Future & Smart Cities

Urban Pamphleteer #1

Urban Pamphleteer
Ben Campkin and Rebecca Ross

We are delighted to present the first
issue of Urban Pamphleteer
In the tradition of radical pamphleteering, the intention of this
series is to confront key themes in contemporary urban de-
bate from diverse perspectives, in a direct and accessible – but
not reductive – way. The broader aim is to empower citizens,
and inform professionals, researchers, institutions and policy-
makers, with a view to positively shaping change.

#1 Future & Smart Cities
Cities have recently become a key object of interest for the
computing and engineering sectors, academic researchers,
and governments. In many countries, significant levels of
public funding and commercial research activity are currently
being directed towards innovation in this area. Yet the terms
and expressions being used are still being defined, and as they
emerge are used differently in specific disciplines and pro-
fessions. Furthermore, urban publics are hardly represented
within these business-led and policy-oriented discourses.

What objectives and principles should shape this field be-
yond enthusiasm for technological progress for its own sake?
If cities are 'engines for innovation and growth,' it is in part
because they play host to diverse values, interests, and aspi-
rations. Likewise, innovation and growth are possible along
multiple paths, with potential to advantage or to disadvantage
any number of distinct communities. Cities are a shared re-
source and responsibility. How can we ensure that the public
investments currently being made in future and smart cities
will have a meaningful and socially equitable return? The
contributors to this issue approach this crucial question from
a variety of standpoints. They provide a ground for a more
transparent and substantive debate about technologies and
practices that are already significant, but which have conse-
quences that are still unfolding. They also call for urgent
attention to the question of how to bring citizens' voices to
the fore.

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IN

Muki Haklay

BEYOND QUANTIFICATION: WE NEED A MEANINGFUL SMART CITY

When approaching the issue of smart cities, it is necessary to discuss our underlying assumptions about them and challenge the prevailing thought that efficiency and productivity are the most important values. We need to ensure that human and environmental values are taken into account in the design and implementation of systems that will influence the way cities operate.

A good starting point is to consider portrayals of the city within smart cities discourse. Throughout history, the image of the city has alternated between tamed and feral; ordered and chaotic; natural and organic; humanely controlled and engineered. The smart cities paradigm seems to play on many of these dichotomies, sometimes in order to promote investment and political support of a specific development path. For example, we find ourselves progressing from the proliferation of CCTV cameras, to networking the feeds from multiple cameras, to the integration of image processing such as number plate or face recognition software, all in the name of improving security and efficiency. More broadly, the development of smart cities involves the application of information and communication technology, environmental sensors, digital footprints of the inhabitants, manipulation of the resulting data using statistical techniques, and finally the use of complexity modelling and advanced visualisation in order to make sense of it all. These assemblages aim to promote efficiency, productivity, and safety and to reduce uncertainty in the management of places. But is this a future we would like to live in? Do we really want a future where efficiency is more important than human encounters, or where serendipity is a casualty of the reduction of uncertainty?

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Too often, proponents of technology suggest a future in which we are 'all watched over by machines of loving grace,' assuming that the social impacts of technology are benign and beneficial, while technology in itself is value neutral.[1] Yet, as can be seen in many discussions in the philosophy of technology and elsewhere in critical studies of technology, the creation and maintenance of technologies encapsulate specific values and can lead to 'black boxing' of social ideologies.[2] This is especially true for software codes, such as those proposed within in the smart cities paradigm, which are presented as 'merely efficient algorithms' despite being a representation of specific thinking about the way cities and societies function. Notice that in the case used above, the locations of CCTV cameras and the direction of the development of image processing algorithms represent a specific conceptualisation of which places are worthy of protection and order, and who is defined as a threat to society.

Moreover, there are deep epistemological and ontological problems with pure quantitative studies of society through algorithms, statistical analysis and mathematical modelling, which

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to Heathrow Airr
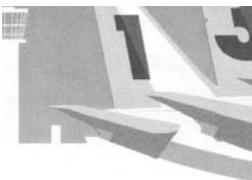
are promoted in the smart cities paradigm. Many of these problems were discussed in the wake of the first 'quantitative revolution' in social sciences in the 1960s and 1970s. In many ways, we could view the current paradigm as an attempt at a 'quantitative revolution 2.0.' How can we ensure that the computing and sensing abilities currently being developed are integrated with meaningful and purposeful community activities?

Here is one way to deal with this problem. As the philosopher of technology Albert Borgmann reminds us, modern technologies tend to adopt the myopic 'device paradigm' in which a specific interpretation of efficiency and productivity, and a reductionist view of human actions take precedence over 'focal practices' that bring people together in a way meaningful to human life. For example, while a Facebook message is a means of fleeting communication, it cannot be compared to meeting a friend for coffee and paying full attention to mutual needs at a specific time. By assuming that the only interaction that happens during a meeting is communication, it is possible to argue that social networking over the Web offers a more 'efficient' way of maintaining social links. As Sherry Turkle demonstrated in her recent book *Alone Together*,[3] meaningful social relations are being lost. Cities offer many opportunities for deeply meaningful yet 'inefficient' human encounters—and therefore we should be careful of the assumptions that we integrate into the development of technologies that will influence them.

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Can we nurture these connections while preserving aspects of the smart cities agenda, possibly by subverting it, or using the resources arising from it to different ends? One approach might be to use the assemblage of sensors, data sources and algorithms to address challenges facing individuals and communities within cities—for example those who wish to practise urban agriculture, monitor pollution or address energy use. Perhaps we could reclaim community agency and control through the use of a citizen science approach, in which non-professional researchers become involved in the scientific process. This may involve groups coming together in an inclusive and open way, discussing the issues that they would like to address and using existing sources of data combined with their own reporting and analysis to address them. For example, the Public Laboratory of Open Technology and Science is developing tools using kite aerial photography that allows them to identify sources of pollution in local waterways.[4] Around Heathrow airport, residents have expressed an interest in using DIY electronic tools to build noise monitors that can be installed in their attics and record the nuisance throughout the day. There are further examples emerging throughout the world, but these will not happen by themselves; they require technical support and active intervention by those who are developing the technologies, or who know how to use data sources and turn them into useful information. Importantly, getting together to develop technologies, discuss data collection protocols and

analyse the data can provide meaningful communal events that can nurture new and existing links between individuals and communities.

Although these citizen science approaches can potentially develop new avenues for discussing alternatives to the efficiency and productivity logic of smart cities, we cannot absolve those with the greatest resources and knowledge at their disposal from responsibility. There is an urgent need to ensure that the development and use of the smart cities technologies are open to democratic and social participation, and that they are not being developed simply because the technologists and scientists think that they are possible.

1 Richard Brautigan, *All Watched Over by Machines of Loving Grace* (San Francisco, CA: The Communication Company, 1967).
2 Wikipedia contributors, 'The Philosophy of Technology,' *Wikipedia,The Free Encyclopedia,* http://en.wikipedia.org/wiki/Philosophy_of_technology (accessed 15 March, 2013).
3 Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York and London: Basic Books, 2011). NPR Books, 'In Constant Digital Contact, We Feel "Alone Together"'. NPR http://www.npr.org/2012/10/18/163098594/in-constant-digital-contact-we-feel-alone-together (accessed 15 March, 2013).
4 Public Laboratory of Open Technology, http://publiclaboratory.org/home

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Alan Penn

IS LONDON THE FIRST FUTURE CITY?

