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On the Urbanism of Locative Media

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Must "media" mean remoteness? The urbanism of electronic communications has seldom been encouraging. Whether the word "media" implies passive entertainment, global networking, production software, or the attention economy of all of these, it does tend to imply disembodiment; and that implies trouble for space and place as we know them.

But what happens when media become embodied in access, spatial in operations, and place based in content? In particular, what happens when information technology moves out beyond the desktop into the sites and situations of everyday urban life? What does it mean to apply "locative" media?

From Virtual to Embodied

Instead of one great disembodied world to be entered through the looking glass of a desktop computer screen (as described fifteen years ago by John Walker[1]), the newer-media paradigm of ubiquitous computing brings things back to the messy multiplicity of street level.

This shift has been years in the making. Most of a decade has passed since the ACM, that largest and most venerable of information technology research organizations, named its year 2000 plenary conference "After Cyberspace."[2] In 2005, by many accounts the hot event in Web design was Where 2.0, which proclaimed that most online information has some geo-spatial component. At this writing, "the interactive city" is a prominent track in the International Society of Electronic Arts (ISEA) biennial —being held in Silicon Valley, the one-time source of so many forecasts on the irrelevance of place. Even if the Internet does connect much of the world instantaneously, the word "cyberspace" now sounds dated. Although one can still hear residual invitations to "visit" websites, all that information is now coming to you—with you, wherever you are; and is increasingly *about* where you are. In the process, one belief that has changed is that the way to find and use networked information must be solitary, sedentary or virtual.

Popular adjectives for the shift include tangible, mobile, ubiquitous, pervasive, invisible, embedded, physical, environmental and ambient. Among these, the current trend in favor of "locative media" emphasizes the use of positional coordinates. Here the cultural focus turns toward activities that, despite being information intensive, have failed to dematerialize.[3] It is of interest how many of these are urban.

For evidence that geography is anything but obsolete, recall that real estate prices have soared highest where the most density and connectivity are found. Small-business enterprise famously favors the neighborhoods with the best amenities. Universities have become some of the most ambitious builders, as higher education remains difficult to download. Tourism, which relies heavily on the perception of place, continues to advance as one of the world's leading economic activities. Shopping still provides the glue in much urban design, as new, glittering retail districts seem only to complement the rise of online shopping (much of the latter happens outside the home anyway). And cafes continue to appear on more of the best street corners, full of people who have come out in public to access "media" (even if solo via laptop computer).

One obvious case of embodiment in media usage concerns social navigation among young people. Of this the most distinct cultural patterns may be in Tokyo. As the ethnographer Mizumi Ito has written, *keitai* text messaging has created a new civility on trains; tightened social groups that have combine online and face-to-face activities; made an advantage of very dense pedestrian settings (whereas in America navigation systems are thought of in terms of vehicles); and created the opportunity for plans to emerge as members of groups play their city.[4]

From Macro to Micro

Up to now, studies in media urbanism have most often focused at the macro scale.[5] This was understandable in an era of information infrastructure-building. Especially from the standpoint of information technologies as agents of organizational change, economic geography may well dominate media urbanism.

The cyberspace metaphor has held well at this large scale. The lament is by now familiar. The throughput of global capital markets now dwarfs the sum of nations' gross domestic product. Out there in the space of flows, places have became mere operands in the fiscal abstractions of global capital. Big, disinterested money obliterates local value at almost every turn. Development formulas that succeed in one locale are imposed insensitively on others. Broadcast news reconfigures space and time with its editing.[6] Entertainment empires push "content" as though it were arbitrary filler. Brands transcend not only their places of origin but the products and services that carry them. And sitting there in the placeless spaces that result, people act out their detachment by plugging into as many electronic media distractions as they can, streaming from all over the planet, preferably all at once.

Even at this macro-scale, however, media have a geography. Known as the "tunnel effect," this involves the tendency of information economies to require a dense ecology of production support services, and to congregate

these activities in a few select places.[7] Whether in abstract finance, commodified culture, or the mobility of creative work, the major global cities have become more connected to one another, and less to their hinterlands; and following this evolution, secondary cities have had to find unique niches, or else face decline.

But instead of belaboring such usual concerns, might it be more useful to inquire in some other way? What if under a media world, built on the fast-and-far, the real frontiers are in the close-and-slow?

