Conference:
Digital Cultural Ecology
and the Medium Sized City
Digital Cultural Ecology and the Medium Sized City

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Digital Cultural Ecology and the Medium Sized City

INTRODUCTION

This publication is the product of the conference Digital Cultural Ecology and the Medium Sized City held in Bristol in 2016. Led by the Professor Terry Flaxton at the Centre for Moving Image Research, AMPS and its scholarly journal Architecture_MPS, this publication and the conference which it documents are interested in the exploring the still latent possibilities of the internet in urban, social and cultural contexts; the development of citizen led ‘hybrid cities’ in which new technologies foster new behaviours; new ethnographic interpretations of the city and its peoples; and changing representations of the city in new and old formats: photography, film, animation, augmented and virtual realities.

The publication and conference were premised on the argument that, in every country in the world, medium-sized cities outnumber capital cities in both quantity and gross population. They are however, historically overlooked. In the city in which this conference was held, Bristol, UK, the industry sector that underwrites its culture and economy is that of the moving image and the digital. It is a medium sized city with a history and an active present at the intersection of the physical conurbation, moving image research, and the cultural, economic and social implications of their coalescence. As with many medium sized cities however, it has an infrastructure from the industrial age. In this context, the conference and related activities, focused on how the medium sized cities from across the world are adapting to the economies, practices and infrastructures of the digital age.

This publication forms part of the broader Mediated City research programme run by AMPS which is headlined by a special Mediated City book series with Intellect Books. The series editor of both the Intellect series and this conference based series is Dr Graham Cairns. The papers collated in this volume represent a sample of the research discussed and explored at the Bristol conference into the contemporary city in the digital age.
Digital Cultural Ecology and the Medium Sized City

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AARON TOBYE
STUDIO AMD

INTRODUCTION

- TeaPartyPatriot to TastyPhlegm
Absolutely right Tasty. There is no hope for the city especially OTR. All this money being pumped into it hasn't done a thing. Its [sic] a money pit. And the trolly [sic] folly crime train choo choo socialist Marxist boondoggle to nowhere must be stopped. And it will be in November.

- Amy Foster to TeaPartyPatriot
Do you realize that you diminish the appearance of your argument by saying things like 'trolly [sic] folly crime train choo choo'. That just makes you sound silly and makes me giggle instead of take anything said after that seriously.

- cincygal to TeaPartyPatriot
your [sic] probably a registered voter in butler or warren county... how does this even affect you? is your life that boring you need to waste it hating on something that could improve impoverished neighborhoods...

- TeaPartyPatriot to cincygal
I can assure you I don't live in the Cincinnati cesspool. However, I helped COAST raise enough signatures to destroy your yuppie streetcar...

Comments like these have circulated across the social media landscape of Cincinnati since the mid 2000s, playing out tensions between the city and its non-urban periphery embodied in the debate over Cincinnati’s proposed streetcar. Like many other medium-sized American cities seeking to rebuild their infrastructure and transition to an experience economy, Cincinnati faced decades of economic and population decline, leaving it with a diminished tax-base. As suburbs resisted annexation by the city, Cincinnati’s inability to grow its tax base to fund infrastructure maintenance perpetuated the cycle of economic decline. This forced Cincinnati to appeal to the non-urban interests of its increasingly segregated periphery, and beyond its encompassing county, to the Ohio and US Governments for funding. Such appeals marginalized the voices of city residents, limiting their influence on the broader “process of urbanization.” Two ballot initiatives to defund the proposed one and nine-tenths mile streetcar system in downtown Cincinnati, one in 2009 and another in 2011, dramatized this play of power. However, unlike previous funding referendum debates, the streetcar debate superseded Cincinnati’s fragmented institutional jurisdictions, occurring mainly through digital media. This opened Cincinnati’s urban planning discourse to new tactics which questioned the boundaries of the city itself by “grasp[ing] the relation between textual discourse and materiality in a dialectical way.” These tactics emphasized the performative, spontaneous, and collective actions of digital-citizens and those citizens’ descriptive networks of shared interests to create grass-roots coalitions on both sides of the streetcar debate. The anti-streetcar group, COAST (Coalition Opposed to Additional Spending and Taxes), repudiated the ideal of geographically bounded uni-vocal citizens through the tactics it used to troll/hijack old media and develop a regional base of support that did not conform to Cincinnati’s jurisdictional boundaries. The spatially and temporally discontinuous qualities of digital media that COAST relied
on also allowed streetcar supporters to counter with their own redrawing of boundaries through a network of blogs and informal citizen reporting techniques. Linking Cincinnati’s infrastructure investments to those of other medium-sized cities, the blogging network interpolated Cincinnati into the national discourse on post-industrial urban development while particularizing that discourse in individual blogger’s sharable narratives.

However, these digitally mediated forms of engagement, were not available to all. The exclusion of poor black residents from the neighbourhood the streetcar was planned for, placed those residents in the hybrid situation of being physically within Cincinnati’s jurisdictional boundary but outside of its digital imaginary. Such disjunctions show that “Unless cultural and physical bridges are deliberately built between these two forms of space, we may be heading towards life in parallel universes whose times cannot meet because they are warped into differential dimensions of a social hyperspace.”

If technology is to become such a bridge, capable of including multiple voices in new ways, as it mediates the discursive space of medium-sized cities like Cincinnati, the city no longer be imagined as a static, bounded object. Such redefinitions of political geography are evidence that the “idealized conceptions of the spatial public” of medium-sized cities like Cincinnati are ripe for reconsideration by digital media’s connection of discursive and physical space. The discrepancy between the bounded political community of its physical space and the imagined cultural community of its discursive space must be addressed if the city is to remain a viable form of polity. In Cincinnati’s streetcar debate it is clear that “today, soft infrastructure - wireless technologies, the Internet, and social media - have potential to produce new kinds of space outside of inherited systems.” These new kinds of spaces ask us to (re)imagine the historically bounded city in ways that simultaneously address the centralized, hard infrastructure networks and distributed, soft cultural networks that bracket our everyday life.

COAST: MULTIPLE ALIASES AND ORCHESTRATED DEBATES

Aggressive anti-tax advocates, used Cincinnati’s reliance on outside funding sources for its streetcar proposal to open the debate surrounding to the non-city residents whose tax-dollars it would use. In that context, COAST was started in 2008 as an online interest group dedicated to “limit[ing] the rate of taxes and spending at the federal, state, and local level to within the rate of inflation and stop[ping] the abuse of power by government officials.” COAST used this agenda to bring individuals from Cincinnati and its periphery together in opposition to the streetcar. To legitimate itself, spread its message, and grow its membership, COAST developed a repertoire of social media actions that hijacked traditional media.

One set of tactics aggregated actions by COAST members to influence the reporting of Cincinnati’s main newspaper, The Cincinnati Enquirer. COAST leveraged the Enquirer’s historically conservative and consumer driven editorial policies as a means to define the terms of the streetcar debate. COAST circulated links to anti-streetcar articles through Facebook and Twitter, directing its members online traffic to balloon page views and thus ad revenue generated from these articles. This incentivized the cash-strapped and page-view hungry Enquirer to continue producing anti-streetcar reporting. Members of COAST also flooded the Enquirer’s letter to the editor submission website with nearly identical letters advocating against the streetcar. Once a letter was published online, COAST would increase its page views, prompting the Enquirer to publish similar letters. The combined letter/page view spamming created the appearance of overwhelming anti-streetcar public opinion grounded in COAST’s anti-taxation discourse. The Enquirer ultimately adopted the association of the streetcar proposal with this discourse, as it maintained its opposition to the streetcar funding in editorials citing
the overall political climate and a lack of public support while declaring its opposition to both the 2009 and 2011 initiatives to eliminate streetcar funding because of their broad language.

Another set of tactics used the online commenting platforms of the Cincinnati’s media outlets as a means to reinforce the terms of the streetcar debate. COAST members were often the first and most frequent commenters on any articles, television clips, or blog posts about the streetcar proposal. Commenters who did not address the streetcar’s impact on taxation and spending were attacked by COAST members with accusations of elitism or financial naivete that begged response in COAST’s preferred terms. By continuously reiterating the economic costs of the streetcar as the given terms of debate, COAST controlled the space of discourse, drowning out other narratives surrounding the streetcar project. However, many of the back and forth discussions used to control this space were fabrications by members of COAST using multiple accounts to comment under different aliases. COAST’s orchestration of debates between these aliases created a fantastical image of streetcar supporters. It used this image to generate enthusiasm amongst streetcar opponents while delegitimizing the positions of streetcar supporters through parodic repetition of their talking points. For the majority of commenters, these tactics remained invisible, allowing COAST to piggy-back on comment platforms to make its case at a nuanced and personal level.

COAST continued its use of parody in a third set of tactics that mimicked the format and content of Cincinnati’s media outlets. Fake newspaper articles, digitally altered images, and mock promotional videos were regularly circulated amongst COAST’s membership. Unlike COAST’s other tactics, these parodies were intended as internal propaganda. The parodies undercut Cincinnati’s traditional media’s claims of legitimacy and unbiased reporting by revealing the ease with which they could be fabricated. COAST’s insertion of its ideology into the information being circulated created an echo chamber of conspiratorial speculation. Most notably, a collage of black men with guns riding an antique streetcar, (Figure 1) which drew on Cincinnati’s latent racial tensions, was circulated to both produce and justify the conspiratorial imaginations of COAST’s members. This behind the scenes discourse rarely made it to the surface of the streetcar debate. When it did, COAST quickly used its other tactics to reassert the streetcar debate’s definition in its preferred terms.

Figure 1. Racist Anti-streetcar Propaganda

COAST’s tactics exercised its geographically diverse membership’s right to participate in the discursive and spatial definition of the city within new social practices enabled by digital media. These tactics subverted institutionalized jurisdictional boundaries and forms of mass communication to include individual voices from discursive spaces outside of Cincinnati’s existing media landscape and from physical spaces that already been economically and socially, but outside of its jurisdiction. Further, COAST’s tactics underscore larger questions about how digital technology mediates participation in the city. COAST responded the diminished power of city government by grounding
the terms of discourse elsewhere. It (re)framed the issue of the streetcar in concerns about both individual property rights and collective anxiety regarding sovereign debt, asserting the personal and national scale as the terms of the streetcar debate. COAST’s ordering of the discursive space of the streetcar debate in these terms relegated the geographically bounded Cincinnati and its associated media outlets to the role of mere intermediaries through which the terms of the streetcar debate were circulated rather than produced. However, the ability of COAST’s tactics to construct a geographically and socially diverse community of interest around a small area of land did constitute a new form of civic polity. Built on deinstitutionalized and dispersed peer-to-peer connections, these tactics dynamically democratized the discursive and physical space of city around a single issue. In doing so, they suggest that as there are many parallel discourses defining Cincinnati, there are also multiple operative imaginations its boundaries.

**URBANCINCY: WE WILL ALWAYS BE NOT YET LIKE THEM**

Cincinnati’s streetcar proposal was itself an attempt to engage with a national discourse on the future of post-industrial medium-sized cities. After failed attempts to attract major corporations, Cincinnati and similar cities began marketing themselves to young professionals as a cheaper urban alternative to America’s major cities. Many of these young professionals were concerned not just with the economic issues of finding jobs or housing, but with quality of life issues. To bridge the gap between its urban-geographic realities and the lifestyles of young professionals it was trying to attract Cincinnati had to supplement its aging car-based transportation infrastructure. Successful streetcar-led redevelopments of inner-city areas of Portland, Oregon and Tampa, Florida were examples that Cincinnati aimed to copy. The young professionals that did stay in or move to the Cincinnati area were encouraged by the city to develop tactics leveraging their command of digital media to advocate for the streetcar proposal. Like those of COAST, the tactics of young professionals streetcar supporters rethought many old media practices of information dissemination in terms of individual digital-action and in doing so (re)imagined the borders of their community.

The most visible tactic of streetcar supporters was the creation of a well designed, organized, and inter-linked blogging network. These blogs distributed catered pro-streetcar news to followers across the network by linking with each other directly and via social media. As Lim notes, describing similar networks, in addition to their functions as sites for campaigning, advertising, announcing, and reporting... ... the emerging blogosphere created a space in which the inner circle of blogger-activists could deliberate freely among themselves. This further defined and constructed the movement’s meaning for participants... ...By linking to each other’s blogs and by referencing or commenting on one another’s posts, they created a brokerage (McAdam, Tarrow, & Tilly, 2001) that allowed people to organize and assimilate their experiences as well as to deliberate in public ways that went beyond existing ideological boundaries (Lim, 2009).

The network of blogs was thus more a form of digital-social self organization than a form of advocacy intended to sway the opinions of others. Most blog content took the form of citizen reportage that compared Cincinnati’s streetcar proposal with those of other medium-sized cities. Epitomized by CincyStreetcarBlog and UrbanCincy, citizen reports featured recent news articles, studies, personal photographs, and stories from travel to other cities that cited similarities between Cincinnati and these other cities as justification for their pro-streetcar bias. Through each citation Cincinnati was established as ready to be transformed by constructing a streetcar in the same manner as the other city, despite its different geographies, demographics and development history. However, the need for citation also highlighted that Cincinnati was temporally and materially distant from the cities cited. The dual action of the streetcar
supporters practice of citation created the need for further citation and the transformation of the blogging network from a locality based to an issue based structure. The introduction of new people and places to Cincinnati’s streetcar debate did not always favor streetcar supporters. To counter this they used digital protocols, like Facebook’s automatic geotagging of posts, to police the discursive space their practice of citation created. This policing instantiated a digital proxy of Cincinnati’s jurisdictional boundaries that filtered the information and people entering “Cincinnati’s” civic discourse. Streetcar supporters responded to commenters from outside “Cincinnati” by challenging their right to have a voice in the debate, dismissing them as unaware of Cincinnati’s particular situation. Coupled with COAST’s tactical creation of fake accounts, these policing tactics created a discursive space and a digitally mediated geography of “Cincinnati” in which identities were unclear or untrusted.