What exactly is a postindustrial economy? Now of course I am entering the realm of speculation, but my best stab would be that it would be an economy based on the global challenges facing society and the planet. These challenges are not those of a single sector, profession or industry, as were those that led the industrial revolution, but are strongly interactive across sectors and knowledge domains. These challenges are so large that they will support a global economy for many years to come. Growth in this economy will not be at the expense of resource depletion because the economy will be about minimising resource use. Growth will not lead to increasing social or economic inequalities, because the economy will be about reducing inequalities. It will be postindustrial, but that does not mean that it will be without industry. Far from it, it is likely to rely on open innovation and open source business models since it is these that are facilitated by information networks, and which place the individual in charge of the knowledge they exercise.

One of the effects of globalisation has been to bring into stark relief the differences between cultures and creeds, between young and old, between rich and poor, perhaps more so between the poor and the nouveau riche; those on either side of the digital, social and economic divides.

The biggest questions turn on the implications of the postindustrial era for civil society and political power. One of the effects of globalisation has been to bring into stark relief the differences between cultures and creeds, between young and old, between rich and poor, perhaps more so between the poor and the nouveau riche; those on either side of the digital, social and economic divides. In a rapidly shifting society and economy there is a competitive dash for the top. Those marginally ahead tread down on those behind them to gain advantage.

If it is the new transpatial networks provided by ICT that shift power, then what of the physical and spatial city? Here I think we can already see changes taking place. In a globalised world, rather than homogeneity we will start to value specificity, diversity and locale. It will be exactly the heritage of cultural specificity and difference that will lie alongside global connectivity at the core of the postindustrial economy. Perhaps it will be this that defines the 'future city.' It will provide the real spatial context within which specificity and local identity will be formed and which, alongside the global transpatial networks afforded by technology, will structure postindustrial forms of society. Here I believe London, as a city of villages and knowledge intensive service clusters, is a strong contender for the title of the first 'future city.'

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Screen capture from Future Cities Special Interest Group page at the Technology Strategy Board's web site, https://connect.innovateuk.org/web/future-cities-special-interest-group/ (accessed 10 April, 2013). The Technology Strategy Board is a government funded body tasked with stimulating technology-enabled innovation in the UK.

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Market opportunity

Cities are vital to the future global economy. By 2050 more than 70% of the global population will live in cities. They are more economically productive and have a lower environmental footprint per capita than the average for their country. But cities are also struggling with climate change, changes in population and demographics, congestion, healthcare and pressure on key resources. To succeed in the future, cities have to deliver economic activity, quality of life and a lower environmental footprint. This cannot be delivered by optimising the separate components of the city infrastructure. New integrated and city-wide solutions are required.

The market is large and growing. Over £6.5tn will be invested globally in city infrastructure over the next 10-15 years, and the accessible market for integrated city systems is estimated to be £200bn a year by 2030.

The UK has strengths to exploit this market. By encouraging collaboration between business, city governments, community groups and the science and research base, the Future Cities SIG aims to help UK-based companies capture a greater share of this growing global market.

From conversations with many cities and businesses that seek to serve them, we understand that it is no longer sufficient to address the different city systems in silos: instead it is vital to create integrated solutions, and to put the citizen at the heart of the city.

John Bingham-Hall

ON THE SEARCH FOR SPACE IN THE DIGITAL CITY: A DISPATCH FROM GRANARY SQUARE

Loss of connection with place is one of the prevailing narratives around the rise of smart, networked communication technology. Theorists and journalists not in the work of predicting technofutures regularly lament the death of social interaction in and engagement with public space, place and locality. It is often assumed that given instant access to a global network 'in digital space' we will lose interest in coming face to face with the 'real' world.

However, assuming that continuing technological change and its impact on the city is inevitable, it seems important to remind ourselves of the mundane yet reassuring truth that (for the forseeable future at least) there will always be streets, parks, buildings: three-dimensional forms in cities made of concrete and stone that have to be traversed physically to get around. In the end, you can't go for dinner or have your hair cut online. We may happen to use devices to communicate with people in other places as we move about the city, but must we accept that this precludes us from genuine presence? Could it be our devices even offer us new ways of being in urban public places, as mobile workers? In overhearing phone conversations or overseeing screens, are we offered new ways of carrying out those timeless activities of nosing and people watching, which have been given weight sociologically as essential components of the urban experience?

In understanding the impact of the future or smart city on daily experiences of urban inhabitation, many of the inherited terms are unhelpful and send us into dichotomies between the imagined digital and the real, or suggest fantastical ways in which the two merge.

Asking myself these questions, and armed with computational and communication devices, I went in search of space in the digital, or at least hybrid, city. I came across Granary Square in London's King's Cross. Let's say I'm writing a dispatch from the real world, in fact: sat outside, in public space, using a laptop.

It's a newly built and generously-proportioned public square (albeit on a privately owned estate, with the arguments around that particular issue skirted on this occasion). It provides a free Wi-Fi connection via The Cloud. The day is quite cold and overcast, but it's not unpleasant to be outside, and makes a refreshing change from a strip-lit PhD room at UCL. Like most people, I'm checking Facebook, Twitter and email every now and then as I work.

So what does the experience of being connected to the Internet in public space tell me? It doesn't tell me much about the 'smart city,' or 'digital urbanism.' These somewhat techno-fetishist concepts–currently the buzzwords at 'Future City' research initiatives led by Intel, Cisco and the like– are looking two steps ahead to a utopian citywide

Digital users in public space do not equal digital space. Granary Square, London N1C.
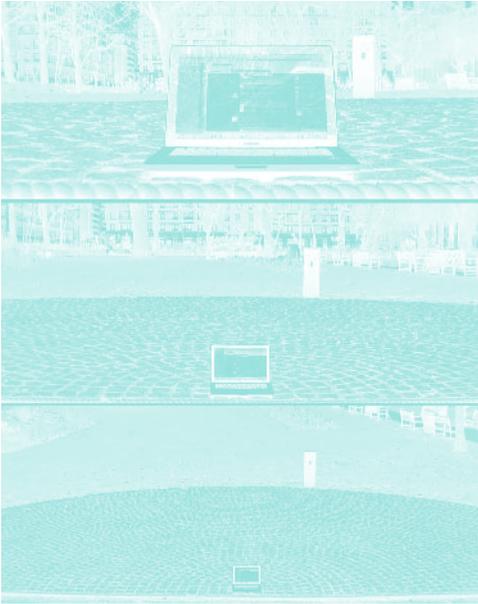
A digital device is not a place. Tavistock Square Gardens, London WC1.
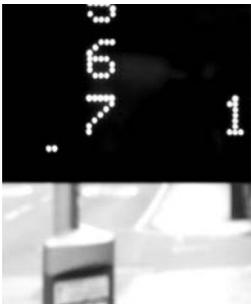
system perfected by the constant feedback of environmental data to control systems and users. All the well, but do digital systems entail digital urbanism? In 1996 Stephen Graham and Simon Marvin pointed out that predictions of the 'dissolution of cities' had become the popular norm in urban theory dealing with communication technology.[1] But certainly I'll still require a solid, usable, and fully material kind of urbanism to provide me with a real square to sit in and access those systems.

What then about 'digital space?' This concrete bench is as cool, hard, and grey as ever, even though I'm using it while I access a digital screen. When I close my laptop all that noticeably changes is that I'm not left with as much with which to occupy myself.