For example, the Bluetooth communications protocol that exists in many mobile phones creates a sensate radius of several meters, which passively registers any other such device that enters. In the project "BlueStates: Exploring Relational Space," Mark Pesce and John Tonkin demonstrated that by monitoring this "bluesphere," one can compile a record of "proximal encounters," and list, map, or share it online.[8]

Close-and-slow concerns habitual patterns, trusted partners, service ecologies, conviviality, and spontaneity. It has higher resolution than fast-and-far. It has been underappreciated, at least in an American culture that overemphasizes commerce and distrusts cities. But while Americans sit with their laptops, increasing numbers of Europeans, and East Asians—even villagers in places lacking more basic physical amenities—are hitting the town with the only networking device they own in the palm of their hand. There, the experience of "media and the city" is less one of the broadcast push, and more diversely one of pull: messaging, searching, meeting and tagging.

So now, in locative media, which have admittedly been built on macro-infrastructures so far, the tech world turns its focus to the micro-scale instead. The study of universalizing global infrastructures may remain necessary, even central, to media urbanism; but it is no longer sufficient.

From Universal to Situated

If you can do anything, anytime, anyplace, then in a sense you are nowhere. Even a technology application so basic as mobile remote conversation has forced society to reexamine its protocols for site after site. Who among us has not wished for some means to silence all the phones in some room, or even on some street corner?

Locative media move away from the universal and one-size-fits-all attitudes that have so often been implied in "ubiquitous" computing. Good urbanists know well that totalizing schemes are not to be trusted. Given the extent and power of the technology—in which microchips now far outnumber humans, a Web server can fit on a nickel, a radio-frequency ID tag (RFID) costs scarcely more than a penny, and a chipped ID card can pack personal background data—the context insensitivity of most information technology has become much more of a social liability than before.

Prospects for authoritarian abuse are obviously daunting, especially given America's recent cultural regressions. But even in this concern there is a move from the macro to the micro. Before raising the usual Orwellian red flag, consider how much more likely than Big Brother are ten thousand pesky "little brothers." While tyranny remains mostly a prospect, information pollution is an everyday reality. Software interrupts your work to offer upgrades. Music comes out of restroom ceilings. How many times a day must you swipe a card or wave a badge? Portable devices come with instruction manuals bigger than they are. Spam floods your virtual mailbox, and advertising dominates many physical spaces. Somewhere there is a device flashing 12:00 at you. This is the only techno-futurism needed in this essay: technology applied without context *will* behave obnoxiously, and smart devices *will* make people do stupid things.

Much as people continue to use their cars despite the bad side effect of atmospheric pollution (or credit cards despite how they reveal such personal things as what one eats or wears), the world embraces ubiquitous computing despite its unintended consequences. Once just the province of plodding public agencies, spatial information systems have by now achieved some kind of unintended critical mass—not only for mobile communications, but also for Web searches, event site selection, onboard navigation, in-flight entertainment, environmental forecasting, freight logistics, a corn-maze craze, security lockdowns, flash-mob disobediences, tracking the family dog, and multiplayer street-level gaming.

To illustrate some basic components of locative media application, consider Zipcar.[9] A windshield-mounted device provides a positioning system (GPS) and wireless communication to a Web database used for hour-in-advance reservations, plus a tagging system (RFID) to recognize the membership card of the person who has reserved it. Together, this enables short-term car use without a lengthy transaction at a rental counter, a convenience that ultimately benefits the city by the likes of twenty people per Zipcar who do not need to own a vehicle themselves.

The law of unintended consequences has a corollary that happy outcomes are the product of active appropriation. It is important to try things out. The more practical and affordable the engineering performance of a medium

becomes, the more appropriateness surpasses performance as the main success factor. Appropriateness may be organizational or personal, casual or deeply skilled, and functionally essential or just conceptually aesthetic. Yet it is almost always a matter of context. So, for present purposes, it may be most useful to refer to "situated computing."[10]

From Behavior to Intent

As context has become a central theme in the rising discipline of interaction design, interest has renewed in the social psychology generally known as activity theory. This work has moved beyond analysis of spatial behavior toward more emphasis on intent.[11]

How experts play situations has become important not only to the usability but also the usefulness of recent information technology. Interaction designers not only study how people deal with machine interfaces individually, but also how people deal with each other, and even reorganize themselves, when mediated in new ways. There are already many examples: the use of a system that makes colleagues aware of each others' presence; the introduction of reputation systems in an online membership organization; the circumstances of using a virtual overlay display in machine repair; a storytelling itinerary for tourists; a personalization service in city mapping.

In the psychological fundamentals of this discipline, context is not the setting, itself, of an activity, but one's engagement with it.[12] Environment is not an "other," or an empty container, but a perception of persistent possibilities for action. As people learn cumulatively from repeated engagements, they come to associate settings with particular states of intent. This includes not only the spaces but also all other aspects of the embodiment: the objects, labels, and props of an activity.[13] Through these, engagement comes to be about something. For example, this is why meditation teachers insist that a particular spot in a house be set aside for no other purpose.