The blogging network and its practices of citation, enabled by digital media, were a new means of civic engagement that did not rely on and thus contested the legitimacy of existing jurisdictional boundaries “as the preconstituted platforms for urban politics rather than as one of their active, socially produced moments, dimensions or objects.” Instead, streetcar supporters proposed new boundaries for digital civic engagement which they actively produced/reinforced as part of a “polities of scale.” By determining who could participate and what could be said on the blogging network, they socially produced a new urban geography of bounded by multiple, dynamic (and falsifiable) technological protocols. Thus, even in their establishment of new spatialized boundaries for discourse on the city, streetcar supporters proposed an alternative to the presupposed “relatively fixed urban or regional jurisdictional framework within which the regulatory preconditions for capitalist urbanisation are secured.”

NETWORKED PUBLICS/DYNAMIC BOUNDARIES

The questions raised about territory by the discursive space of digital media are crucial today as digital-global trade is transforming the process of urbanization. Holding onto received jurisdictional boundaries of the city as they cease to remain socially and economically relevant conceals new forms of exploitation and emancipation emerging from digital mediation in the “discrepancy between formal juridical rights… ...and a collective sense of responsibility for the lived environment.” This diminishes political agency across all scales as the social structures jurisdictional boundaries represent “create conditions for thought, communication and action” thus delimiting both the discursive “space of flows” and the physical “space of place.” (Re)imagining these boundaries through digital media’s “opportunities to organize citizen engagement neither in local bottom–up nor institutionalized top–down fashion, but in networked peer–to–peer ways,” allows new “networked publics” to emerge. Based in a “sense of belonging to a collective place, commitment to a collective issue, and willingness to share a private resource [time] with the collective,” “networked publics” collectively, if conflictually, define, manage, and interpret tactics of political participation to ensure their effects are democratizing.

The tactics used in Cincinnati’s streetcar debate were one such (re)imagination of the city. Uncoupling the boundaries of discursive space from the city’s outmoded spatial framework of jurisdictional boundaries, these tactics connected “the urban and peri-urban social movements of opposition” into cross-scalar “networked publics.” Exercising their right to the city as they proliferated, these publics proposed a multi-spatial city in which different “Cincinnatis” simultaneously existed. The many “Cincinnatis” produced through the streetcar debate each proposed different locations and temporalities, to delimit the city as a jurisdictional entity and better serve the publics it gave rise to. The basis for such a democratic (re)imagination of medium-sized cities like Cincinnati already exists in their history of socio-spatial transformation. The endurance of these cities through annexations, urban renewal programs, and the formation of bureaucratic entities such as regional development
authorities suggests that identification with the city is both durable and malleable. Though at a different temporal scale, the types of transformations a (re)imagination of the city’s jurisdictional boundaries through “networked publics” produce are the same kind that cities have both engendered and endured. Because (re)imagining jurisdictional boundaries this way engages local environments and participatory tactics that traditional forms of jurisdiction do not, it begins the forever-ongoing process of (re)defining those forms. As more new networked publics develop new tactics for participation in the city, the city itself will continue to be (re)imagined and will therefore endure as a valuable form of polity in a changing global landscape.

CONCLUSION: BEYOND THE HORIZON

The tactical use of digital media in the Cincinnati streetcar debate asserted that the kind of city we desire cannot be separated from the social ties, technologies, and aesthetic values we participate in. The geographically and ideologically diverse networked public of debate participants used digital media to (re)imagine the boundaries of the city against entrenched governmental and market structures. Members of COAST challenged the legitimacy of old-media institutions and basic premises of civic engagement through their use of spamming, parody, and multiple aliases. The pro-streetcar blogging network used digital protocols to dynamically expand and contract the space of discourse, tying together personal and trans-national scales in the process. Such redefinitions of political geography used digital media’s connection of discursive and physical space to produce an expanded though not necessarily more democratic spatialized public. Further, the digital soft infrastructures deployed in Cincinnati’s streetcar debate revealed their power to produce new hybrid spatialities that (re)imagine the historically bounded city. By opening the city to this continuous (re)imagination we ensure our right to change ourselves by changing our cities.

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3. “It is only through the construction of relatively fixed and immobile transport, communications and regulatory institutional infrastructures - a ‘second nature’ of socially produced configurations of territorial organisation - that this accelerated physical movement of commodities through space (the systematic removal of barriers to circulation) can be achieved. Therefore, as Harvey (1985, p. 145) notes, spatial organization is necessary to overcome space.”


5. “However, the preceding considerations indicate that contemporary cities and states operate not as mutually exclusive or competing geographical configurations for capitalist development, but rather as densely superimposed, interdependent forms of territorial organisation. Cities and states are being re-configured, reterritorialised and re-scaled in conjunction with the most recent round of capitalist globalisation, but both remain essential forms of territorial organisation upon which the world-scale circulation of capital is premised.”

6. Ibid.

5. David Harvey differentiates between cities as an object and urbanization as a larger economic subject of discourse. “While a city is a ‘thing’, urbanization is a process. It doesn’t stop at the city’s edge, and is really about processes of unequal geographical development more generally. The tendency to ignore cities and simply treat the state as the only entity with agency is problematic.”

6. Brenner suggests “the political-regulatory institutions of urban regions are often fragmented into multiple agencies and departments with distinct jurisdictions and tasks. Yet the process of economic globalisation is creating denser socioeconomic interdependencies on urban/regional scales that generally supersede the reach of each of these administrative levels.”

7. Discourses in society can be performative as well as descriptive because they are embedded in material social practices, codes of behaviour, institutions and constructed environments.”


9. The digitally mediated medium-sized city today can be understood “as multiplex, as a set of spaces where ranges of relational networks and flows coalesce, interconnect and fragment... as the particular nexus between, on the one hand, propinquity characterised by intensely thick copresent interaction, and on the other hand, fast flowing webs and networks stretched corporeally, virtually and imaginatively across distances.”


12. Non-residents were empowered to both indirectly affect the funding of the streetcar through their elected representatives and directly affect it via Ohio’s unique property taxation scheme, in which the use of property tax revenue is decided item by item in yearly popular votes. On the county level, these property tax referenda regarded the use of revenue by SORTA (Southern Ohio Regional Transit Authority), the political body tasked with operating the streetcar upon its completion but uninvolved in its construction.


13. Ibid.

14. The paper’s editor in chief told a reporter that the newspaper goes out of its way to publish stories that appeal to and represent the interests of its mostly suburban readership.


16. One such video mocked the streetcar as an alternative to EMS and other lifesaving services within the Over the Rhine neighbourhood: “Get sick Productions, ‘Streetcar Office,’ *YouTube* video, 1:16, October 14, 2009, https://www.youtube.com/watch?v=urCefKHt0MoM.

17. This participation is predicated on the understanding of the “right to the city” as “the right to command the whole urban process, which was increasingly dominating the countryside through phenomena ranging from agribusiness to second homes and rural tourism.”


18. This is the result of ongoing neoliberal spatial practices which Brenner and Theodore describe: “...we are dealing here less with a coherently bounded ‘ism’ or ‘end state’ than with a process, as the term it, of neoliberalization. Hence, in the present context, the somewhat elusive phenomenon that needs definition must be construed as a historically specific, ongoing, and internally contradictory process of market-driven spatio-social transformation rather than as a fully actualized policy regime.”


20. “Quality of urban life has become a commodity, as has the city itself, in a world where consumerism, tourism, and cultural and knowledge-based industries have become major aspects of the urban political economy.”

21. These issues aligned in markedly lower rates of car-ownership by young professionals for whom car payments were a burdensome expense and who preferred the ease of accessing services within walking distance. However, the car-centric development of Cincinnati’s transportation infrastructure and the geographic distribution of services it gave rise to made living a car-free lifestyle difficult.


24. The tactics of citation employed by streetcar supporters rethought the boundaries of the city through the connection of individual affective narratives with trans-spatial/trans-temporal networks in an emergent “‘politics of scale’ (Smith, 1993, 1995) in which geographical scales come to operate simultaneously as sites and stakes of socio-political struggle.”

25. Through this collapse of physical and discursive spaces into multiple hybrid digital/physical “Cincinnatis” streetcar supporters and thus becomes “A discursive re-presentation of space [that] prescribes a domain of ‘meaningful’ actions and thus at the end of the day provides a regulatory power mechanism for the selection of appropriate and meaningful utterances and actions.”


27. Interestingly it is not just the physical spaces of cities that are being transformed by digital-global trade, but also the meaning of the term city itself as it becomes a branding moniker for a particular economic spatial software, what Keller Easterling calls the “Zone.”


30. Once a boundary is “reified and rendered relatively simple and unambiguous it does much of our thinking for us and closes off or obscures questions of power and meaning, ideology and legitimacy, authority and obligation and how worlds of experience are continuously made and remade.”

31.  de Lange and de Waal, “Owning the City: New Media and Citizen Engagement in Urban Design.”

32. Networked Publics are distinct from communities of interest in that they are “composed of differences rather than being based on sameness, and organized in distributed networks rather than in ‘natural’ social bonds of locality, class, ethnicity, cultural identity,” “provides a horizon for action in which each stakeholder reciprocally contributes to the whole on a different but equal base.”

33. “Spaces and places are not isolated and bounded entities, but material and symbolic constructions that work as meaningful and practical settings for social action because of their relations to other spaces and places.”

34. Harvey, *Social Justice and the City*, 328.

35. Scott and Stopper use the topographic metaphor of a mountain in building the case that “… there can be no rigid or absolute boundary between the city and the rest of geographic space. At the same time the city exists concretely as a localiz

36. The Ohio Kentucky Indiana (OKI) Regional Council of Governments is an extra-governmental organization that “works collaboratively with stakeholders to solve inter-state dilemmas, create far-reaching development plans, break through political bureaucracy, provide services to the public and advocate for federal funding” in and around Cincinnati.

37. “In the case of territorial identity, local environments do not, per se, generate a specific pattern of behaviour or identity. However, people do resist the process of individuation and social atomisation, and thus tend to cluster in community organisations that often generate a communal, cultural identity over time. Thus the search for meaning, and thereby identity construction, mainly takes place in the reconstruction of identities around communal principles.”


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EDGES OF LOCATION: INFRASTRUCTURES AND PRACTICES OF LOCATIVE TECHNOLOGY IN THE CITY

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INTRODUCTION

Technology, especially technologies which express location are deeply embedded in modes of use and physical location(s). Location services derived from Global Navigation Satellite System (GNSS) (this refers to the GPS, GLONASS, Baidu and Galileo satellite networks), wifi and bluetooth frequently play with and against notions of where they are sited. They can work both to increase a sense of orientation and construct new senses of site which are multiple and ethereal. GNSS-enabled mobile computing frequently changes our relationship with the places we inhabit through navigation, advertising or social media. These experiential sites may not be limited to our physical surroundings, but also exist through our social relationships and interactions both online and in person. The sheer breath of possible interactions means that the ways in which technology can interact with and create sites are complex, slippery and difficult to access. If, as Haraway¹ and others suggest, through socio-technical relations, we are becoming cyborgs, then how are our new locative senses operating? When do they fail? How might we re-imagine or re-motivate the use of the technologies to create new meanings?

Considerable work has been done on the relationship between geographic points and their wider semantic meanings in smartphone-driven locative media. Here, location has been understood as the bare bones of a place, with meaning being hung dynamically on a set of co-ordinates by location aware interfaces (see ii⁻⁴). We can add Foursquare check-ins to build a picture of our lifestyles, leave Yelp reviews to evaluate the worth of given sites, or use Uber to understand a city in terms of potential mobility (both for ourselves as users and the city as a connected whole). In this way the media relevant to a particular location does not represent it, but rather constructs or performs it.

The potential questions around semantic meaning are endless and well documented (e.g.iv, ⁵). Rather than adding to this body of literature, here we concentrate on the infrastructural workings of GNSS locative technology. By foregrounding infrastructure we want to draw attention to the fact it underpins semantic location content. The positioning of the infrastructure behind the interface often works to make it ethereal or invisible, yet, it is a necessary and influential condition for the performance of meanings related to location.

The importance of infrastructure in providing location also serves to hybridise the urban spaces we inhabit, creating a conjoined relation between user-driven content and the spatial mapping. Writing in the early 2000s, before technologies like GNSS became near-ubiquitous in mobile devices, Paul Dourish, Genevieve Bell and Malcolm McCullough drew attention to the hybrid nature of the spaces created by technology. For Dourish and Bell this was understood as 'embodied interaction' and focussed on the movement of the user through space (see vi, ⁶) For McCullough (see vii, ⁸), the spaces created were arguably more static, concentrated on the successful integration of information and interaction with the physical and social contexts of a site. These writers argued that the development of these technologies required design principles which were informed by social sciences and highly sensitive to where they were placed. In the intervening years these questions and concerns have become more pertinent, as demonstrated by a recent upsurge in writing on locative media in the fields of Human Computer Interaction and Communication Theory (see viii, ⁹, x). At the same time as we recognise the an increasing focus on context in locative media research, it is important to note that in wider ubiquitous computing (ubicomp) discussions, problems of context and implementation are often pushed to one side, with researchers free to continue placing ubicomp work in the proximate future, somewhere on the bleeding edge (see xiii, ⁹). I would argue that a better understanding of the grounded, often messy specificities of site and its relationship with the workings of the technologies which construct it is key to exploring what technology is doing to our experience of the city. The importance of technology's
ability to mediate civic life and experience only becomes more important with the rise of discourses around the smart city as means of constructing and mediating civic and environmental life. The fact that these discourses are still in their experimental phase makes an understanding of the ontological implications of the relationship between technology and site all the more urgent.

In order to explore the shifting relationship between technology and site we need methodologies which are as specific and complex as the experience they are trying to reflect. This paper describes an experimental walking workshop designed to raise questions about user experience in a GNSS-mediated world and reflect on the hybridisation of space between ground level and the extra-terrestrial infrastructural realm. The workshop took place as part of the Multimadeira artists residency in Funchal, Madeira, Portugal in February 2016. At the time of writing the workshop is a work-in-progress. It will be refined and developed over the coming months.