Frances Cairncross hailed *The Death of Distance* in the title of her 2001 book, and similar readings of 'global' communication experiences still abound.[2] Yes, I can certainly look at images *of* other places, and across various formats I can have conversations with friends who are *in* other places, just as I can look at and converse with *this* place. At any given moment my attention may be more occupied with here or with my communication with somewhere else, but importantly it can still switch at will in either direction. What is opened up is a highly conducive communication channel between distinct and different places, not a wormhole.

William Mitchell predicted in the now orthodox text *The City of Bits* that 'the net negates geometry...it is nowhere particular but everywhere at once'.[3] But if someone were to ask me where I've been and what it was like I would surely describe the observable three-dimensional space of Granary Square. If I told them I'd been 'in/at Facebook' or 'everywhere at once' I'd be seen as having misunderstood the experience of communicating online.

Around me there is a steady stream of people coming to and fro from the adjacent Granary Building as well as several people sitting on seats and benches, with the usual activity mix of smoking, eating, talking to other people or using phones and computers. Though I am absorbed in my work, I don't believe this precludes me from the classic units of social interaction between

strangers; giving directions, offering a light, and so on. Paul Virilio didn't know about laptops and smartphones when he poetically described the home as the 'last vehicle,' from which we would access the world purely in the virtual and have no need for space.[4] Now we can see it is in fact extremely pleasant to be socially available in public space and yet productive in work at the same time.

Arguably, this is a successful public space on this none too hospitable day it is occupied by a mix of people, some using technology and others not. Just as reading here would not necessarily make it a literary space, using the Internet does not make it a digital space. It would be even better if there were added, say, photovoltaic canopies over the benches, powering and sheltering outdoor workspaces for people. A real public space with great digital amenities might encourage even greater mixed occupation here, with groups of students and faculty working together on computers mixing with the families that come here to bring children to play in the fountains in summer.

It was in the formative stages of theory on urbanity and networked communication that arguments concerning 'placelessness' became orthodox, and this legacy is still in evidence. The sensationalist soundbites of Mitchell, Cairncross, Virilio and others make for easy reading.[5] Coined by William Gibson in *Burning Chrome* in 1982, the enduring term 'cyberspace' needs no introduction and is interchangeable with 'digital space.'[6] Now though, in understanding the impact of the future or smart city on daily experiences of urban inhabitation, many of the inherited terms are unhelpful and send us into dichotomies between the imagined digital and the real, or suggest fantastical ways in which the two merge. We perhaps shouldn't forget that Gibson later described 'cyberspace' in the 2000 documentary *No Maps for These Territories*, as an 'evocative and essentially meaningless' buzzword.[7]

The game of naming new types of space suggests instant, dramatic shifts in experience, hiding the mundane reality of which most city life consists on a day-to-day basis. Cities by definition cannot change as fast as technology, and human evolution is slower still. Yet technological development is an economic inevitability and we have the opportunity to work with its grain to shape the deployment of technology into helpful urban forms that improve life for city-dwellers. In order to do this we must aim for a much more nuanced, tempered understanding of the coming together of digital and urban that is based in, and can therefore help to shape, reality.

1 Steve Graham and Simon Marvin. *Telecommunications and the City: Electronic Space, Urban Places* (Hove: Psychology Press, 1996).
2 Frances Cairncross, *The Death of Distance: How the Communications Revolution Will Change Our Lives* (Boston: Harvard Business Press, 1997).
3 William J Mitchell, *City of Bits: Space, Place and the Infobahn* (Cambridge, MA: MIT Press, 1996), 8.
4 Paul Virilio, *Polar Inertia* (New York: Sage, 2000).
5 William J Mitchell 2000, *E-topia 'Urban life, Jim−but not as we know it'* (Cambridge, MA: the MIT Press, 1999).
6 William Gibson, *Burning Chrome* (London: HarperCollins UK, 1982).
7 *No Maps for These Territories* Directed by Mark Neale, 1999. New York: Docurama.

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FANTASIES OF FRICTION-FREE CONSUMPTION: LOCATING CONSUMERS

The fantasy of active and learning spaces has long been touted in terms of the possibility for a customised consumer paradise where goods can be found on demand – or, even better, before we realised we needed them. A variety of technologies build up profiles of preferences 'memorising' our actions in places. Past patterns of purchase no longer need to be manually 'bookmarked' but form self-generated 'favourites' lists of goods regularly purchased (for instance in online supermarkets) and from thence it is but a short step to the lists of 'suggestions' compiled from those preferences (as in Amazon or many e-tailers). If online stores can remember their visitors, the possibilities of tags and coding mean 'real' stores and locations might also do so. In that sense spaces begin to have both a memory and anticipation of uses. Thus a shop might read an RFID in a mobile phone and produce a customised list of favourite or usual services or alert a specific member of staff. It is in effect 'projecting the interactive model of cyberspace back into physical space. The metaphor of cyberspace has, in other words, come full circle'.[1] Firstly, spatial databases allow the selection of services based on location or proximity criteria. Secondly, mobile media offer the possibility of centring such searches on the current location of the user. Geolocation technologies offer the possibility of devices automatically knowing where they are (receiving locative data) or saying where they are (transmitting it) or both. Location starts to organise the interaction.

Searching tailored to location has been hailed as the 'killer app' for mobile network devices enabling a 'data-driven mass customization based on continuous, real-time monitoring of consumers'.[2] Except it has been hailed so often that it might make one wary of why it has not yet caught on.[3] There are technical issues in learning and responding to the preferences of consumers – just imagine the awful moment of Microsoft's office assistant ('Hi! You appear to be writing a letter...') loosed upon the planet ('Hi! You appear to be near our shop...').[4] Equally, while mobile phones may carve the city up into 'cellspace', these vary in size and signal triangulation is complex allowing only rough approximations for location, and, while satellite positioning systems are becoming common, they are by no means universal in either reception or embedding in devices.[5] More crucially, the commercial logics of who would provide spatially referenced data on providers, who would provide it about users, who would make devices produce this data and who would work out the middleware to translate all these codings and who would profit from this have so far stymied many attempts. The technology exists, though it is not seamless, but the business model or operation is less solid.

The promises though are large and better than just finding a shoe shop when and where you need one. We might look at the possibilities for traffic organisation and car pooling schemes.

While organisations such as Zipcar have a distributed pool of cars, where you can look up a car by type, location and period available and rent it, trip sharing is yet more difficult to organise. So far larger scale initiatives have often been thwarted by the lack of trust among large groups of unacquainted users and the complexities of coordinating large numbers of movements between different starting and end points at different times via different routes, with varying traffic conditions, subject to changes of demand at short notice. So most commercial providers work by either restricting the routes and set down and pick up points (the 'bus solution') or demanding advanced planning. However geolocation technology and geosensors offer the possibility of changing this. Rather than a vast central data base, an augmented informational landscape would continually provide data on the location and direction of vehicles, that could be picked up and sorted by those with receivers wishing to travel. Distributed sensors and computing would make it a collaborative task through ad hoc automated peer to peer communication.[6] It offers the prospect of something like an electronic thumb for the twenty first century. Of course, this in some ways offers a mythic technical fix since it does not build trust in other users in and of itself. Registering users and allowing drivers to decide what sort of people they will pick up might entail another coding and sorting of people.

