational information, sourced from the GPS capability of smartphones and laptops. So information is stored on servers, but sorted and accessed according to where users happen to be with their mobile devices. We are not alone in developing and documenting such innovations, and developments are occurring all the time, some as commercial products integrating smartphones, web pages and other networked media.

These media bring sociability and agency to light in new ways. They remind architects about aspects of the human condition that have always been present. Humankind invents and develops technologies suited to its nature. Like all organisms human beings are social to the core, and develop technologies to amplify that aspect.

Elsewhere I explore at length the ways in which such digital devices help people tune into their environment and to one another. As Lewis Mumford applauded the role of the clock as a key technology for synchronising 'the actions of men',[18] so I would add the capability of mobile devices to fine-tune human interactions, not just in arranging appointments and meetings, and sharing documents, but in communicating and agreeing place and value. They form part of the cognitive scaffolding through which thought occurs, not only in the company of the books in the British Library, but integrated with the furniture, services, architectural hardware, entrances, thresholds and sequences of spaces people occupy. In this light smartphones and other ubiquitous digital technologies and their networks are among those dynamic subarchitectures that make up the environment.

'... tagging digital documents with locational information, sourced from the GPS capability of smartphones and laptops.'

Then there is the capacity of such devices to create and amplify otherness, to detune relationships and expose discrepancy and disjunction, 'provoking a sense of estrangement', 'heteroglot opinion' and 'dislocated' action according to Raphael, Bakhtin and Latour. Among the strange and peculiar, critical scholars might identify the surreal landscapes and quasi-erotic micro-environments of Second Life, the neo-organic architectural forms of parametric design, the vocabulary and application of Twittering, the emerging authority of social networking and file sharing currently transforming mainstream publishing,[19] and the deposition of virtual documents into the environment. Pervasive digital media render the familiar strange, a function not distant from architecture.

Conclusion

Concepts of cognition, what it is to think, provide the most potent tests of the nature of agency. I have elaborated on the theme of cognition as distributed, social, and 'out there' in the environment, as much as theorists of mind may assert its internality. I have shown from various sources the weight of assertion that agency, authorship and creation are also shared, dissipated and 'external'. That environments are complicit in thought adds to the responsibility of architecture to make places for thinking. Place is both a source and a medium of agency, a phenomenon brought to light most potently through the incursion of ubiquitous digital devices and media. The physicality of a place is an aspect of the cultural scaffolding within which thought is constructed. Mobile phones and social media also provoke and amplify difference, and reveal further the nature of interpretative communities as decisive agents. Participative design, aided and abetted by communications technologies, is politically attuned and liberalising. It is also more cognitively accurate as a description of the way things get done.

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Biography

Richard Coyne is an architect teaching and researching in the areas of design, multimedia and the philosophy of information technology. He is Head of the School of Arts, Culture and Environment at the University of Edinburgh, which includes architecture, history of art and music. He is Professor of Architectural Computing.

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