Traditionally, the main reason for putting up with technological annoyances has been work. The activity studied by the computer-human interface designer was almost always a production task, and the worldview in which the designer had been trained was most often mechanistic. Yet even for workplaces, it has long been clear that knowledge work requires less procedure and more participation. Note that twenty years have passed since Lucy Suchman's influential *Plans and Situated Actions* brought ethnographic sensibilities to Silicon Valley.[14] What Suchman found in the tacit knowledge and support networks of the workplace was not so different from what Jane Jacobs once found

for urbanism. Such sociological staples as presentation of self, tacit boundaries, and ad hoc networks have long shaped information technology toward its escape from the desktop, into the social milieu.

From Pushing to Posting

Like the valuation of apparent chaos by Jacobs's urbanism, but more diverse and infinitely more interlinked, locative media urbanism resists the sterilizing effects of the inevitable preference of big organizations for predictability. In the process this mitigates at least some forms of passivity. "What if content is something you do, not something you are given?"[15] Thus, John Thackara's "Articles of Association between design, technology, and the people formerly known as Users" declared the design challenge of pervasive computing as a need to depart from the "push" mentality of consumerism.

To skip mass spectacle in favor of smaller, and more personalized cultural acts is an example of what Chris Anderson has named the "long tail."[16] This theory explains the impact of large numbers of items with low numbers of instances. The most common example is the book sales ranking on Amazon. There, the sales from the huge catalogue of low-selling items (the tail of the company's bestsellers graph) have greater volume than the sales from the big sellers at the head of the list (i.e., all that would be practical to carry without information technology for inventory and distribution). Similarly, the integral sum of bottom-up street life—the everyday urbanism of flea markets, food carts, pick-up games, meet-up points, etc.—outnumbers what has been top-down formulated, branded, and pushed by corporations.

The anthropologist Jyri Engstrom contends that even for merchandise, that staple of corporate urbanism, the long tail implies bottom-up practices, such as RFID-enabled local, folk, "own-logo" alternatives to UPC (barcode) and SKU in tagging goods, especially in developing countries.[17]

That would be an instance of "folksonomies," Thomas Vander Wal's related coinage for emergent, bottom-up taxonomies in social software.[18] As evident in resources such as Tagzania, online sharing of tagged information about physical things has advanced considerably. In particular, the popularity of the photo-sharing service Flickr has allowed people to share their sequences of urban experience by posting images so frequently that they are experienced as streams. Would-be *flaneurs* are now streaming their derives. Here is rich social experience of the city that does not require any shopping.

One example is a recreation known as geo-caching, which uses GPS to hunt for physical messages and tokens hidden at particular coordinates by players. In the friend-awareness service Dodgeball, members navigate socially by sending their location and receiving identities of others within a ten-block radius. As has been observed with relation to Dodgeball: "As the technology increasingly allows us to satisfy more eclectic needs, any time those needs require a physical presence…the logic of the long tail will favor urban environments over less densely populated ones…."[19]

Virtual-communitarian Howard Rheingold had his epiphany about smart mobs of Japanese teenagers in real-space Shibuya, a neighborhood as dense as any.[20]

Outlook: Rethinking Attitudes about Place

Perceptions of place may be subjective and fleeting, but grounding life in effective contexts remains absolutely necessary. Resorting to nostalgia hardly helps in doing this, however; there is little to be gained from understanding place mainly as something lost.

At least to the more mobile and networked of us, place has become less about our origins on some singular piece of blood soil, and more about forming connections with the many sites in our lives. Place become less an absolute location fraught with tribal bonds or nostalgia, and more a relative state of mind that one gets into by playing one's boundaries and networks.[21] We belong to several places and communities, partially by degree, and in ways that are mediated.

Nevertheless, we can, and must, temper universal information technology design with more helpful attitudes about place. The contextual design of information technologies must now reach beyond the scale of individual tasks to embrace architecture, urbanism, and cultural geography. No methodology exists for this difficult role, but this has already become a problem that is costly to ignore. Since place and culture are intertwined, it follows that more place-centered interaction design becomes a more culturally valuable endeavor. There is no escaping the fact that the world around us is being layered with digital systems. There is no denying our dismay at surveillance, saturation marketing, autonomous annoyances, and relentless entertainment. Whatever our desire for a "sense of place," we seem destined to get "places with sense."

As the embodiment, personalization, and bottom-up economies of mobile and embedded computing kick in, the older top-down cultural models are not enough. There is urbanism in how people obtain, layer, and manage their connections. Like attention itself, any belonging to community or place is made continuous, partial, and multiple by this mediation.

Where you are matters, enough so that a new industry has been forming to assist you.

Notes

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