1 Mark Andrejevic, 'Tracing space: monitored mobility in the era of mass customization', *Space and Culture*, vol. 6, no. 2 (2003), 132–50, 134.

2 Andrejevic, 'Tracing space: monitored mobility in the era of mass customization', 133.

3 Chas Sweeting, 'Location-based service: the killer app of the mobile world?', in *Asia Unplugged: The Wireless and Mobile Media Boom in the Asia-Pacific*, ed. Madanmohan Rao and Lunita Mendoza (New Delhi: Response Books, 2005), 87–107.

4 Malcolm McCullough, *Digital Ground: Architecture, Pervasive Computing and Environmental Knowing* (Boston, MA.: MIT Press, 2004), 15.

5 Lev Manovich, 'The poetics of augmented space', *Visual Communication*, vol. 5, no. 2 (2006): 219–40.

6 Stephan Winter and Silvia Nittel, 'Ad hoc shared-ride trip planning by mobile geosensor networks', *International Journal of Geographical Information Science*, vol. 20, no. 8 (2006): 899–916.

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Susan Collins

UNDERGLOW


Photo by Susan Collins.

Photo by Richard Davies.

A series of illuminations of drains in the City of London financial district, installed between 2005 and 2006. This London Corporation commission was funded entirely from parking fines. This project was an extension of the City's normal use of parking fines to finance road and street improvements.

Susan Collins is an artist. She is Professor of Fine Art and Head of Department, UCL Slade School of Fine Art.

Photo by Richard Davies.

Antoine Picon
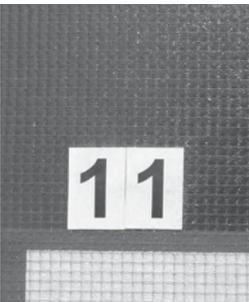
MAGICAL DIGITAL?

The digital seems inseparable from all kinds of magic-like occurrences and events, from the inexplicable system freezes that plague computer users to the unforeseeable figures that appear on screens. Its magic character provokes almost superstitious behaviors in answer to these occurrences and events, like irrational typing and toggling to restart the machine or ritualistic variations upon a sequence of actions the results of which have not been understood but look profoundly satisfying. In other words, in the digital world we do not use only software and scripts, but also recipes and even spells. As for computers and networks themselves, they are certainly not as transparent as their promoters pretend they are. The depositories of long-forgotten information, lost in their various layers like books inadvertently displaced in the stacks of a giant library, they are prone to behaviors explicable only because of this subliminal digital memory. Another way to put it is to say that they are haunted, let the ghosts be prior software versions or not entirely erased former user preferences.

A magic world is a world that tends to give precedence to myth over history. The ambiguity of the relation between digital architecture, digital city and historical time may very well be linked to the confused feeling that we have entered a new enchanted realm. In addition to all the mysteries that we are confronted with in our everyday use of computers and networks, so many journals and books entertain us with the miracles of the digital age–the latest being about what generalized connectivity, social networks and blogging can achieve in terms of democracy and generalized authorship–that it is hard to resist the impression of magic.[1]

Of course, it would be a pity to discard this magic entirely. Like childhood with which it is often associated, magic offers unique gratifications. Architecture as a discipline may contribute to establishing a sound balance by exposing the dangers while at the same time preserving the core of the enchantment. In digital architecture weight, opacity and inertia are counterbalanced by its ambition to relate to a world of fields, gradients and phenomena of emergence. Digital architecture may teach us how to live simultaneously among substances and the processes that give birth to them, as humans in a classical perspective, distinct from these substances and processes, and at the same time as contemporary subjects in continuity with many of their attributes.
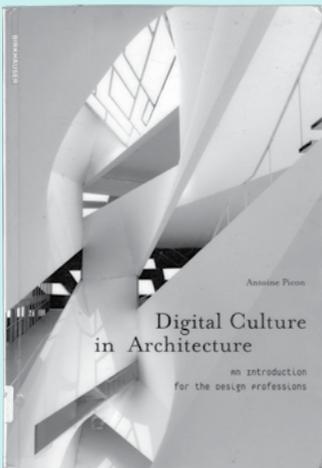
Extract from Antoine Picon,
Digital Culture in Architecture.
Basel: Birkhaüser (2010), 215–216.

1 See for instance Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (New Haven, London: Yale University Press, 2006).

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Sarah Bell

SYSTEM CITY: URBAN AMPLIFICATION AND INEFFICIENT ENGINEERING

The ubiquitous sensors of the smart city provide engineers and urban decision makers with a 'multi-sensory' experience of the world, which nonetheless remains partial and limited. In the excitement over new possibilities for knowledge from the terabytes of urban data now available to researchers and policy makers, there is a risk that an 'instrumental realism' may come to dominate, whereby the 'instrumentally constituted "world" becomes the "real" world' and the 'mundane' world of the city is forgotten and downgraded.[1]

Cities have always been 'smart.' The intelligence of cities lies in the individual and collective minds of people who live there, not merely in the technologies they deploy. Engineers have been central in the development of technologies and systems that support and shape urban life and the intelligent application of technology is crucial in addressing many urban problems. However, cities cannot be reduced to measurable phenomena to be captured by sensory networks. Smart city technologies can provide useful knowledge about urban services and systems, but intelligent implementation requires critical understanding of what they amplify and what they reduce. The full potential of engineering and technology to contribute to more sustainable cities will not be achieved by reducing all urban questions to engineering problems.
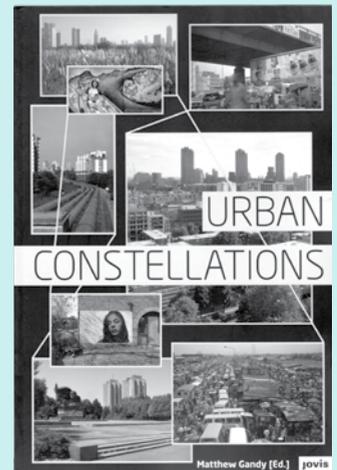
1 Heather Chappells and Elizabeth Shove, 'Debating the future of comfort: environmental sustainability, energy consumption and the indoor environment,' in *Building Research and Information,* 33/1 (2005), 32–40.

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Christoph Lindner

It is difficult not to be in favour of smart cities when contemplating our global urban future. After all, who wants to live in the rhetorical alternative of a

SMART CITIES
AND SLOWNESS

'dumb city?' And if we consider the extent to which smart city discourse is already entangled with two other dominant discourses within urban studies, policy, and planning–those of the sustainable city and the creative city–the centrality of smart cities to future urban living can seem like a fait accompli.

Yet, in the race to bring technological and engineering innovations into the heart of urban planning, architecture, and design, we too often skip over more fundamental discussions about what values should underpin and steer the development of smart (and smarter) cities. In other words, which kind of smartness do we want in tomorrow's 'intelligent' urban environments? And what social, political, and economic needs should that smartness serve? I want to respond to these questions by making two suggestions. One is direct and practical, while the other is more abstract and philosophical.

First, we need to engage in much more extensive discussion, explora-

Slowness, informality, and community. Urban farmpods, Bellamytuin, Amsterdam, 2012. Courtesy Stadsboeren.org.

tion, experimentation, and debate about what should (and could) constitute smart cities of the future. Second, now is the right time to step back from the growing hype surrounding smart cities and ask whether smarter is indeed better. Perhaps, as I want to argue here, we should also be talking about slowness alongside smartness.