RESEARCH CONTEXT: WHEN MEANING EMERGES ACROSS A NETWORK

Much of the comparable work which looks at technology and location critically can be found within a locative media art tradition. This work (primarily, but not exclusively using GNSS devices) enjoyed a moment of high popularity in the early 2000s\textsuperscript{xv}, but tapered off somewhat as GNSS positioning became a standard sensor within smartphones (since the period between 2007-2010). Many projects were based around oral histories or narratives overlaid on sites (e.g. 34 North 118 West (2003), Teri Rueb's Trace (1999)) while others allowed people to add their own narratives and experiences to sites ([murmur] (2003-present), Mark Shepard's Tactical Sound Garden (2006)). However, in a move away from the tradition of using locative technologies to pin histories and narratives onto locations, I have taken the infrastructure which foregrounds semantic and narrative content as the focus of this project. This is principally because I feel the nature of the technology and the infrastructures which support it have a profound and under-appreciated effect in creating ontological and experiential meaning. I would follow Actor-Network Theory (ANT) scholars in arguing that meaning is not created by supposedly enclosed entities (user, app, spatial environment) that enter into causal or representational relations with each other. Rather, meaning emerges across a network and is profoundly effected by the processes which connect actors (both human and non-human) within that network. As formulated by Bruno Latour, ANT proposes that relations across a network of people, objects and social and communication structures “transform, translate, distort and modify the meaning or the elements that they are supposed to carry”\textsuperscript{xvii}. As such, the idea that there is a direct and static relationship between locative media and located site or object is flawed. The process of orientation changes the nature of the object being located. The networks which contain objects are also implicated in producing meaning by acting on both the objects they connect and the overall system or ‘assemblage’. Social relations are of great importance in connecting and constructing people and objects, but infrastructural relations are also highly significant and neither can be understood in isolation. Mark Shepherd’s Hertzian Rain (2009) project is a good example of such a system. In this piece participants wear wireless headphones which are streaming audio. They also carry umbrellas coated in foil which deflects electromagnetic signals. The ability of the participants to hear the sonic transmission is constantly being altered by both their position and the positions of the other participants. In another layer of complexity, the position of the participants is recorded by the system and the wireless transmission is adjusted in turn to progressively reveal and obscure the nature of the transmission. This excess of parameters creates “unpredictable feedback loops”\textsuperscript{xviii} as part of the system. Within Hertzian Rain, the participants, objects and connections all play an active role in modifying, creating and altering the experience of the installation. In fact, the act of hearing the sound in headphones is just one point of meaning within the system, rather than the crucial one. The experience is shared across the semantic content and infrastructural affordances of the network.

Marc Tuters\textsuperscript{xix} has proposed ANT as a useful break from a previous focus on psychogeography in locative media projects (see \textsuperscript{xx}, \textsuperscript{xxi}, \textsuperscript{xxii}, \textsuperscript{xxiii}). This earlier interpretation situated locative media within a context of detournement, the act of making the city new and unfamiliar. This trend goes back to the work of the situationists in the 1950s and 60s (see \textsuperscript{xxiv}) and often has walking at its heart through a focus on
the figure of the flaneur, a person (historically gendered male) who would walk through the city at leisure without a particular end point of action in mind. This figure continues to be influential, with Barber\textsuperscript{xxv} arguing that ubiquitous mobile telephony, does not reduce the relevance of the flaneur but rather allows the flaneur to exist in multiple locations at once. However, Tuters argues that the focus on individual phenomenology of space is unable to keep up with evolving complexity of networked locative media systems. He also criticises the way avant-garde situationist techniques based around play have been incorporated into a critically neutered experience of the capitalist city. I would point to the way this is frequently done through the implicit gamification of the user's relationship to site. For example, through a dynamic of power and acquisition on the Foursquare social network, multiple check-ins to a specific location over a period of two months allow you to become the 'mayor' of that site. Tuters is also interested in the ways in which ANT offers agency to non-human agents within the assemblage:

“In addition to physically locating us in relation to them, objects become positioned in relation to one another, and crucially, they become represented as gatherings of issues, in relation to which we can formulate cognitive maps. Through the careful work of representation every object could thus carry with it its own unique chains of reference, thereby revealing the substance of ‘the local’ to be composed of an endless variation of scales”\textsuperscript{xxvi}.

The resulting excess would “give voice to multiple nonhuman ontologies”\textsuperscript{xxvii}.

**EXPERIMENTAL WORKSHOP: WALKING WITH SATELLITES**

The effects of GNSS technology on embodied experience is an extremely difficult thing to explore under lab conditions. To get under the skin of how a site operates it was necessary to take our experiments out into the city. What follows is a review of the methodological experiments conducted as part of the Multimadeira artists’ residency in Funchal, Portugal. This methodology will be developed over the course of 2016 in the Barbican Estate in London; a site with a rich visual environment and architectural conditions which disrupt the smooth operation of the GNSS system.

The GNSS network uses multiple satellites to triangulate location. Each satellite sends a timecoded signal also containing a unique identifying number (UID). These signals are received by GNSS sensors in enabled devices. The UIDs and timecodes within each signal are compared against an almanac which tells the device where each satellite should be at a given time. By comparing the times and points of origin of multiple signals, the device can ascertain a location fix. This system does, however, require a line of sight between the sensor and at least four satellites. The constellation of satellites is not geostationary, but rather moving in a tightly choreographed pattern of orbits designed to provide maximum coverage to particular geographic regions. Because of the necessity of lines of sight, architecture plays a key role in GNSS coverage. It is a lot easier to get a reliable location fix outdoors rather than in. In cities such as Venice and Dubrovnik it can be difficult to get an accurate location fix because of the 'canyoning' effect of narrow streets. Here a reduced number of line of sight angles available between the device and the sky can interrupt a sense of location. Location accuracy can also be disrupted by moisture content in the air. The electromagnetic signal will move slower in damp conditions, although the network also employs corrective algorithms to combat this.

In Funchal our workshop participants were artists from a mix of disciplines who were in residence at Multimadeira. After a brief introduction to how the GNSS network establishes location, they were asked to walk around Funchal’s old town with an android device running a GNSS diagnostic app called GPS Test and a running app called Strava to map the route of their walk. These apps were intended to provide a multi-layered experience of site and provide prompts for reflection during the next stage of the workshop. After the walk, the participants were asked to write and draw their perception of the hybrid space in response to a series of question prompts:

- How does the satellite network see the space we walked through?
- How does the space we walked through look when people and satellites see together?
- A group of satellites is called a constellation, how can we re-name this constellation like our ancestors did with stars?
- What other uses could we put this network to?

The outcomes of this reflective writing and drawing exercise forms part of the workshop data along with a focus group discussion.

This was a preliminary study and the following results should not be considered in any way conclusive. However, several themes emerged from the writing and group discussion. One theme was mobility both at ground level and in space. These overlapping mobilities were felt keenly by one participant who described the experience of finding spaces which allowed maximum visibility. This process could also be quite playful. One effect discovered by this participant was to find a narrow road between buildings and seeing the active satellites on the screen form a vertical line. This experience changed, at least for a moment, the participant's relationship to the architecture of the city. These interactions also created a sense of intimacy with the satellite network. Within the writing exercise he said “I want to stay on a close track with the satellite... I want the device to report to me satellites I use - I want to be observed” (Figure 2). Another participant was more skeptical about the closeness of the relationship between participant and satellite: “like we’re seeing different things, like, yeah literally like like what the satellites are seeing is not what I'm experiencing at all, because I could have different eyes, or we have different obstacles”. For this participant the different ways of seeing (and to be blocked from seeing) was a barrier between person and satellite which could not be overcome.

Another participant described how the attention she placed on the mobile device made her more suggestible to other signs at ground level. She described a raised awareness, leading her to create signs out of events such as a man raising his arm. She took this as a signal for her to turn right. When a car pulled out in front of her she took this as a sign to stop and walk back down the street. Interestingly she described both these signs and the communication being sent and received from the satellites as
“invisible signs”. This participant’s drawn response was the most abstract collected, with the shapes suggesting circular movement or topographic ripples (Figure 3).

Figure 2: Participant’s reflective writing response suggesting a mutual act of following with the satellite network
Figure 4: A drawn response to the walk which reflects Strava’s mode of visualizing

The drawing exercise led a majority of participants to sketch their route as a GNSS trail, echoing the movement recorded by Strava (Figure 4). This raises an interesting point about the visual determinism implicit in particular interfaces. As this example shows, the way an experience is reflected on can be
driven by the ways in which it is represented. However, in future iterations I would encourage participants to avoid drawing the map so literally. To prevent this it may be wise to rethink the use of the Strava, perhaps using it as a tool for the researcher to follow the participants' movements rather than as a reflexive tool for participants themselves.

CONCLUSION

This paper introduced a theoretical framework for exploring the relationship between GPS technologies and site. This framework draws on an ANT understanding of the way meaning emerges across a network. This understanding was explored using an experimental methodology involving walking exercises and reflective writing and drawing. The methodology remains a work in progress, but, given the correct workshop design, has the potential to tease out the subtle meanings which emerge when participants engage with ground level space via a conscious combination of sensory prompts and a satellite-driven presentation of location. Planned workshop tweaks include keeping the GNSS trail generated on the walk hidden from the participants and avoiding overdetermining questions at the reflective drawing stage, perhaps instead using them as prompts during the group discussion. Future refinements of the workshop will also aim to explore the potential of the network to create new understandings of this process more deeply by speculating about alternative use scenarios of the GNSS network.

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URBAN REGENERATION WITHIN THE ZONE OF POSSIBILITY IN CITIZEN LED ‘HYBRID CITIES’

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ABSTRACT
The work reported in this paper explores the development of citizen led ‘hybrid cities’ in which social web technologies mediate urban regeneration in what we term the Zone of Possibility (ZoP). Following an elaboration of the ZoP concept, the example of the CMIR’s Stokes Croft project is given as an example to illustrate the key concepts. Stokes Croft acts as a venue for the presentation of examples and discussion of urban regeneration; showing how an unrecognized corner of a city can be constructed from the street up.

INTRODUCTION
The term ‘hybrid cities’ is not new and has been used in a similar context to this paper’s research focus by de Almei¹ and by Zilvetti and Brevi² i.e. “when the physical and the digital dimensions of reality blend a hybrid reality is formed”. Furthermore, Murphy³ proposes that the shining architectural optimism of the 1960s and 70s has ultimately produced buildings such as supermarkets, open-plan offices and other spaces that are not spaces of liberation but of control. However, Murphy also points out that the flexible, socially responsive building lives on, but in mutated form and goes on to suggest rather boldly that the Internet has replaced architecture. Architectural intention and ideology has arguably been taken over by ‘real-estate’ so in this sense, on the surface at least, it seems easier to pursue intentions surrounding proportional power positions in cyberspace. We would agree insomuch as an examination is needed of the co-evolution of hybrid concepts such as the ‘digital-physical’ and ‘power-control’ from the perspective of the hybrid city.

We are building on the above work, but for us the focus is to design for what we call the Zone of Possibility or ZoP. Helping hybrid city citizens participate with each other in groups (a Zone) calls for orchestrating social supports (via navigation and bridging aids) so that citizens can benefit from the ideas of others (Possibility). Following an elaboration of the ZoP concept below, the example of the CMIR’s ZoP Stokes Croft project (ZoP-SC) is given as an example to illustrate the above key concept.

ZONE OF POSSIBILITY
Designing for the ZoP needs to take into account the ‘reality’ of formal and informal social structures in terms of power and control in an activity system, i.e. the role we adopt or are positioned into in terms of structural relations of the power and control in institutional, cross-institutional and cross-city settings. What are the rules? How do I play the game? Who are the players? Based on a previous research work⁴ we have developed various meta-design principles to guide the development of our social web technologies. The meta-design principles capture abstract theoretical ideas and project them into the problem domain. Each has meta-design principles follows this template: Description, Theoretical background, Tips (Challenges, Limitations, Tradeoffs, Pitfalls), and Links to
other principles and patterns. Based on the ZoP theoretical idea we have developed the ‘Respect Learners’ Zone of Possibility’ meta-design principle described in detail here: http://ilde.upf.edu/layers/v/brn. The background theory is post-Vygotskian and is as follows. Positioning is viewed in recent Cultural-Historical Activity Theory as being in a systematic relation to the distribution of power and principles of control. Thus social positioning underlies practices of communication and gives rise to the shaping of identity. The implication is that a ‘subject’ inhabits a space of possibility, thus a subject would be represented “by a socially structured Zone of Possibility rather than a singular point” [4, p. 164]. Briefly, Daniels draws on the work of Bernstein [4, p. 13], who deployed the concept of social positioning to refer to the “establishing of a specific relationship to other subjects and to the creating of specific relationships within subjects. He relates social positioning to the formation of mental dispositions in terms of identity’s relation to the distribution of labour in society” [4, p. 7]. We take as our starting point Daniel’s work, who considered only people in social positioning practices. However, we extend that view to include ‘digital artifacts’ that are shared as part of learning and knowledge building activities.

Figure 1 represents many of the key concepts in the notion of the ZoP. The concept of the ZoP is at the heart of the socially structured space of positioning practices, which we extend into 3 key interrelating feature elements (the 3 circles in Figure 1). Structures, agency and (changing) cultural practices are the interrelating feature elements of the ZoP. A critical analysis of the interrelated structures, agency and practices, featuring elements of the ZoP, are summarized below.

1. Structures, including digital tools and media (bottom of Figure 1):
   - formal institutions like Universities and the BBC no longer define learning and knowledge on their own, and they are certainly no longer the only site, or even the main site, where learning and knowledge can be accessed and take place;
   - from push to pull: change of mass communication and media convergence (e.g. from pre-programmed schedules to the iPlayer);
   - individualized mobile mass communication and social fragmentation into different milieus (the growth of social media leading to person’s social environment being defined, for example, by the persona projected in Facebook).