Smart and slow do not necessarily preclude one another, and indeed there are many ways in which the two can not only co-exist but also create the material and cultural conditions for supporting each other in urban contexts. After all, just as smart technologies and engineering have helped to make cities move and function faster and faster, they can also be used strategically and selectively to decelerate cities.

Even so, smart and slow do not often sit comfortably together in current urban living and critical thinking. One reason is that, in recent years, smart city initiatives have been closely linked to the forms of accelerated living that increasingly dominate everyday life in the global metropolitan era. Smart cities are fast cities, efficient cities, controlled cities, or so we have been conditioned to think. But this is now changing.

In an era increasingly dominated by speed and movement, acceleration and flow, the need to think through the relationship between technology and velocity in globalizing urban environments has become urgent. Given the environmental excesses and precarious human and economic conditions

now facing cities worldwide, sustainability is rightly a core concern within smart city design. Yet, smart cities of the future will struggle to achieve their goals of sustainability if they do not also address the ever-increasing acceleration of urban life, systems, networks, and flows through which conditions of precarity, inequality, excess, and waste have been exacerbated.

The possibilities, and sometimes the necessities, for slowing down–for deceleration, detour, delay, interruption, inertia, stoppage, immobility, and more– still need to be explored and understood more fully. Far from being antithetical or marginal to such a project, ICT and engineering are crucial to any such effort.

In short, my point is that slowness–as concept, value, practice, and experience– needs to be incorporated more explicitly into future thinking about cities, including smart cities and their technologically-driven efforts to promote sustainability. The possibilities, and sometimes the necessities, for slowing down–for deceleration, detour, delay, interruption, inertia, stoppage, immobility, and more– still need to be explored and understood more fully. Far from being antithetical or marginal to such a project, ICT and engineering are crucial to any such effort.

The urban-social thinker Richard Sennett[1] recently spoke out against what he calls the 'stupefying smart city' in which the overabundance of new techno-informational tools of surveillance, connection, mobility, and exchange have a deadening rather than liberating effect on everyday urban life. He cites the examples of Masdar City in the United Arab Emirates and Songdo in South Korea, both of which are elaborate, purpose-built extravagances overrun by futuristic technologies. For Sennett, the closed-system hyper-smartness of these cities leads to a new kind of informational and spatial inscrutability.

Waiting and enforced slowness.
Beijing hotel, 2008.
Photo by Jeroen de Kloet.

While many factors contribute to creating the stupefying smart city– which some commentators other than Sennett have celebrated as triumphs of imaginative, eco-friendly, globalized living–the embrace and internalization of a culture of speed and hypermobility (of people, data, goods, capital, etc) is a significant factor. Slowness is not an answer to this situation, but counterbalancing smart urbanism's tendency towards accelerated living with more strategic investment in decelerated living as a social-cultural value would help.

Sennett ultimately advocates the 'smart-smart city,' a future-tech metropolis where plenty of room is made for the informal and the unplanned and where systems and networks are built around openness and access. Such a vision is compelling, and I agree that openness, access, and informality should all have a central place in smart urbanism, but I would add that slowness,

in some measure, needs to be there too. The smart-smart city of the future is also a slow-smart city.

What a slow-smart city might look like, just how slow we want it to be, and when and where we want that slowness to occur (in the workplace, at home, in the streets, online, etc), all remain open for discussion. A starting point would be to experiment with designing smart 'slow-spots' in our cities: creative sites of decelerated practice and experience–whether virtual, material, spatial, or aesthetic–where ICT and engineering are used to explore and develop sustainable alternatives to the city of speed and flash.

Asynchronous slowness. Valérie Jouve, Untitled (Les Figures avec Rachid Ouramdane), 2007–2009. Courtesy Galerie Xippas.
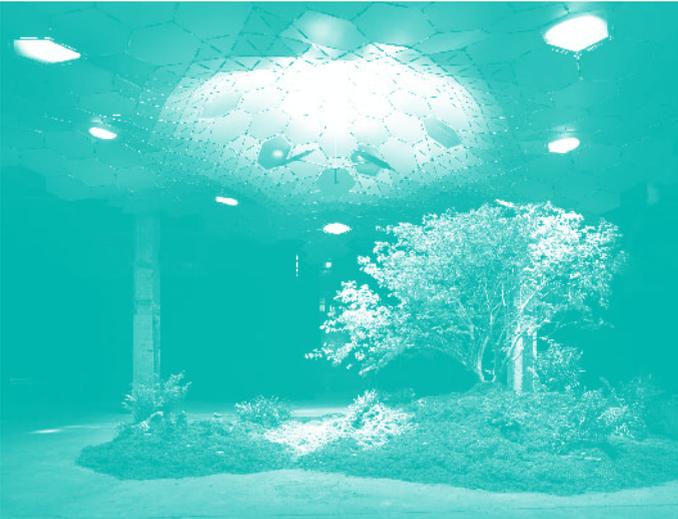
Subterranean slowness: bio-technological urbanism and the Lowline (Delancey Underground), New York City, 2012. Photo by Robyn Shapiro.

1 Richard Sennett, 'The Stupefying Smart City,' in *The Electric City* (London: LSE Cities, 2012), 16.

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Brian Dixon

A MOBILISATION OF WALKING: GPS TECHNOLOGY AND THE EXPLORATORY URBAN WALKER
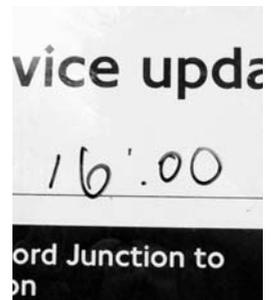
For most urban dwellers in the UK walking has become a peripheral activity. It occurs at points of necessity–connecting a form of transportation, such as a train or a car, and a destination.[1] Generally speaking walking is not seen as an integral form of transport in its own right. Equally, as a recreational practice its range appears to be limited to the highly regulated spaces found in our parks and retail environments. This withering not only contributes to the obvious environmental and infrastructural pressures facing the contemporary city, but also impacts upon our health.[2] Most initiatives seeking to reverse this trend concentrate on the promotion of walking as a reliable and viable mode of transport, a realistic means of linking A with B. While this emphasis is laudable it seems that if our inactivity is to be challenged we cannot ignore recreational walking. Indeed, walking numbers among the few viable forms of inexpensive recreation available to Western urban dwellers.[3] Through my practice-based PhD at Central Saint Martins I am focusing on how GPS-enabled mobile technology can encourage what I call 'exploratory walking.' In other words I am seeking to design a wayfinding application that encourages us to extend beyond our familiar range; a platform that supports ordinary people who want to walk out into the unknown.

The GPS-enabled mobile phone, or more specifically the GPS-enabled mobile map, continues to transform the way we navigate through the city.[4] From the walker's perspective this transformation has brought many benefits, yet it seems that there has been no specific attendance to the needs of the urban exploratory walker. Having interviewed over twenty walkers during the first phase of my research, it has become clear that this is indeed the case. All of the participants had some experience of the technology and all were able to relate what they saw as the positive and negative aspects of mobile map use. Naturally many positives were identified, such as the convenience of being able to access their precise location, as well an increased sense of security. At the same time, there was a consistent hesitancy regarding the GPS-enabled mobile map. As one participant put it, 'the positive aspect is you're never lost and the negative aspect is that you're never lost.' When probed as to why never getting lost was viewed as negative, the participant explained that she believed this would result in an unhealthy dependency. Others, expressing similar concerns, noted that this dependency tended to disrupt the potential for social engagement. For example, they were less likely to ask for directions. Thus the exploratory walkers' use of GPS-enabled technology presents a paradox.