Figure 1. Key concepts in the notion of the ZoP
2. Agency as capacity to act on the world:
   • formation of identity and subjectivity; the environment as a potential resource for learning and knowledge building;
   • different habitus of learning and media attitudes; a new habitus of learning is one of the characteristics of at-risk learners. Individualization in our society supports the development of new and informal modes of learning outside the school/university and outside of curricula. For example, schools in general are losing their ability to guide boys from lower social classes and from migrant families to successful learning within the frame of the school (i.e. they are ‘at-risk’ learners).

3. Cultural practices are routines in situations (institutional settings, be they school, university, the workplace, etc.). However, in Figure 1 we instead use ‘changing cultural practices’ to denote changes in media use in everyday life (includes informal/non-formal learning). For example, above we gave the architectural example: that the flexible, socially responsive building lives on, but in mutated form where in Smart Cities we use Open and Big Data to provide empowering data visualizations for citizens.

This triangle of structures, agency and (changing) cultural practices derives from a widened structuration theory. The original structuration theory was developed by Giddens [9, p. 1-40] to describe societal and social development as an interrelationship of pre-given structures and people’s agency to deal with their world. This bilateral interplay needs to be widened theoretically by the dominant and changing cultural practices such as the appropriation of mass media platforms (structures) like Facebook. Beside this cultural analysis, we widen and adjust the structuration theory to take account of the ongoing cultural transformation, like the use of culture for urban regeneration in Stokes Croft, which we now discuss.

STOKES CROFT PROJECT

Background
The Stokes Croft project is given as an example to illustrate the above key concepts. The ZoP Stokes Croft is a Digital Public Space that uses the concept of the ZoP to allow the people of the inner city neighborhood of Stokes Croft in Bristol to share their experiences of self-driven economic, social and cultural regeneration. The ZoP-SC project acts as a venue for the presentation of examples and discussion of urban regeneration; showing how an unrecognized corner of a city can be reinvigorated from the street up. Users can upload video clips, annotate points of interest at a specific time and location in a frame, share and discuss. In this way interesting findings and events at work or in a community project can become the focus of situated conversations.

Stokes Croft (Bristol, UK) is a self-designated cultural quarter that has developed through the hard work and persistence of a number of individuals, the city council (Heritage Lottery) investment, entrepreneurial spirit and the conditions of the wider economy:

“The area is a centre of art, music and independent shops in Bristol, with clubs such as the Croft, Lakota and Blue Mountain; the nearby music college BIMM Bristol on King Square; and numerous pieces of graffiti art. The area’s character has given rise to a group of activists and artists calling themselves The People's Republic of Stokes Croft (PRSC), who are seeking to revitalise the area through community action and public art”

Buser et al. have usefully characterized Stokes Croft in terms of place identity, cultural activism, collectivity and resistance in research that explores

“… the relationship between creative practice, activism and urban place-making by considering the role they play in the construction of meaning in urban spaces. Through an analysis of two
activist groups based in Stokes Croft, Bristol (UK), we argue that cultural activism provides new political prospects within the wider context of global capitalism through the cultivation of a shared aesthetics of protest. By cultivating aspects of shared history and a mutual enthusiasm for creative practice as a form of resistance, Stokes Croft has emerged as a ‘space of nurturance’ for creative sensibilities. However, we note how Stokes Croft as an autonomous space remains open-ended and multiple for activists interested in promoting different visions of social justice”.

The CMIR’s ZoP-SC project is an online reality layered on top of the offline, real world community of Stokes Croft, as such it a neighborhood in a hybrid city. The content of the ZoP-SC project is generated by “community reporters” - people who have been instrumental in the use of culture, activism, social resilience and entrepreneurship in the regeneration of the area. For example, a representative of the ‘The People’s Republic of Stokes Croft’, which has been instrumental in the transformation of the area, might make a video about how it finances itself through selling pottery, often bearing political messages. Another video might be about the local Tesco store. This video might provoke a political discussion about the significance of the so called Tesco Riots and the effect of supermarket chains on local grocery stores. Questions are raised from different perspectives and ‘possibilities’ arise to enter the debate. People can contribute to social discussions by using the forum associated to each video or by collaboratively adding annotations to specific frames on a video. Content can be accessed via mobile device or desktop, and from anywhere, so someone in Athens might be interested in seeing if there is any transferable knowledge in Stokes Croft.

This is a work in progress, for these reason there are a series of questions that must be answered for the ZoP-SC project to fulfill its role as a) a zone of possibility for the participants and b) a learning resource for others. This project is being co-designed with people who are involved in the People’s Republic of Stokes Croft initiative. The following questions will be discussed with them in order to develop further the ZoP-SC digital space.

1. **How should the Zone of Possibility be realized?**

   In order to create such a zone the proposed digital space will be formed by a mobile app and a responsive website. This digital space should not be authoritative. Instead it should be speculative, conditional, contestable, incomplete and in this way the local and global community can engage in a Zone of Possibility. It should invite discussion, comment, rejection, counter-proposition. We must consider the structures, agency and cultural practices, as defined above, of the participants in order to create the ZoP.

2. **How can a non-authoritative resource be useful as a learning tool?**

   It doesn’t aim to present a single perspective. It might even contain multiple opposing perspectives. It might contain stories (in a video format) of failure rather than success. It might contain only the start of stories that may take decades to conclude. One approach we are considering is that once a body of work has been created by the contributors, that material is screened at an event attended by the contributors. The ensuing discussion is recorded and subsequently added to the site, linking to the original material. In this way opposing points can be explored more deeply.

3. **Who will contribute? And, how can we build participation?**

   The participants must be motivated to create content as part of their own agenda (political, creative, cultural, personal). We propose a training day in which participants learn how to become “community reporters”. They must consider their audience and the goal of creating a learning resource. Ideally the participants will also take key editorial decisions themselves. It is expected that they should “own” and curate the project. (See Further questions below)

4. **Who are the audience?**

   The audience for the website is unlikely to be large, however the content may be of interest to several types of audience. It is to be created as a learning resource for people who are themselves engaged in urban regeneration or cultural entrepreneurship, however it may also be of interest to people who discover it (via search engines) because they are interested in the politics, the art, the music or know of the area. It has been long agreed that online audiences follow a 1, 9, 90 rule. Ninety percent of your
visitors will passively consume the content. Nine percent will comment and one percent will respond with a piece of media. Typically, any online community will have just a handful of contributors.

**Proof of concept**
An already existing generic ZoP app allows you set up a Digital Public Space using Android devices. Users can record video clips, annotate points of interest at a specific time and location in a video frame, share and discuss. The ZoP app is an extended version of an existing app called Ach So! App (Aalto University, https://github.com/learning-layers/AchSo), new features have been integrated in order to support the social aspects of the Zone of Possibility such as a forum associated to each video, and an enriched user profile section (see Figure 2). It is essentially a peer-to-peer tool that can be used to engage with a wide range of challenges from social regeneration, to work place problem solving, heritage and culture, smart cities and urban data. In parallel a responsive website (see Figure 3) will collect the video stories to give insights that aim to influence and inform people and organisations locally and globally. The video content will be organized by the community using tags, categories and annotations. These meta-data will potentially facilitate the relation of similar resources and connect people with similar interests, and this is where the Zone of Possibility will take place. On the one hand we want to explore how the ZoP app is used *in situ* by the community to create, generate and share the corresponding stories. And on the other hand, how the website is used to disseminate locally but also globally the social regeneration discussion collected in the digital space.

![Figure 2. ZoP app: current working prototype (middle & right)](image)
This is a work in progress, where a co-design approach is being applied in order to understand the needs of our community and transform these needs into further technical requirements. These needs will be partly investigated through the list of research questions described in the following section. Currently, we are having meetings with responsible persons of the ‘People’s republic of Stokes Croft’ and the ‘Bristol’s Cultural Quarter’ to develop this project further under specific grant proposals. The acquisition of funding will allow us to build a partnership with the community and build a more robust digital space to be initially populated by the members of the PRSC and in a second stage opened publically to everybody.

We are developing special releases of this digital space in collaboration with U-Soap Media (Rik Lander), to be used in the Stokes Croft Project. But also we are approaching other communities such as the Bristol International Festival of Cinematography (Sarah Sparke).

**Further questions**

Other key issues to be explored in future co-design work include the following. Curation: whose site is it anyway? And, is there a “like” system to elevate good content? Who removes poor quality content and on what basis? All curation and moderation will have to be ad hoc as it is unlikely there will be an economic basis for anyone to be paid to do this. Moderation: who removes offensive material and who deems it offensive? There are rules we can copy from other social media sites, but we would have to make sure that they didn’t stifle precisely the kind of debate we want to encourage in terms of hybridity of power and control issues in a ZoP. A passionate defence of Tony Blair’s premiership could be deemed as inciting violence. Is this any different to someone promoting shoplifting from Tesco, or arguing that fighting the police in a riot is a legitimate form of political expression? Getting the tone and practice of moderation right will be key to the success of the project. Ownership and identity: Facebook users feel free to express themselves despite Facebook being a faceless corporation with misty rules about ownership of content. The users of our underlying platform will want a sense of ownership. Legal liability, however, will rest with whoever sets it up. Funders will want a clear policy on moderation, grooming, spam, viruses and all the other issues associated with social media. Users and contributors will want to know the motives of whoever set this up. Partnership: a project in Stokes Croft will need the buy in of the major local players. Exit strategy: is this project finite or open ended? This needs to be established from the start.
CONCLUSIONS

Beyond the Proof of Concept version of the ZoP-SC website we envisage the creation of the fully developed ZoP Stokes Croft website in which content is added, discussed and explored by workers and citizens in our Hybrid City’s Zone of Possibility.

To conclude our main research goal from this project is to explore how the specific interrelated structures, agency and practices, featuring elements of the ZoP model emerge from the use of the ZoP-SC digital space. The corresponding analysis will allow us to identify specific modes of use (i.e. Creation and production of resources for urban/social regeneration, Curation, Ownership and identity, Partnership, Exit strategy) this will be transformed in recommendations that will allow others to replicate similar projects.

Our future plans also include that the corresponding digital outcomes (ZoP app and website) will act as a fully functioning template for the creation of further ZoP websites and apps. As stated along this paper, we are following a co-design open source hybrid realities strategy and this means that the source code of this project will be published on GitHub in order to be accessed and re-used by anyone. We firmly believe that by co-designing this ZoP Stokes Croft project we will provide citizens locally and globally with equity of access to cultural resources in a transformative and hybrid social context.

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CHALLENGING TIMES: THE CITY OF GEELONG’S NASCENT “SMART CITY” STRATEGY

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INTRODUCTION

Many cities in developed countries around the world whose economies once hinged on the manufacturing sector are now experiencing substantial economic decline and job losses, as manufacturing moves offshore and replaced with knowledge and service-based industries.¹ The Australian city of Geelong, located about 75km from Melbourne in the State of Victoria and with a population of over 180,000 people, is currently undergoing this process. Like cities such as Detroit, Manchester and many others, Geelong has traditionally relied heavily on the manufacturing sector for economic growth: manufacturing accounts for approximately 43% of its output while services account for 56%.² In recent years jobs have steadily vanished from this sector, meaning that the city must now invest in reskilling workers and restructuring its economy to remain successful in the future. Led by its charismatic mayor Darryn Lyons, elected in November 2013, the city council embarked on an ambitious ten-year digital strategy to transform Geelong into a 21st century “smart city” and “knowledge economy”. In a trend similar to other cities of comparable size or economic background – such as Hamilton, New Zealand or Bristol, United Kingdom – the local government, led by a newly elected political outsider, embraced “smart”, networked technologies and infrastructure as a solution to the city’s problems. In this paper, I examine the context around this vision and the key strategies that are being put in place to support it. I then outline some of the challenges confronted by Geelong as it seeks to reform and revitalise its economy over the coming decade through investment in digital infrastructure. I argue that such visions risk exacerbating the problems that stem from the top-down, technocratic approach of “smart city” planning identified by scholars and commentators, by imposing them on cities politically and economically unprepared to realise and sustain such long-term reforms.

FROM FACTORY WORKERS TO “DIGITAL DISRUPTION”

Geelong’s manufacturing industry has been in decline for many years, but over the past decade this has accelerated as numerous manufacturers once central to the city’s economy have moved their operations offshore. The impending closure of Ford – one of Australia’s largest automotive manufacturers – has had the most substantial impact, along with factory closures and downsizing and associated job losses in steel, aluminium and engineering maintenance plants.³ As Keneley et al note, these closures have a significant domino effect on businesses in the region: the city is built around a “small number of relatively large manufacturing concerns that in turn support a large number of much smaller businesses.”⁴ Geelong is also home to the headquarters of several major Australian retail companies, primarily specialising in clothing. Retailing, Keneley et al note, represents a “variable case” in the city’s economy.⁵ While the city has had two new retailers open up head offices in recent years, during the same period retail giant Target Australia announced massive cutbacks and job losses. The overall economic picture for Geelong, then, is quite mixed: characterised by a steady decline in the manufacturing sector, albeit not as drastic as that experienced in cities internationally (Detroit, for
instance) and partially offset by gains in other sectors. As Keneley et al state, while not everyone to lose their jobs in manufacturing is guaranteed to be re-employed elsewhere, “the regional economy is capable of restructuring and continuing to grow into the future.”