Though they seek direction, the nature of their practice requires that they remain challenged by the negotiation of the environment. Not only does the standard GPS-enabled mobile map provide all the answers and therefore cancel any possibility of exploration, it also requires that the user pays full attention.

Current GPS-enabled mobile maps seem to demand that we look down at a screen rather than around us, at the world. Though this may seem a superficial complaint, looking around is surprisingly important.
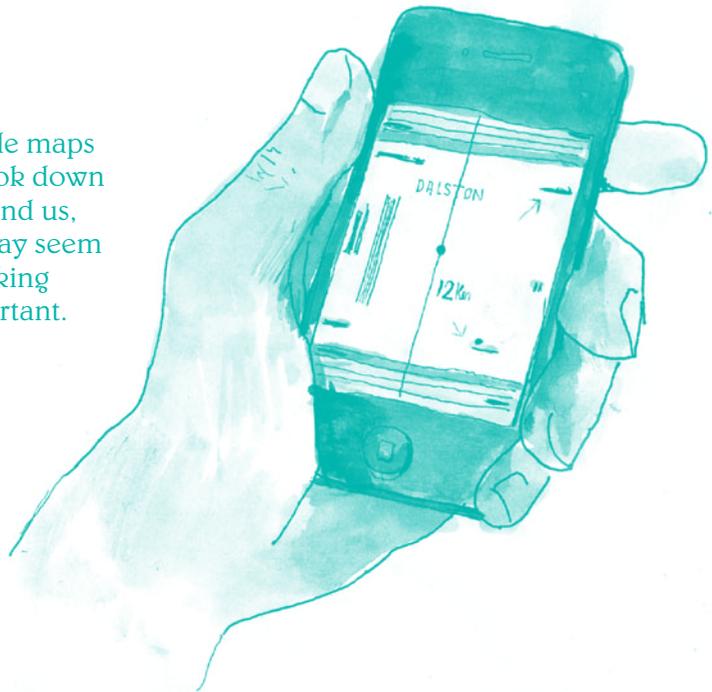
The GPS-enabled mobile phone, or more speicifcally the GPS-enabled mobile map, continues to transform the way we navigate through the city. Drawing by Brian Dixon.

One participant offered a fairly accurate description of the phenomenon: '...you're always constantly looking down if you're looking at your map on your phone, which doesn't help because you're going to *miss* things.' Indeed, this was cited as a common frustration. Current GPS-enabled mobile maps seem to demand that we look down at a screen rather than around us, at the world. Though this may seem a superficial complaint, looking around is surprisingly important. By doing so we are 'place-learning,' literally getting to know somewhere. This argument comes from the ecological psychologist James Gibson. Gibson claimed that walker experiences 'ambulatory vision,' that they walk and see rather than stand and see. Walking and seeing allows the individual to link together a series of 'vistas' or sightlines. Over an extended period of time involving multiple criss-crossings of routes, this allows the walker to compose a total image of their environment.[5] It is only through exploration (i.e. walking in unfamiliar places) that this total image can be constructed. Thus by 'missing things' we fail to collect the sightlines that allow us to come to know a city, to link together its paths and so gain a rich sense of place. An 'exploratory walker's map' therefore would not only allow room for exploration but also limit the demands placed on the user.

The next phase of my research will see the launch of my practice-based inquiry whereby the interview findings will feed into the design of a GPS-enabled mobile map. Whatever the eventual outcomes of this process, the broader issues of support and encouragement of walking, whether exploratory or otherwise, will remain. To limit any

1 NICE, 'Walking and Cycling: Local Measures to Promote Walking and Cycling as Forms of Travel or Recreation' *Public Health Guidance* PH41. London: NHS, 2012.

2 I-Min Lee., Eric J Shiroma, Felipe Lobelo, Pekka Puska, Steven N Blair, Peter T Katzmarzyk, 'Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy,' *The Lancet* 380, (2012): 219–229.

3 P Z Siegel, R M Brackbill, G W Heath, 'The Epidemiology of Walking for Exercise: Implications for Promoting Activity among Sedentary Groups,' *American Journal of Public Health*, 85(5) (1995): 706–710.

4 Nigel Thrift, 'Remembering the technological unconscious by foregrounding knowledges of position,' Environment and Planning D. Society and Space, 22, 1 (2004), 175–190. John Urry, *Mobilities* (London: Polity, 2007).

5 James Gibson, *The Ecological Approach to Visual Perception* (Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1986), 198.

6 Paul Arthur and Romedi Passini, *Wayfinding: People, Signs, Architecture* (Toronto: McGraw Hill Ryerson, 2002). Per Mollerup, *Wayshowing* (Baden: Lars Müller, 2005).

7 Julia Turner, 'A World Without Signs', March 11, 2010, http://www.slate.com/id/2246108/ (accessed 30 September 2010).

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discussion of urban wayfinding to the structure of the built environment and the signage contained within it is no longer tenable.[6] As mobile technology becomes more firmly embedded within the fabric of urban life it is likely that signage–especially officially-funded pedestrian signage–shall come to be viewed as increasingly redundant. Indeed some forecast a 'future without signs'.[7] If walkers are to be accommodated within this future an active debate must commence regarding possible substitutes for traditional signage. As the failed launch of Apple Maps demonstrated offering the public a similar but inferior product will not succeed. Perhaps it's time for GPS-enabled technology move 'beyond' the classic map. After all, multiple scenarios are possible. For example, emphasising a user's direction might prove a useful alternative to the pulsing blue dot hovering over a densely packed screen of names and shapes. Despite this potential for experimentation, wayfinding applications have done little to challenge conventional cartographic models. Surely it is time to play with location-based representation, to see what can be done. Imagining future scenarios for the 'smart' city, it is obvious that GPS-enabled mobile technology offers an array of possibilities. However, it is the challenges that we need to attend to. Designing for the future with full acceptance of technology's paradoxical promise is a literal and metaphorical first step towards true solutions that allow walkers to walk.

Laura Vaughan

People have long predicted that with the advent of telecommunications, face-to-face contact would become increasingly unimportant in cities. Urban spatial layout would be irrelevant, and cities would

IS THE FUTURE OF CITIES THE SAME AS THEIR PAST?

be comprised of small groups and atomised individuals connected virtually across time and space. Paradoxically, despite the advent of mobile communications, cities have become more essential than ever in maintaining existing and fostering new relationships. People are using physical and virtual networks to vary their presence in the city: temporally, by working part of the week from home or working in cafés and squares, but also physically, so they can be bodily present, but mentally absent–communicating with an unseen presence elsewhere in the world. These new social adaptations are seen as matters for concern–as signs that we are going through a social revolution as dramatic as the effect the advent of printing had on knowledge dissemination and population movement. But nowadays urban public space can be as lively and full of vitality as ever before. Cities will continue to function as places for people to come together for social and economic transactions.

Take London's East End, which has received successive waves of migration, each of which was in its turn seen as a foreign, disruptive element. The dense mesh of streets, courtyards and alleyways buckled at first under the weight of alien religious practices, new modes of economic exchange, foreign culture and strange foods, but soon settled down by adapting itself: opening up new spaces, closing off others, reshaping the street network so it became weighted differently over time, with certain streets serving as local centres away from the throngs of the City of London financial district, situated close by. London's street network allowed for a diversity of ecologies to develop, offering different opportunities for social, cultural and economic forms to emerge.