Against this troubled economic backdrop, the local government, City of Greater Geelong (CoGG), embarked on an ambitious plan to restructure the city’s economy, led by charismatic self-made multi-millionaire Darryn Lyons. Lyons’ election in November 2013, as journalist Ben Potter notes, occurred against all odds. Lyons, an entrepreneur, was a political outsider until he overthrew his more established challenger (who had the backing of the business community), largely due to a successful social media campaign. “Lyons…changed the tone in City Hall”, Potter writes, “Now he’s on a crusade to change the city.” This involved transforming Geelong from a stagnant, industrial “sleepy hollow” into a sleek, high-tech “21st century smart city”. Lyons’ flamboyant style is evidenced in the cinematic, 2-minute tourism commercial produced by the council and posted on YouTube in 2014, titled “Geelong Reinvented”. The advertisement opens with actors in period costume working on farms and in shearing sheds, accompanied by a dramatic voice-over describing the city as “a town with a proud history, forged on…the blood, sweat and tears of those in the thriving wool and manufacturing industries.” The advertisement then depicts Geelong in the present, populated by zombie-like figures roaming empty, abandoned streets. The narrator continues, “but something changed…the city became tired, and it fell on dark times.” Lyons then appears on a horse, garbed in traditional mayoral attire and carrying a staff which he uses to strike the ground, releasing a shockwave that blankets the city as the narrator declares “just as all hope seemed to be lost, a new day approaches. The people of this once great city are arising and saying ’no more!’”

Figure 1: A still from the ‘Geelong Reinvented’ advertisement depicting the city’s residents as zombies (Copyright City of Greater Geelong)
The advertisement goes on to showcase the city’s cultural and environmental attractions rather than promoting its future as a smart city per se. But it highlights the narrative behind the city’s vision, in which one larger-than-life figure (Lyons) is depicted as waking the city up from its economic decline and stupor. This rather entrepreneurial approach is echoed in comments by Lyons himself: “you’ve got to get off your bloody arse, and you’ve got to go out, and…do it yourself. Stop the dependence on society, stop blaming governments and officials.”9 The framework put forward to encourage this is outlined in the Digital Geelong report (published mid-2015). It contends that, to thrive economically, Geelong must “transition to a nationally recognised digital economy” and become a “smart 21st century city”.10 The report recognises this will not be an instantaneous transition – it is framed as a “reference for Geelong’s digital direction over the coming decade”11 – but it does lay out an extensive list of initiatives to help residents, businesses and the council itself to realise this quite radical transformation. The report is structured around 30 recommendations, which each correspond to one or more of three “focuses” of the report: internal (within the City of Greater Geelong itself); the wider community; and local businesses. The first focus primarily centres on reforming the council by shifting to digital-by-default for its services: “maximis[ing] the efficiencies and benefits available from digital technologies – at a time of pressure on public finances – to deliver even more value for money and impact to Geelong.”12 In addition, the report also recommends a “bring your own device scheme” for staff, “saving the Council having to refresh equipment – potentially very cost effective.”13

Alongside these cost-cutting measures, the report also recommends opening up its archives, data and decision-making process to public participation and engagement. The report ambitiously states the council’s “aspiration…to be the first platform-based, digital and genuinely data-driven council in [the state]” and desire to establish a “new frontier in Australian democracy” by crowd-sourcing ideas from citizens through e-government initiatives.14

At the community level, perhaps the most prominent theme of the report – echoing the rhetoric espoused by Mayor Lyons – is lifting citizens up out of their state of disillusionment and equipping them with the skills to compete and succeed in the digital economy. The digital strategy aims to “make all communities in Geelong digital savvy”; ensure the city has “a deep pool of digital talent”, “fewer ‘digitally excluded’” and “a smart council determined to maximise the digital opportunity”. The report supports this push by citing a Pricewaterhouse Coopers study that shows “where the proportion of the ‘digitally included’ rises in a society by 10% GDP rises by 1%” in turn.15 It outlines a number of practical strategies, such as library workshops and a “digitalskillsgeelong” website, aimed at upskilling residents and workers. It even proposes a “Digital Geelong mates scheme” where volunteers from the community “give their time to help people learn basic online skills as well as using online government services”. This is in addition to a “Geelong Digital Festival or Geelong Digital Day” to “celebrate and promote all things digital”, offering awards to a “digital neighbour” or “digital learner” of the year.16

This enthusiasm for the transformative potential of digital technologies is echoed in the report’s local business focus, which identifies a number of strategies to attract new businesses and support existing ones transition to digital. These include upgrading and modernising the city’s networked infrastructure (namely WiFi, mobile and high-speed broadband); offering an attractive locale for businesses and start-ups wanting to set up in Geelong, thereby drawing in the coveted 24-35 year old “knowledge workers” demographic; and providing support to business who have so far been reluctant to embrace “digital disruption”. Lastly, it suggests placing Geelong on the map as a city invested in smart technologies and analytics, by aiding Deakin University to offer courses in “big data” analytics and establishing a “Data Research Centre for Smart Analytics.”17
ISSUES AND CHALLENGES IN GEELONG’S DIGITAL STRATEGY

Geelong’s ambitious transition is still in its infancy. It began with the election of Lyons as mayor in November 2013, propelled by his bold (if not universally embraced) vision of Geelong’s resurgence. Then, following the release of the Digital Geelong report and the council’s endorsement of the city’s digital strategy in the first half of 2015, the city has only recently begun to implement the many recommendations of the report – including some that will take several years to come to fruition. As such, it is difficult in these early stages to pass comment or judgement on the vision proposed by Lyons and the Digital Geelong report or its implementation. With this caveat, however, I would like to offer some interpretations based on my research about the likely challenges to be confronted by the city as it rolls out this strategy: as well as how these fit into the broader challenges confronted by cities embracing the elusive “digital future” promised by new technologies – particularly small or medium-sized cities on the periphery of their country’s economy. I identify two key challenges that have already become evident in the early phases of the plan. These are drawn from my analysis of the literature and governmental reports, as well as several semi-structured, recorded and transcribed interviews with various individuals tasked with implementing the report’s recommendations. I then examine the longer-term challenges confronting Geelong’s digital strategy, which serve as a cautionary tale for comparable cities embarking on a similar trajectory.

A high-tech strategy imposed from above

The first issue facing the city of Geelong is how this vision is going to be translated from a broad promise into a series of initiatives delivered across multiple levels and departments of government. While Geelong’s local government is quite centralised politically, with the mayor effectively setting the agenda and organisations following it, strategy impacts on and must be implemented by a vast array of organisations, bureaucracies and stakeholders, all at different capacities and stages of preparedness. And all of this during a “time of pressure on public finances”, as Digital Geelong doesn’t neglect to mention.18 Andrew Downie, Manager, Digital Information and Technology for the City of Greater Geelong who is responsible for the rollout of the city’s digital strategy, provides one example of how this has proven problematic, particularly in the case of cooperation between the public and private sectors. He describes a project aimed at providing an application for tracking the city’s public transport in real-time. He notes how the task of providing tracking information for the city’s bus service has been made problematic by the mix of different public organisations and private operators who run them. He has had to negotiate across these disparate organisations and sectors to determine how many buses are fitted with transponders and if they can release that data all on one platform. In another planned project, Downie would like to provide an application mapping free Wifi services in the city, which in turn offer “a very rich dataset in terms of where people are travelling in the city”. This involves requesting McDonald’s and Gloria Jeans (a cafe franchise) to link their services with the city’s and provide information like foot traffic outside their stores. But first he must convince these companies to give up this information in a way that “doesn’t devolve their own retail IP”, meaning they will only do so if they see a benefit in it for them and their customers, not just the city.19 So implementing all the finer details of the strategy – open data, analytics, real-time tracking information – becomes much more complex when it comes to realising them on a practical level.

This process is made all the more problematic when considering that the city’s digital strategy is being imposed from above; numerous, diverse organisations are required to adapt to and implement it at the
micro scale. This is perhaps most evident in the new, high-tech AUD45 million Library and Heritage Centre (see Figures 2 & 3 below). The Library itself is governed by the Geelong Regional Library Corporation (GRLC), an organisation that covers four municipalities including Geelong and surrounds, whose various council members sit on its board. The GRLC’s funding comes from the councils and State Government, various grants and a small amount of income generated itself. But Cathy Ferencz, Executive Manager of Collection and Technologies Access for the GRLC, confirms that the Library and Heritage Centre is very much enmeshed in Geelong’s transition into the digital economy. She states, “Geelong [is] going through a huge change at the moment from a manufacturing base to a knowledge economy; that’s where the council’s taking us. That’s where Deakin University’s taking us, and so the public libraries have to support that.”

She notes that the decision to combine the library and heritage centre – a previously separate body responsible for archives about the city’s history – came from above. This has some advantages: previously the collection was split over five areas across the state of Victoria, but now the entire collection is in one central location in Geelong. But at the same time, the plan to digitise the collection cases complications for the library’s management system which “doesn’t manage archive records very well”; and conversely the heritage centre staff must themselves adapt to working with digital collections, despite “not [being] used to that level of technology at all”. Even more troubling is that while the library is closely integrated into the city’s digital strategy – providing work spaces and meeting rooms for businesses and start-ups, offering workshops on how to use tablets and mobile phones for citizens – the library’s performance is still evaluated based on outdated metrics. Ferencz says, “councils tend to want to know how many books were borrowed, how many members you have and how many people visited the library…there's a huge number of people that visit the library that don’t come to the library to borrow a book, but they might use the library twice a week, three times a week” for open lectures or multimedia. Yet despite this being central to the library’s ‘new role’, the government statistics don’t recognise this. “They don’t want to know anything else…it’s just so unfortunate, because that’s not where the value lies.”

This highlights a disjuncture between the strategy’s rhetoric and the practical measures used to implement and assess the success of its vision. It demonstrates the need for a more cooperative, two-directional implementation of the strategy rather than a grand vision unilaterally handed down from above with the expectation that it will be seamlessly implemented.
Figure 2: Façade of the Geelong Library and Heritage Centre building (Copyright Sydney Morning Herald)

Figure 3: Interior of the Library and Heritage Centre (Copyright John Gollings, 2015).
**Geelong as a “smart”, global city?**

The problem of coordinating Geelong’s digital strategy across multiple bureaucracies and public and private organisations is complicated even further by the fact that Geelong is effectively starting from scratch when it comes to smart city infrastructure and services. Andrew Downie makes this clear when he acknowledges that the only data being collected by the city in late 2015 was “early [stage] pedestrian counting)” and “survey-based or old fashioned data collection.”23 Likewise, while Downie was in the negotiating stages of smart city initiatives at this time – a “smart home health project” providing assistive technology in the homes of elderly people, smart street lighting, smart rubbish collection – these will only be in the pilot stages by 2016, with several more years before they are widely implemented. As such, Geelong is still a considerable distance from being a “smart” or “sentient” infrastructure and sensors producing even the most basic datasets and analytics that are already standard in many other smart cities around the world. Despite this, *Digital Geelong* is already positioning Geelong as a competitive global city. An interesting recurring theme throughout the report is Geelong’s rivalry with nearby state capital (and Australia’s second largest city by population and GDP), Melbourne. The report proposes “market[ing] Geelong as a networked community and as the ‘competitive edge’ of Melbourne”; positioning Geelong to “exploit” Melbourne’s growth as Melbourne becomes Australia’s largest city over the next 25 years; and competing with Melbourne” for the “dream demographic” of 25-35 year olds.24 Given that Melbourne is already well underway in smart city initiatives – with real-time pedestrian counters in place since 2009, numerous participatory planning initiatives underway and a newly appointed “chief digital officer” to head the city’s “smart city office” – it is difficult to see how Geelong can catch up to, let alone compete with, its much larger rival in this regard. As numerous theorists have pointed out, smart city initiatives also tend to be extremely technocratic, top-down and vendor-driven, consisting primarily of generalising promises made by corporations like IBM, Cisco and Intel which are by their very nature impractical to implement. This raises the question: how is Geelong, a relatively small city in a country already marginal to the global economy, going to attract investment in smart city projects that even in the most “successful” cases (Rio de Janeiro, New York) don’t always live up to the rhetoric surrounding them? There is a considerable risk that Geelong is biting off more than it can chew, investing vast amounts of funding and resources into projects that are more rhetorically attractive rather than inherently beneficial for the city’s economy or management.

**THE PITFALLS OF AN ENTREPRENEURIAL APPROACH TO CITY PLANNING**

These concerns are potentially exacerbated by the specific context in which Geelong’s digital strategy was formed: the election of a popular, eccentric mayor of a small-to-medium-sized city who promoted the approach as a solution to the city’s economic woes. The approach taken by Lyons – and reinforced by the language of the digital strategy – is, befitting Lyons’ background, that of an entrepreneur. In this approach, the local council arguably becomes something of an entrepreneurial investor, identifying new trends and technologies and financing cutting-edge initiatives with the aim of rebooting industry and building up the city’s attractiveness to outside business.26 This theme is echoed across Lyons’ public comments, the “Geelong Reinvented” advertisement and the recommendations of *Digital Geelong* alongside numerous other internal digital strategies in the region.27 Residents and workers in the city will be guided through the process and provided with the material resources and infrastructure they need to enter the digital economy. But there is an underlying assumption within this approach that citizens will, first, wilfully follow this plan, and then find their own way once the
infrastructure has been built and the economy “transitioned”. Council will pave the way and provide the framework, but ultimately Geelong’s citizens must craft their own future within this landscape – “do it yourselves” and “stop the dependence on…governments” as Lyons says. This is the figure of the entrepreneur *par excellence*: a highly charismatic, persuasive figure seemingly at the forefront of innovation, who embraces a new technology or trend, convinces investors to bankroll their project, then moves on to the next big thing.