Charles Booth's notebooks from 1898–99 illustrate this perfectly, attesting to the intermingling of immigrants and longstanding inhabitants within the same area. So in the notebook from March 1898, the walk with Sergeant French along Wentworth Street indicates a 'rough' lodging house, with the street 'thronged every day by stalls, both buyers and sellers nearly but not altogether Jews... More like a foreign market scene than anything English...'.[1] As they walked eastwards the street became progressively worse, with 'rather quarrelsome' poor people inhabiting the streets, but once they turned the corner, they found 'no poor here except in the courts.'

Urban adaptability allowed for the successive immigrant groups to settle in the back streets of the area in order to maintain their local communal ties, but also to build cross-city economic links by setting up their stalls (literally and figuratively) in the marketplace. In other words, the spatial/social network was vital for the sustenance of the minority community. Even at the building scale, shifts in

Even at the building scale, shifts in the way buildings were used allowed industry, dwellings and entertainment to be juxtaposed turn-by-turn around the urban block. Section of *Goad Fire Insurance plan*, May 1990. Vol. 11, sheet 316 (courtesy Museum of London). The letter symbols on the buildings denote dwelling **D**, shop **S**, tenements.

the way buildings were used allowed industry, dwellings and entertainment to be juxtaposed turn-by-turn around the urban block.

In such settings patterns of settlement follow the logic of the fine-scale variations in the urban structure, as well as pragmatic constraints of housing cost or amenable neighbours. Booth's map of poverty in late nineteenth century London illustrates this, with a marginal separation of class and land use: similar uses distributed along the street alignments and different uses segregated from each other around the street block. Previous space syntax research has used mathematical analysis of street networks to understand such patterns scientifically. It has shown that spatial configuration–the way in which each street is positioned within a network of accessibility–sets in motion the process by which cities take their form over time, with all their diversity of spaces and activities. The space syntax analysis of nineteenth century London shows how the layout of the urban grid shapes movement flows, so that some locations in the grid are naturally movement-rich, while others are naturally movement-poor, following the logic of its distribution of spatial integration. Although different class and religious groups might be separated in the back streets, once they were in the busy main roads, they were ideally positioned to start to integrate into wider society. This pattern emerged as part of the process of continuity and change that brought about the spatial logic of the city at the time. Similar spatial patterns can be observed today, with pockets of deprivation nestled amongst the richest parts of the city, although in some cases a more polarised division can be seen between poverty and prosperity.

The sociologist Martina Löw has said that cities have identities bound up in their local modes of behaviour, making London

intrinsically London-like and Berlin intrinsically Berlin-like, yet the question arises how these characteristics are transmitted in space over time so that successive generations inherit them. It is clear that the repetition over time of the specific styles, pace, routines of movement and engagement help shape a locality's character. Cities differ from all other settlement forms in how they are influenced by a diversity of uses and behaviours, each of which occupies a different niche within the spatial network. Cities also offer a genetic diversity, by bringing together different forces, aspirations and desires into an organism that is constructed, grown and changed over time. The degree of stability in the network–as opposed to the degree of change–will influence the future trajectories of these complex systems.

There is no reason to think that the current apparent phase change in virtual connectivity and the supposed fragmentation of society into increasingly specialised groups should have a different impact on cities now than past societal changes and technological revolutions. Nevertheless, there is currently an opportunity to be grasped to see the city as a resource for enabling propinquity between groups and across networks, intensifying the number and variety of spaces in order to create opportunities for the dense encounters that four thousand years of urban civilization have proven are a necessary ingredient of society. Fundamentally, the essential role of the city is to bring together and to organise diversity.

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1 London School of Economics and Political Science 2001, 'BoothB351' http://booth.lse.ac.uk/notebooks/b351/jpg/109.html

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Urban space, mobile technology, and user experience are consolidated in a cyborgean way through a mobile application called Grindr. For the gay man of the twenty-first century, Grindr is a place-based form of interaction, where GPS satellites track your location in order to reveal which other gay men are in neighbouring areas, situating each individual user in a particular place in the city and positioning them in relation to each other by order of proximity on a screen grid. Using the app makes Grindr Guys completely aware of their location while altering the way they understand their immediate space and the people who surround them. Furthermore, these social interactions foster issues regarding subjectivity, as each user on the Grindr grid is a virtual, self-constructed portrayal of themselves.

GRINDR GUYS: SCROLLING AS THE NEW STROLLING

For many, Grindr is used as a means to obtain sex; for others, it is a way to get to know gay men in the area who might be interested in being friends or even workout partners. Whatever the reason to download the app, the response to it has been astounding. Launched in 2009, Grindr claims to the be largest and most popular all-male location-based social network in the market, boasting over four million users in 192 countries around the world, acquiring approximately ten thousand new users a day to join the movement of being 'zero feet away.'

Grindr logo, logo courtesy of Grindr.

Grindr's mission and slogan of being 'zero feet away' is precisely what makes the app an architectural and urban issue. Instead of having to resort to going outside in order to find a potential mate for sex, commonly known as 'cruising,' Grindr provides an alternative in the form of digital cruising, in which the act of walking or driving is replaced by the act of scrolling and tapping. Grindr addresses issues related to gay identity and the built environment, particularly when one considers histories of gay subculture and its correlation with spaces–or rather, its lack of spaces. Therefore, before describing Grindr as a tool that reconfigures, and arguably enhances, a user's relation to the built environment, it is necessary to contextualise the relationship between gay identity and the built environment to be able to note how public spaces and sexuality are reconfigured through digital spaces. Because there has been a historical and social placelessness within the built environment for citizens who identify as gay, the condition of being spaceless has fostered a cultural move into cyberspatial grounds, particularly in the UK. Homosexuals were not considered to be members of society prior to 1967, and thus were left without legitimate places to pursue their 'pleasures.' This led gay culture to spaces identified as sex-zones, such as parks, locker rooms, dormitories, prisons, and toilets. Though areas in different cities have been coded as gay, as in the case of London's Soho and Vauxhall, there are still many countries in which homosexuality remains perceived as an illegitimate expression of sexuality, meaning that the public

Collages by Regner Ramos.

manifestation of gay identity is discouraged and thus placeless.

Forbidden by law in the UK until 1967, expressions of homosexuality were left to be manifested in private. Physical, urban spaces for gay men to congregate, such as gay bars, could be difficult to find unless the visitor knew exactly where to look. Finding another man with whom to have a sexual encounter was often an act contained and limited to these strategic spaces, through the sexual practice of 'cottaging,' the British term for having casual gay sex in public toilets. By cottaging, some gay men would partake in sporadic, intimate encounters with different gay men in the area, through the surveillance act of cruising. Even though there is still something abjectifying and objectifying about it, Grindr has changed the way gay cruising works by making surveillance a digital, rather than a purely physical act.

Being on Grindr *is* experiencing social space. Through an enhanced experience and via the constant play of gazing and proximity, the app puts the user back in urban space even if he is physically present in a private space. On Grindr, the men are products to be consumed, and the digital screen becomes a storefront display, where instead of clothes being the goods, the mannequins become the primary feature. If the mannequin is not wearing any clothes at all, consider it a bonus, as you will be able to see more of the product before you invest any time or energy into acquiring it. Hairy or smooth? Short or tall? Black or white? A twink or a sugar daddy? 'More to love' or slim and slender? Every man becomes a Ken doll waiting to go home with a new owner, even if it is to be played with once and then discarded.