The problem with this approach for city planning is that cities cannot always be governed effectively this way; they require visions and models for their future to be followed through, not begun and abandoned whenever a new political leader comes onto the scene. In the case of Geelong, the precariousness of this approach has already been exposed. Lyons stated soon after his election that he wanted “several four year terms, just to make sure” his plan is followed through. But in April 2016, the State government sacked the entire City of Greater Geelong council – including Lyons and 12 other elected councillors – following a report that exposed endemic bullying of council staff, a dysfunctional leadership structure and persistent breaches of Code of Conduct by councillors. An administrative government was put in place until fresh elections are held in October 2017. A statement from the State Minister responsible for local government described the council as “riven with conflict, unable to provide a long term vision for the city and lacking the leadership required to manage Geelong’s major economic challenges.” Lyons’ dismissal had nothing to do specifically with the popularity or rollout of the digital strategy, and the strategy will continue to be implemented by council staff under the State Government-appointed administrators at least until 2017. But it does provide some lessons for any small or medium-sized city seeking to invest on a wide scale in smart, digital technologies as a long-term vision for their future and economic recovery. Given that these visions require many years – possibly even decades – to be fully realised, they require political leadership and broader support to sustain them. In major, globally-connected cities with diverse economies the risks associated with large-scale smart city investment not being followed through are smaller. But for cities such as Geelong, when their economic future is dependent on the success of these projects and they are being driven by individual leaders at the mercy of the election cycle, the chances of, and risks associated with, them being abandoned are greater. This is particularly the case when eccentric, high-profile political outsiders promote them, fail to live up to their promises and lose office – as happened in Bristol when the independent charismatic mayor George Ferguson, elected partly on a similar platform of making the city smarter and more sustainable, lost office in May 2016. The policies are abandoned or altered, and in the case of long-term visions that involve substantial investment in digital infrastructure, education and training this can have a detrimental impact on the city’s economy; even more so when it is already in decline.

**CONCLUSION**

The aim of this paper has not been to suggest that Geelong’s strategy to become a high-tech “smart city” is unrealisable or doomed to failure, but rather to highlight some practical and conceptual considerations for any city pursuing a similar approach. First, it is necessary to separate the often celebratory rhetoric around “smart” technologies and their integration into the urban environment (often fuelled by technology vendors rather than empirical evidence) from the material benefits they can offer. For cities such as Geelong, city planners and policymakers must assess the obstacles to implementing these technologies, particularly when they have no existing infrastructure or expertise in place to manage them. They must also determine whether the actual benefits of those technologies are
worth this investment and the technical and organisational restructuring required to operate them, or if funding would be better spent elsewhere. The case of Geelong hints at the possibility that if such visions are embraced for short-term political popularity rather than as long-term strategies with broad underlying support, they risk becoming potentially very costly failures that do little to address the systemic problems facing the city’s future. The strongly entrepreneurial undertone of such strategies is also fundamentally at odds with the needs of cities in general, and medium-sized ones in particular. Cities require flexible, engaged policies to manage challenges as they arise and evolve; not cost-cutting measures and laissez-faire policies disguised as long-term visions for economic growth. As this case study demonstrates, then, the optimism for “smart” technologies and digital infrastructure must be met with practical considerations of its implementation and benefits. This is especially the case in smaller-scale cities where personality politics and the political cycle considerably raise the stakes for citizens already under pressure by economic transformations beyond their control.

2 Monica Keneley, Bill Dimovski and Shaun Stevenson, An Assessment of Structural Change in the Geelong Labour Market (Geelong: Deakin University, 2014), 17.
5 Keneley et al, An Assessment of Structural Change, 16.
7 Potter, “Fall and Rise of Geelong”.
8 See the advertisement at https://www.youtube.com/watch?v=aTZkob0Dmo0
9 Quoted in Potter, “Fall and Rise of Geelong”.
10 City of Greater Geelong, Digital Geelong: A Digital Leader in Victoria (Geelong: 2015), 2, 27.
11 City of Greater Geelong, Digital Geelong, 7.
12 City of Greater Geelong, Digital Geelong, 7.
13 City of Greater Geelong, Digital Geelong, 16.
14 City of Greater Geelong, Digital Geelong, 16, 19.
15 City of Greater Geelong, Digital Geelong, 21.
16 City of Greater Geelong, Digital Geelong, 24.
18 City of Greater Geelong, Digital Geelong, 7.
19 Personal correspondence, 9 Nov 2015.
20 Personal correspondence, 9 Nov 2015.
21 Personal correspondence, 9 Nov 2015.
22 Personal correspondence, 9 Nov 2015.
23 Personal correspondence, 9 Nov 2015. Downie does also note that Geelong has the largest publicly available collection of data in the state of Victoria, including Melbourne.
24 City of Greater Geelong, Digital Geelong, 9, 11, 38.
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AMPS: Architecture_MPS journal; UWE: CMIR. 01-03 April, 2016

31 See David Sweeting and Robin Hambleton, Mayoral Governance in Bristol: An Initial Assessment of Impacts (University of Bristol, 2015), http://www.bris.ac.uk/media-library/sites/policybristol/documents/mayoralgovernance.pdf for a discussion of how the shift to a mayoral system in Bristol concentrated greater power in the hands of individuals at the expense of city services.

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EUROPE’S DIGITAL EMPIRE RISING: ART, CULTURE, AND INDUSTRY TRANSFORMED

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INTRODUCTION

Certain European cultures have had significant impact on the world. The Greeks contributed to democracy, philosophy, science, and literature. The Romans spread their signature architectural style and influenced how many civilizations designed and built cities. The Austro-Hungarians gave us Mozart. And the Spanish spread Christianity. Today, though the United States, China, and India have emerged as major players in the international tech scene, their involvement in the industry tends to be driven by commerce and less by art and culture. Europe is hub for digital media driven by art and culture, as well as industry. Because of this, it is likely that the continent will influence future trends of the global tech movement in ways that few tech professionals have predicted.

In terms of ideation, Europe is a player in the digital arena. Fresh ideas are everywhere. During my travels in Europe conducting research for this article, I interviewed tech innovators – artists, educators, and entrepreneurs – from around the continent and found that there is a lot of new there. The direction new media is taking in Europe is profound, even inspired. The continent that brought the world Roman arches, Aristotelian logic, and Eine Kleine Nachtmusik is now creating art and starting businesses with new media that may have profound impact on the continent moving forward. Two capital cities leading this wave of change and where tech innovation is thriving are Vienna and Berlin.

VIENNA: CAPITAL OF DIGITAL MODERNISM

Vienna is a city populated by creative thinkers, historically and presently. As the borders of Austria have changed over time, its cultural identity has changed. The influences from the various groups who have inhabited it – including the Celts, Romans, Ottomans, and the Germans – have stayed with Vienna. And the city has become a rich mosaic of culture, reflected in its architecture, visual art, urban landscape, music, and, presently, digital media.

The Viennese intelligentsia and artists think outside of the box in ways that other people in Europe, in or out of the vanguard, do not. The Viennese have done so for centuries. In particular, during the period of 1890 and 1918 Vienna Modernism was a progressive movement in art and literature that produced prominent avant-garde artists and thinkers, who had impact on the direction of art, science, and literature globally – including the philosophy of Ludwig Wittgenstein, the constructivism of scientist Wiener Kreis, the architecture of Adolf Loos, and the expressionistic writings of Hermann Bahr. “Modernists in Vienna focused inward and tried to understand the irrationality of human nature.”

The Viennese aim to create things that are different, weird, and strange, and they integrate them into the lives of the people and the culture of the city. They did this when Baroque was different in the 18th century, when Beaux Arts was weird in the 19th century, and when Modernism was strange in the 20th century. And while artistic expression in Vienna was stymied during the times when wars were fought on its soil – notably the Napoleonic Wars, World War I, and World War II – culture always seemed to
flourish in society once the invaders left. With digital media in the 21st century, culture is flourishing again. Vienna is currently a hotbed of innovative applications of digital media in art.

Experiential tech-art

To the Viennese, avant-garde vision is something that should inspire everyone – the grocery clerk as well as the arts aficionado. And it does. Vienna’s museums are exhibiting new media art that is scintillating and expensive to produce. The exhibitions are made possible, in part, by industry partnerships, making it available to a wide audience at a modest ticket price.

On a visit to Mumok, the contemporary art museum in the Museums Quartier Wien (Museum Quarter Vienna), which is one of the largest and most influential art and cultural complexes in the world, I experienced firsthand how digital media in museums can be emotionally transformative. As I describe in more detail later in this section, I interacted with color, light, and physical forms – all part of art works made of technology: hard drives, light panels, software, sensors, and other tech components. By touching the art and triggering a sensor that would play a sound, or walking around the art and intercepting laser beams that would produce a color change, or speaking to the art and watching it grow or shrink in size, I had an emotional experience that was unexpected and positive.

Mumok appears as a gray blob of a building in the middle of a courtyard covered in pavement stones, where once the royal horses of Emperor Charles VI pranced in and out of imperial stables. The building’s unusual forms and stone façade visually communicate that something out of the ordinary is housed there. In size it is not large, like the Museum of Modern Art in New York City or the Centre Pompidou in Paris. However, in stature it is important. “The exceptional collection and the pioneering exhibitions and events have given the museum an excellent international reputation so that compared to larger institutions it is a jewel.”

Because of the museum’s moderate size, you can see all of the exhibitions in a single visit. At Mumok, museumgoers have the opportunity to view the art, ponder its meaning, and discuss it with friends, all within a few hours. As you walk around the museum, the art is experiential. The art has broad appeal, and attracts a varied demographic of museumgoers – young, old, culturally minded locals, and curious tourists. The art is not on display behind glass cases or velvet ropes, so it is accessible, which is important for interactive works. The experience of viewing/experiencing the art is at first emotional, then practical, as you work to understand why the digital artwork is impactful. But most museumgoers forgo a belabored assessment, because the artwork that engaging. Feeling it trumps thinking about it.

The tech-art on display at Mumok is evocative in its interactivity and sensuality, providing the museumgoer with an experience of emotional depth that begins with a physical interaction with the technology: touching panels, intercepting lasers, triggering sensors. But the whole museum experience encompasses so much more than physical interaction. So, why would either the average or seasoned museumgoer not assess or analyze the experience, and be okay with feeling it. The answer may come from author Marcia Ann Dobres, who describes technology as a “decidedly cultural and human phenomenon that encompasses far more than the physical transformation of the physical world from one state to another.” At Mumok what begins as an experience in the physical world evolves into an emotional transformation within the museumgoer. By experiencing the art, you are satisfied. The artwork has done its job. It has moved you – as you moved around it, with it, and sometimes in it.

Marcia Ann Dobres also defines technology as a “verb of meaningful social interaction and sensuous material engagement.” During my visit, I walked around large screens suspended from the ceiling, on which were projected sexually suggestive images that had been photographed at bizarre angles. I put on headphones and listened to soundscapes that accompanied frenetically edited video footage displayed on television monitors. The audio and video components were intentionally incongruous: synthesized, atonal sound along with close-ups of people lounging scantily clothed on the beach. And I
looked at the screens of computer monitors displaying oversized human eyes. Technology prompted me to act, to interact with the art. Technology produced meaningful interaction.

A New Modernism
The art prompted self-reflection. I thought about what was on display in terms of my own life experiences. And at moments I may have thought my memory was fooling me. I have lounged on beaches before and thought what I heard was the sound of ocean waves. When in actuality what I heard was the cacophony of the people all around me – couples fighting, children wining, and teenagers shouting. I have looked in the mirror and thought I saw my entire face, but what I was really focused on were my eyes and how brown they were. The experience at Mumok made me rethink my memories – moments and even days after seeing the art. Technology made the art experiential. Being experiential, the art had lasting emotional impact on me.

Self-consciousness was at the core of Modernism in Vienna at the turn of the twentieth century, and it is part of the digital art experience at Mumok in Vienna today, making for a new kind of modernism, what I will call digital modernism. The city’s past informs this new modernism, giving it historical depth. Digital modernism is not a trend in Vienna. It is a way to inspire people, who by their nature seek what is new. Mozart, Freud, and Klimt created new in Vienna. And Poet Ezra Pound, a Modernist, put forth that we need “a greater levity, a more befitting levity, in our study of the arts.” On display in Vienna today is artwork that is refreshing and exciting. But more importantly, it has taken on greater levity because it is digital. Digital content – that is content created with binary code – lasts forever, ostensibly. But the levity here is not eternity. The levity is authentic artistic expression made relevant by technology.

BERLIN: CAPITAL OF DIGITAL FUSION

Berlin, Germany is a city that has been undergoing a cultural, economic, and political renaissance since the Berlin Wall fell in 1985, and its east and west sectors were unified into a single metropolis. I visited Berlin in the early 2000’s, and I felt then that it was a city in search of its future. On my recent visit for this research, I felt Berlin was a wonderfully patchy place, where new meets old, new struggles with old, and new is trying hard to redefine old.

The city no doubt has a tumultuous past. It has been the capital of the Holy Roman principality of Margraviate of Brandenburg, the Kingdom of Prussia, the German Empire, the Weimar Republic, and the Third Reich. In the 1920’s, as the third largest municipality in the world, Berlin was a center of cultural fusion: high society integrated with decadent bohemianism. For four decades, post World War II, the contrasting political ideologies that controlled East and West Germany bandied for international recognition, each asserting that their way was the right way to lead Berlin. There was international concern that the political games being played there would compromise the future of this once notable metropolis.

Though the scars from cold war division remain today – pock marks on buildings from WWII bombs, a public transit system that lacks citywide connectedness, and abandoned warehouses in the east that are a reminder of a failed economy there – there is remarkable resiliency in Berlin, zeal to move forward, and viable plans to do so. Germany’s scheme for a twenty-first century Berlin is focused in large part on the reinvention of the city’s economy into one that is tech-based. Industry leaders for years have believed that a tech-based economy could make Berlin a leader in digital media in Europe, and perhaps around the world.
Technological eclecticism
Berlin’s unique blend of then and now is apparent in its approach to digital media, or rather its approaches to digital media. Digital media is many things in Berlin. It is technology, art, commerce, education, and lifestyle. Digital media is bringing together high society and bohemianism, again, and creating a new economy. The digital scene is flourishing with visionaries. And a lot of this has to do with Berlin’s history, specifically and ironically the years of division during the Cold War: “Because of its isolation during the Cold War and the fact that West Berliners were exempted from the military draft, the city has long been a magnet for artists and counter-culture types. It’s a cheap place to live and work (though less so), and offers a vibrant nightlife for young techies.”