There, the human body is the primary cover letter, objectified and displayed; self-worth is reduced and equated to your best profile picture. Don't like what you see? Keep scrolling, keep scrolling, keep strolling, keep strolling...

Grindr increases sociability between citizens, due to a decline of sporadic social encounters in the urban fabric. Have architecture and urbanism

failed modern citizens, leaving technology to save the day? Similarly, one must then ask, does Grindr facilitate the suppression of that which it seemingly wants to liberate: the expression of homosexuality? Even though Grindr claims to encourage face-to-face meetings, the initial approach for this interaction takes place in an invisible space, hosted by servers. Perhaps, in its attempt to spare gay men uncomfortable, human emotions arising from situations such as being identified as gay or being rejected by someone they fancy, it is creating a new type of closet. The main difference is that instead of being inside the closet alone, the Grindr Guys are all locked inside together. In its attempt to empower gay men, by giving them a tool for socialising and finding each other, it is shaping and creating new subjectivities, a new type of gay man.

The Grindr Guy finds himself strategically placed between the digital and physical space, and his relationship to both is a key factor in his Grindr experience. An important question arises: how does Grindr affect urban spaces, and what is the future city like for gay men? Though Grindr's mission is to bring men together in the same physical space, there are times when Grindr becomes a substitute for the built environment. Meeting up is not the inevitable conclusion of the Grindr experience, and sometimes it is just a way to have a chat with other gay men. This renders the gay zones of cities one option for interaction, rather than the only option, reconfiguring the meaning and function of these urban spaces. On the other hand, by turning any space into a space where gay interaction takes place, Grindr challenges the heteronormative coding of physical spaces, and gay men are able to find, see, and chat with each other no matter where they may be. Perhaps it may be sensible to say that Grindr is a subtle, transitional tool for gay men to appropriate the entire city, not just the gay zones. With the Grindr Guy using the app in any urban space, whether he wishes to reveal his sexuality or not, Grindr can be a personal tool for the acceptance of his sexuality and of the reclaiming of his place in the city. In reconfiguring heteronormative codes digitally, it may be that the future city finds its social heteronomative codes refigured as well. Grindr has stepped in where architecture and gay culture became disjointed, and there is an ambiguity in the relationship between Grindr and architecture. Which influences which? Is Grindr architecture's sidekick, or is it the other way around?

> The Grindr Guy finds himself strategically placed between the digital and physical space, and his relationship to both is a key factor.

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Yvonne Rogers, Licia Capra and Johannes Schöning

BEYOND SMART CITIES: RETHINKING URBAN TECHNOLOGY FROM A CITY EXPERIENCE PERSPECTIVE

Many tech companies are investing in R&D to create 'smart' cities, with the goal of making our lives more efficient, better informed and hassle-free. Pike Research estimate that $16 billion USD will be spent annually by 2020 on core technologies in pursuit of this goal. A recent trend has been to develop the 'Internet of things' that can sense, connect and mine a wealth of data about ourselves, our cities and the environment.

Many claims have been made about the potential benefits of embedding smart technologies in our cities that connect our infrastructures with our public spaces, streets, homes, mobile phones and even our clothes. By placing increasing numbers of sensors in all manner of places that can monitor and collect real time data about how our utilities are faring, our transport moving, our energy is being consumed, where things and people are and what they are doing, the hope is to achieve a greater understanding of how our cities work, what is needed to make them work even better and how to maintain them more efficiently when they break down (e.g. flooding, crowding, and congestion). Smart grids are being deployed with the hope of supporting rapid and effective contingency and capacity planning. The hope is that water will flow where it should, waste will not leak where it shouldn't and our trains will run (in the UK) on time.

Alongside the push towards super-efficiency, we argue that it is equally important to consider the impact of new urban technological developments on quality of life. Will all the so-called smart technology make city folk feel happier, more productive and healthier? Or might the converse happen, with the accumulation of vast amounts of city data becoming overwhelming, making people feel disempowered or even disengaged? Moreover, what happens when people start to fear and worry about the effects of smart technology on themselves?

On the one hand, there are the governments, policy makers and tech companies who are convinced of the usefulness of smart technology, never questioning its usability. On the other, there is the general public who have begun to question its utility and value, to the point of even seeing it as detrimental. Consider smart meters that show energy use in real time.

Rather than striving for ever more efficiency we should be promoting engaged living, where technology is designed to enable people to do what they want, need or might not have considered before by acting in and upon the environment.

Whilst the energy companies promote rhetoric about their benefits for energy efficiency–through providing information that will help people change their energy habits–many citizens, into whose homes they have been installed, are more sceptical. Little research was conducted beforehand to

Tidy Street Project, Brighton, 2011. In this energy conservation project, the community's electricity consumption was publicly displayed using real-time data in the form of a large graph in the middle of the street. The community's usage was compared with city averages, increasing awareness and ultimately reducing usage by 15 percent.

1 Mori Poll, 'Quantitative Research into Public Awareness, Attitudes and Experience of Smart Meters.' Dept. Energy and climate change, 2012. www.decc.gov.uk

2 EMF Facts, 'End the not-so-smart spin with real smart meter research', 2012. http://www.emfacts.com/2012/10/end-the-not-so-smart-spin-with-real-smart-meter-research/

3 Yvonne Rogers, 'Moving on From Weiser's Vision of Calm Computing: Engaging UbiComp Experiences'. In *UbiComp 2006: Ubiquitous Computing, 8th International Conference, Orange County, CA, 2006,* 404–421. Berlin Heidelberg: Springer-Verlag.

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understand how people adopt and act upon this technology when placed in their homes. Surveys in the UK at the end of 2012 suggest a number of people have privacy concerns about the meters, while in Australia consumers are worried about the possibility of health hazards caused by the electromagnetic fields emitted by smart meters;[1] an increasing number of people are reporting illnesses, such as high-pitched ringing in the ears, disturbed sleep, regular nosebleeds, pressure in the head and difficulty concentrating after smart meters were installed in their homes.[2] What this suggests is that people's perceptions, fears and concerns need to be taken into account from the inception of design ideas to implementation, if they are to be widely accepted, and considered safe and beneficial.

So how can we take into account the perspective of the citizen? What ways are there of conceptualizing urban technology development that focus on enhancing people's lives? To begin, we propose that we should stop using the word smart, since–let's face it–we don't do smart technologies and cities very well yet. Instead, we should consider how to make *people* smarter through their use of technology.[3] Moreover, rather than striving for ever more efficiency we should be promoting *engaged living*, where technology is designed to *enable* people to do what they want, need or might not have considered before by acting in and upon the environment. The emphasis should be on understanding how to harness and leverage real time data that urban technologies can sense, store and analyse–not just to monitor and act on our behalf of users but also to enrich their lives. This involves designing user-centered analytic tools, interactive visualisations and new user interfaces for city living, alongside the people who live in cities, with information they can readily understand and act upon.

Screen capture of tweet
@BenNunney: 'We live in a world
where even trash cans can kernel
panic' (6 April, 2013).

#UrbanPamphleteer

Coming soon…
Regeneration
Realities
Urban Pamphleteer
#2