The economic engine created by technology brings together partners from industry, the private sector, and government to both build and benefit from the city’s tech future. By design, partnerships that begin in the public space can transfer into the private space. That is, companies can obtain private investment after seed money has been provided by a governmental or educational grant. And there seems to be more time to develop projects than in Silicon Valley. In Berlin funding comes to projects over a longer period of time, different than just the three to five rounds typical in Silicon Valley. This longer gestation period means that entrepreneurs can experiment without losing their shirts. The all-or-nothing paradigm of Silicon Valley is absent in Berlin. Tech CEO’s seem less concerned to go public than to get it right and produce quality.

An economic engine for Europe
Berlin takes risks. It seems that risk has always been woven into Berlin’s social fabric, integrated into its businesses strategy, and part of its history. “[Berlin] was known as Elektropolis because of the profusion of electrical gadgets being invented and developed by Siemens and AEG, which were both rooted in the city. The electric tram and electric lifts were two inventions which originated there.”

In 2013 Berlin was viewed as the startup ecosystem in Europe. That year it raised more investment capital for startups than London, which up to that point had been viewed as the hub for EU tech startups. In 2015 the situation in Berlin was stronger. “The digital sector accounted for 4.2 percent of Berlin’s gross domestic product, or €3.9 billion annually.” However, even with Berlin’s progress, European industry insiders still viewed the tech scene in London – with its close ties to Europe’s financial sector and its ostensible lack of language barrier with Silicon Valley – as the capital of tech east of the Atlantic Ocean. Then, the United Kingdom voted to leave the European Union in June 2016. With this vote, a referendum commonly known as Brexit, it seems that London will be more the economic capital of Britain and less that of Europe. And Berlin’s position as the leader of the tech industry and the “startup capital of Europe” seems inevitable.

More and more Berlin is being considered the “jewel in the crown” of Europe’s tech industry. However, even with all the optimism about Berlin, it still lags behind Silicon Valley significantly in creating mega platforms like Google, Apple, and Facebook, the likes of which are necessary to be a worldwide tech giant. So, all of us who are interested in where tech primarily will be situated in Europe watch Berlin with both excitement and incertitude.

Berlin’s international unconference
The players in Berlin’s tech scene are many. They are entrepreneurs interested in Berlin as a home base for their companies, media artists creating innovative art with binary code, researchers investigating unconventional applications of digital media, programmers engineering systems to reinvent user experience, and investors funding all of this. There is an annual conference that attracts all of these players. It is Tech Open Air Berlin.

Tech Open Air Berlin, known as TOA, bills itself as an unconference. It is unlike any other tech conference I have every attended. It is part tech meet-up, part media arts festival, part pitch event, and
part digital media camp. And it takes place in unusual places, like a relic of a warehouse in the east that used to manufacture carpets. Professional tech meet-ups do not get much more eclectic than Tech Open Air Berlin. TOA “pushes an interdisciplinary message and a chance to connect with people from many different walks of life, all closely or loosely related to tech.”12 According to TOA founder Nikolas Woischnik, technology is “the common denominator that drives innovation in every angle of society. By connecting technologists with different disciplines, the disrupted better anticipate the future and technologists better understand the world they change.”13

The list of invited speakers is large and varied. During the conference I attended, the list included representatives from American tech companies Kayak and SoundCloud; a robotics engineer from France who wants every family to have its own, affordable, three-foot high robot; a Swedish company whose engineers have created wearable technology devices that are as functional as they are fashionable; educators who want to revolutionize mobile education; philosophers who believe that the successful online experiences are transcendental; reporters in search of a scoop; and, a German company capitalizing on beacons – devices that track location via GPS coordinates – in business customer service.

Tech Open Air is a microcosm of the fascinating tech scene in Berlin. In Berlin innovation is happening and excitement for it is mounting. Albert Einstein, a Berliner by birth, has been described as “daring, wildly ingenious, and passionately curious.”14 The same can be said of digital media in Berlin.

CONCLUSION

Existentialism traditionally emphasizes the existence of the individual person as a free agent determining his or her place in the world through free will, choice, and personal responsibility. German existentialist Friedrich Nietzsche advocated for cultural rebirth in Europe. He wanted Europe to veer away from culture that he viewed as plebian and toward culture that was strongly instinctual and uniquely creative – Dionysian, he called it.15 Europe is doing this with digital media: creating artistic and social cultures that are progressive and have technology integrated into them, and reinventing economies that will carry their societies into the future.

Because of the value and pervasiveness of technology in society on their continent, Europeans are pondering if they will remain people who live with free will, or if their will will be that of their devices. They seem to open to both possibilities. And this is the key to their unique approach to tech innovation, to the rise of their digital empire.

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Citizen-Generated Contexts; Complex-social practices as extra-institutional structuring

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OVERVIEW

In this paper the authors build on an earlier unrealised proposal to create “Citizen-Generated Contexts” which was then concerned with structuring social-media use in ways that could enable citizens to both inform and interact with their local authorities: a kind of hyper-local political process before the advent of Big Society. Having since worked on various city-wide projects, and in light of the observation that we need “Social Cities not Smart Cities” (Garnett, 2012) we are revisiting the original proposal to more positively identify how future CityZens (Smith, 2016) might structure their political interactions with local government, and mayoral City Halls, using new and smart technologies in emerging Smart Cities, in order to create Citizen-Generated Contexts.

BACKGROUND

Derived from earlier work concerning "learner-generated contexts" (Luckin, 2011) the idea was developed that for a city to become “participatory” (Garnett, 2015) there also needs to be a process whereby citizens themselves can generate their own representative contexts in cities using social media, so becoming active within existing local political processes. However since the onset of “Smart City” thinking (Greenfield, 2013), the focus has been more on the implementation of city-wide information systems, rather than promoting community engagement or the collaborative use of participatory Web 2.0 technology (O’Reilly, 2002). Current Smart City models emphasise the systemic use of information technologies to create “real-time City Halls” like Rio de Janeiro which complement, circumvent or replace existing political processes with managerial ones, but do not develop, nor revitalise, local communities. Meanwhile Morozov (2013) cautions that looking to technology to “solve” practical and political problems by providing “smart” solutions is to misunderstand the purpose of culture and community and to view cities and communities merely as sets of fixed demographic indices, which can be acted upon solely by using management information.

CITIZENS AND PARTICIPATION

In the recent UK local government elections in 2012, 31.3% of registered voters cast a vote, often described as “participation” in a democracy, while 68.7% were not represented (Dar, 2013). Similar declines in voting for local elections can be found in other countries in Western Europe and the United States, meanwhile engagement in "society" through social media flourishes. Given both the current alienation from, and lack of participation in, local political processes today by (now smart-phone wielding) citizens there seems to be a real opportunity to capture relevant local stories through social media and then use them to link to, and even drive, local politics.

However smart phones usually end up being used as "fantastic technology” (Koolhaas, 1994) for amusement, diversion and time-keeping rather than also being elements of structured participatory political processes. It is curious that the Web 2.0 collection of tools, which allow for new, social, "architectures of participation” to be built, have mostly resulted in increasingly "frictionless" consumer behaviours. Morozov (2013) captures this use of technology to lower personal engagement well with the title of his
book – “Click here to save everything.” Many recent local initiatives, both facilitated by new technology, such as Meetups, flash mobs and Occupy, or inspired by deeper concerns, such as Transition Towns, both ignore & bypass traditional political processes, which continue unchanged and so lose both credibility and, increasingly, a rationale. However some initiatives like “MakeSense” currently use social media to structure the potential for digital entrepreneurs to initiate start-ups in a similar way to what we envisage with CGCs, so we are beginning to see digital initiatives which are not just self-referential but carry some political significance.

**E-ENABLING OR TRANSFORMATIONAL?**

Having worked on Transforming Education (2000-05) for the DIIES the authors have learnt to distinguish between new technology initiatives that simply e-enable existing systems and processes, which institutions have spent many years refining into functional organisational hierarchies, and those that are genuinely transformative; what Hammersley (2011) calls the clash between hierarchies and networks. Does technology offer more of the traditional hierarchical disposition of power or is it transformatively collaborative, using, for example, both the strong and weak ties of potential network effects as documented by writers such as Haythornthwaite (2009)? Our concern is that Smart Cities, with their increasingly technologically-driven implementation, overlook opportunities for any use of participatory social media, or emerging collaborative processes, unless they incorporate a "management information" model of hierarchical information use. As Weinberger (2007) has pointed out with digital information "Everything is Miscellaneous," so we could build responsive, context-appropriate solutions because any new, city-wide, information architecture is something that we now have the capability to design using network principles, rather than information usage being a hierarchical given that comes as a part of a business technology solution.

**CITIZEN-GENERATED CONTEXTS**

The authors first outlined the potential for future citizen-generated contexts, across the newly emerging digital public space, in an unseen bid to the Joseph Rowntree Trust in 2009, but never publicised the proposed model. We originally defined Citizen-generated contexts as being any "new form of organisation enabled through the social use of technologies that meets a shared purpose". However some characteristics of that earlier work (public context-shaping) were designed into the Ambient Learning City proposal for Manchester, which became part of the MOSI-ALONG project (Whitworth) in 2011. MOSI-ALONG was a JISC-funded, socially-inclusive community content project concerned with enabling local citizens to tell stories about their Manchester using various social media and new technologies, supported by People's Voice Media. MOSI-ALONG was based, in part, on a "development frameworks" approach, best described in Garnett (2014), which offers an intermediate structuring process to help in the design of next generation technology systems projects, in part to positively allow for “unintended outcomes” to accidentally emerge. The authors prior experience with several large-scale digital projects, both nationally and locally, since 2001, had also revealed that the deeper problems that need solving with ground-breaking projects are not apparent during the planning phase but emerge during implementation. Consequently two key lessons learnt during MOSI-ALONG were particularly useful for our understanding of how we might create citizen-generated contexts; metaphors and extra-institutional structuring.
1. Metaphors

Firstly, in order to shift projects from being e-enabling to transformative, it is necessary to change (or deconstruct) established language use, which, having emerged during existing practice, tends to reinforce that practice both intentionally and unintentionally. MOSI-ALONG created a new metaphor to help shift the discourse into the self-organised “ambient learning” concerns of the project. What such metaphors might be are only revealed once new projects are underway. For MOSI-ALONG (a museum-based, cross-city project focussed on object-based narratives of personal economic histories) the metaphor “Digital Cabinets of Curiosities” was eventually chosen because the precursor of public museums were private Cabinets of Curiosities; the personal curation of objects without expert taxonomies. This enabling metaphor transformed MOSI-ALONG, engaging many local participants and resulted in a festival of stories held at Manchester’s Cornerhouse cinema using social media.

2. Extra-institutional structuring

Secondly, the emerging curatorial behaviours displayed by participants in communities across Manchester, in terms of both the engagement created and the learning stimulated by using an “object-centred sociality” (Simon, 2010), also needed to be captured. People were encouraged to use social media in curating their own digital cabinets of curiosities through open “social media surgeries” held in libraries, community centres and partner organisations across Manchester. Cross-city projects, like MOSI-ALONG, whilst they have institutional partners, actually operate in "extra-institutional spaces” where there are no pre-existing rules to guide emergent behaviour. The hidden structural guidance, offered metaphorically in already existing spaces such as classrooms and museums, are largely absent. Consequently a process, Aggregate then Curate (Whitworth, 2012), was created to model this emergent behaviour. This could be described as the “extra-institutional structuring” of the learning, curation and participation that emerged during MOSI-ALONG. This also extended the idea of what context-responsive learning might become; not only the traditional consumption of content or the creation of new digital content, but also the curation of content, or digital objects. (The recent rapid rise of Pinterest has highlighted the interest in online curation, however the learning resource platform xtlearn.net, also a curation-based tool, or "Pinterest with Pedagogy", wasn’t available in 2011).

COMPLEX SOCIAL PRACTICES

Şerbu (2013) identified 3 characteristics for analysing social media use in higher educational institutions; as a social phenomena, as a learning environment and as a set of tools. These characteristics were subsequently developed in comparing alternative learning models used in the projects CROS & WikiQuals, where it was then identified that the key issue in building new social-media-based Web 2.0 projects are neither the tools nor the environments, but the "complex social practices" upon which such projects are based (Garnett, Şerbu, 2013). The authors believe that it is thinking about the "complex social practices” that should underpin the design of any new Web2.0 "social system,” such as citizen-generated contexts, which will determine the degree to which they might become transformative; assuming, of course, that the technology tools and platform chosen are appropriate to the intended design. Smart City solutions are sold as boxes of technology and tools, which completely ignore discussions around those complex social practices which might define being a citizen with rights in a city, neighbourhood or ward (Greenfield, 2012). Whilst this technological "turn-key” approach is a strength in systems development it also emphatically denies the possibility of either discussing how we wish to live in our cities, or investigating how the participatory affordances of new smart technologies might allow for a reframing of the role of citizens within the city; what we call being CityZens. We need a more considered discussion about how we can build and implement citizen-generated contexts as a part
of the broader concerns about context-shaping through context-engineering in a Participatory Smart City (Smith, 2016).

THE POTENTIAL FOR NEW DIGITAL COMPLEX SOCIAL PRACTICES BEFORE THE SMART CITY

In Smart Mobs (2002) Rheingold argued that the emerging use of smart phones would create smart mobs; "ad hoc, self-organised networks of grassroots users of inexpensive, high speed, wireless Internet communications, (who) challenge existing technologies, regulatory regimes, and industries." Whilst being a useful descriptor of how "citizen-generated contexts" (CGCs) might operate in practice this description is as yet unrealised. The main reason for that may be that Rheingold was describing i-phone inspired behaviour. The Japanese i-phone had a different network architecture, being designed to allow self-organised (mesh) networks to be created on the fly, whereas the later Apple iPhone is a resolutely proprietary "closed garden" which limits the very self-organising potential Rheingold had earlier highlighted and celebrated.

In Brighton Proboscis were showing that proprietary mobile phones, with specially created Java-based apps, could be designed as a tool for participative engagement across the community in Urban Tapestries (2002). Proboscis was designing for a personalised, informative, digital graffiti, which were posted to a local information commons built by Hutchison Telecom. However this was a proof of concept research project that wasn't embedded full-time across Brighton and now looks like a missed opportunity. As Greenfield points out CISCO's definition of the Smart City is "the seamless infraction of public and private services, delivered across a common network architecture, to individuals, governments and business;" in other words the e-service (treating the city as a business information system) delivery of public services.

So, even before we examine the "complex social practices" needed to create CGCs we find that some of the tools required are disabled from helping create this behaviour, whilst others were never adequately developed, throwing greater weight on the design of any mediating platform that might be used as part of any future citizen-generated contexts process.

COMMUNITY ENGAGEMENT AND ARCHITECTURES OF PARTICIPATION

Ecclesfield (2009) has argued that the key to the development of any public service, such as education, is the engagement of communities and the wider public in defining and developing the purpose and expected outcomes of policy. Whilst Moore (1995) argues that the definition of “public value” should rest with the relationship between politicians and senior staff working in public services, Ecclesfield thinks that decisions about the value of public and other services needs to rest with communities who are enabled to both participate and make informed decisions, using technology; a broader, networked view of public value as part of new organisational Architectures of Participations (Ecclesfield, 2008).

Moore’s model of public value is one that is “expert-led” and essentially bureaucratic, relying on the formal collection of opinion and the use of bureaucratic procedures and algorithms, Recent work by Steiner (2012) in “Automate This!” and Graebner (2015) in “The Utopia of Rules” along with earlier work by Radin (2006) and Lea (2008) set out analyses of the nature of bureaucracy using digital technology in capitalist economies to show that they create what Strathern (2000) defines as “audit cultures” where policy consultation is neither participative nor engaging; audit processes themselves becoming measures of quality.

Local government procedures have social consequences, locking up time, personnel and resources, as well as plugging into the moralities of public management; whilst audit practices often seem mundane and inevitable parts of a bureaucratic process. It is when one starts putting together a larger picture that they take on the contours of a distinct “cultural artefact” (Strathern, 2000). This process - the gradual fusion of public and private power into a single entity, rife with rules and regulations whose ultimate
purpose is to extract wealth in the form of profits - does not yet have a name. But one can see its effects everyday: filling life with paperwork. Application forms get longer and more elaborate and "ordinary documents like bills or tickets or memberships in sports or book clubs come to be buttressed by pages of legalistic fine print" (Graebner, 2015). Public value becomes measured by the effectiveness of form-filling, the very information processing that Smart City systems are designed to speed-up.

Whilst not considered part of Smart Cities concerns the nature of the complex social practices that comprise participative community activity has recently been positively explored by Ohlin Wright (2010) in one of the few works that looks for positive examples of realised "utopian" activity, for example in mutualist self-owned cooperatives, such as Mondragon, and community-based "participative budgeting" as developed in Porto Alegre.

ENABLING NEW COMPLEX SOCIAL PRACTICES

There is also another reason beyond simple technocratic efficiency why diverse community engagement strategies are increasingly ignored (or even out-sourced) by local authorities and other political bodies; the sheer complexity of setting up new organisations based on original, participative "complex social practices". Following many years of privatising social services, as in Manchester (Minton, 2013), technocratic, privatised, solutions to local service provision have become the default. Consequently technocratic service design that can also be privatised is now the starting point for governmental policy decision-making when it comes to planning local service provision. Given that UK local authorities are also asked by central government to spend less overall, then technical solutions without citizen input become compelling; they are a more resource "efficient" method of organising local service provision. Public consultations have been reduced to asking "do you like this solution?" rather than inquiring what the solution might be (as in participatory budgeting). The opportunity for the dynamic co-creation of services with an ongoing dialogical development process, as envisaged here, is at a level of complexity beyond management information systems, so few new practices or processes, if any are being created. How, then, do we create new complex social practices that can create mediating platforms that will allow for citizen-generated contexts to emerge? We think it emerges from Civil Society; the "aggregate of non-governmental organisations and institutions that manifests the interests and will of citizens" including the "third sector of society" or "public participation (volunteering) in voluntary associations" (Wikipedia, 2016). For CGCs we think that works best by combining organisations working in the digital realm with citizen engagement strategies, such as People's Voice Media (partners in MOSI-ALONG) and social organisations acting to represent citizens, such as Young Mayor teams in local government, or NGOs, and combining their interests to develop new "complex social practices" that can be seen to represent the wishes of local communities.

CITIZEN-GENERATED CONTEXTS AS EXTRA-INSTITUTIONAL STRUCTURING

Smith (2016) argues that one difference between a Smart City and a Participatory Smart City is to have a City Hall that supports "context-engineering’ across a distributed network of interactive community nodes rather than using “real-time” management information at a single central urban control point. Technically computer network architectures allows for this design feature; we've long had Metropolitan Area Networks, Java-enabled local interactions, smartphone mesh networks, and the now ubiquitous wifi Local Area Networks. However the design of the information architectures sitting on top of varying technology configurations have mostly been imported from business information systems.

In an Information Architecture for Civil Society Garnett (2002) argued that any e-government information architecture needed to map to existing communication flows in Civil Society, rather than impose the typical 3-level model of hierarchical corporate information flows, based as they are on transactional, management and executive systems. Furthermore Noveck (2015), in discussing “open government,” reduces digital Civil Society (in the USA) to peer-to-peer digital volunteering to support problem-solving in the public estate. The problem with this approach is that it assumes that the political architecture
of a society is already an agreed given and that emerging social networks need only be used to solve minor problems of public resource-allocation. It does not represent a citizen-centric solution as we are arguing for here. Conversely CyberSalon in the UK argue for a digital bill of rights (CyberSalon, 2015), alongside a digital public space, to enable the political expression of new ideas to emerge in the public realm.

Nawratek (2013) cautions that "a citizen is a kind of socio-political construct, whose function is to include the individual in the political system." From this perspective unless we are explicitly designing to include active citizenship into our ever-changing polity, whilst social networks are dynamically changing the relationships that comprise society, then we are implicitly designing citizen-engagement out.

As Cities increasingly become where next generation social behaviours emerge, now driven by smart technology use, it is critical that we are positively designing citizen-engagement into next-generation technology implementations by using new conceptual process models like the CityZens development framework (Smith, 2016) to help citizen-generated contexts to emerge during the implementation phase of future city-wide systems.

CONCLUSION

For any such citizen-generated context to become part of a distributed citizen-centric, democratic, political architecture, so helping create new digital social-ecologies within medium sized cities, we need to do more than passively accept city-wide networks being introduced as a series of real-time control centres to better manage traffic, as reductively suggested by Smart City computer corporations (and the European Union). We need to positively design to allow for new forms of citizen engagement to emerge, with real powers allocated to key Civil Society actors, using new, as yet fully undefined, enabling processes such as Aggregate then Curate.

We think this means identifying new "complex social practices,” perhaps Transition Town open space meeting agendas, to help determine what matters to local assemblies in order to evolve new participatory democratic practices, which are aligned with Web 2.0 affordances, as opposed to technocratic systems design. Only then can we deploy smart city technologies, such as high-speed broadband local wifi networks (as in Manchester’s Northern Quarter) or super-fast public city broadband (as in Timisoara, Romania) to support the “extra-institutional structuring” of Civil Society deliberations, perhaps through such local authority based processes such as “participatory budgeting.”

Active CityZens in Smart Cities need to be supported in creating, or adapting, the "complex social practices” which are the cornerstone of Civil Society, from which the emergent "extra-institutional structures” can be designed into new city-wide network architectures. Active citizenship could then mean, having an active context-shaping role in the public domain, thus creating citizen-generated contexts with real political clout, rather than citizens being assigned a passive role as digital consumers in the digital economy.

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THE DIGITAL IMAGE AS TOPOLOGICAL SURFACE

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INTRODUCTION

In the image economy the promotional image allows individuals and authorities to make various claims for the control of urban and architectural form. However, apart from texts like Anna Klingmann’s *Brandscapes: Architecture in the Experience Economy*, there are few voices that directly advocate architectural action in this arena. While impossible to succinctly explain this disciplinary mistrust of the Image, the return to figurative intent risks prefiguring formal choices to the detriment of architecture’s performative responsibilities. Within digital design discourse, the diagrammatic process is seen to circumvent the politics of Meaning that comes with the ‘already figured’. Instead, the procedural generation of form guarantees that Meaning occurs only after form emerges. Thus the politics of the branded architectural object lies outside the remit of digital discourse. Yet Klingmann’s position suggests that contemporary digital image creation and dissemination runs an uncanny parallel to that traditional role where architecture communicates identity and prestige. Furthermore, as Trevor Paglen’s projects, ‘Symbology’ and ‘The Other Night Sky’ demonstrate, the dematerialisation of power within the flows of global capital is countered by either the desire to re-present power through covert emblems or in the residual traces left by the passage of data. In an age where the dematerialization of power threatens to erase its overt physical expression Paglan’s work makes a claim for taking images seriously.

An overt example of the contemporary politics of the image economy is evidenced in the repurposing of CCTV technologies to disseminate promotional city views. Architecture’s political agency in the fabrication of these digital images clearly requires a technical understanding of the digital camera and associated translational procedures of the networked CCTV system. As a series of self-authored tests demonstrated, political agency can be returned by mirroring, tectonically, the organizational protocols of CCTV technology. This knowledge can lead to the design of facades that can disrupt the visual experience of the city by reducing the capacity of the camera mechanism to produce a coherent, legible city image, or disrupting the existing viewing hierarchies used to organize and control the view. The disruption caused by mirroring these ‘hyper-pixel’ patterns operate by exploiting colour and luminosity to produce vastly different virtual and actual views. The important theoretical aspect of this research suggests that camera performance can strategically operate across a range of scales of any digitally ‘surveyed’ exterior or interior surface. The resulting disjunctive visual experiences between the virtual and physical expression of these specifically designed ‘built surfaces’ can, in turn, guide an approach to material selection that involves a qualitative rather than representational response to the image of built form.

Topology is the essential conceptual framework by which to describe the relationship between architectural form and the digital image. Extending an earlier discussion, this essay will illustrate how the technological protocols of the digital camera can provide a new way to explore topology and digitally derived architectural form. To this end, the discussion of image scaling, the mirroring of scan-order patterns, and the tectonic application of diffraction patterns can extend the discourse around the formal possibilities of the topological surface.
As with other ‘borrowed’ concepts in architectural discourse, topology risks either being so general that it refers to every curvilinear form, or so precise that it is conceptually limited. Certainly, the unique disciplinary contribution of digital design practice is that it replaces Euclidian spatial geometry with topology. This change in geometry, making form relational rather than metric, allows objects to physically express an interplay between material and context. Topology solicits objects that are now indexical responses to contextual ‘affects’ rather than geometrically descriptive forms with a specific shape and size. By extension, topology understands form through processes of deformation. Topological form is not radical simply because form is literally, rather than figuratively, malleable and plastic. As Greg Lynn’s use of Gilles Deleuze’s ‘asignifying concept’ demonstrates, any form ‘in the drawing’ is not immediately referential; making form instrumental before it is iconic or emblematic. It is radical also because theoretically, objects can never be prefigured. The form ‘in the drawing’ is not idealised because the process of making never forecloses the form of the architectural object. For this reason, digital practice has used typology to promote the drawing as the site of formal production. The radical embrace of the drawing as a space of formal production echoes Robin Evans’s call for a “history… [of] the gap between drawing and building” resists the tendency of the illustrative drawing to formally prefigure architectural objects. The conversion of the drawing to a site of formal generation also overcomes the formal prefiguring found when the drawing simply illustrates what the architect is thinking. For Andrew Benjamin, this illustrative role is problematic because it reduces the drawing to a melancholic site of absence. Benjamin circumvents this problem by framing the digital drawing as a site of procedural plasticity and formal generation. The digital drawing becomes the perfect medium for acts of repetition and difference, or ‘alterity’ because the toolset allows for “the complex interplay of production and disruption.”

This optimistic view of the digital toolset is offset by how the spectacular formal consequences of topological geometry. Aided by digital image production and dissemination, topology helps commodify the objects captured in the camera’s frame. The adaptation of Closed Circuit TeleVision (CCTV) technology to promote idealised city views over the Internet is simply an extra role added to its original use to police urban space. Clearly, both the promotional and surveillant use CCTV networks alter our understanding of the urban fabric by providing images that flatten formally discontinuous urban fabric into a continuous urban surface. The promotional image and surveillant view differ in that the former promotes qualitative, expressive objects. The flattening of space in the surveillant view demands that the viewer ‘carves out’ space and see behind the surface. In contrast, the promotional view flattens and re-orientates form towards the camera lens. Civic authorities use the promotional city image to furnish indexical re-presentations of the built fabric. The viewer is expected to interpret the view as a spatial condition. Like the surveillant view, the promotional webcam wants the viewer to see three-dimensionality in the ‘virtual’. However, it is also true that the promotional webcam produces images and presents two viewpoints situated in ‘real’ and virtual space.

The unique aspect of digital image production is that, unlike emulsion photography, the real is indexed into discrete, three-dimensional packages of visual data. Unconstrained by what the negative captures, real objects are flattened into a grid of pixels that are distinguished through a numerical conversion of form. The beauty of the image is that it indexes materiality, and thus program, into quantifiable packages of colour and luminosity. The digital transformation of the real is unique because of the ease by which one can reconfigure both the number of pixels in the image and the values assigned to each pixel. In this sense the digital image makes the re-presentation of real objects inherently adjustable and relational, rather than absolute. Thus the numerical conversion of the real ensures that the digital image is a predictable, relational and multi-scalar site of topological variation. The conventions of digital discourse suggest that the diagram is the best drawing to represent and formalise the variable relations found within a context. Thus Lynn’s animated diagram requires an idiosyncratic naming process where the diagrammatic deformation of geometric elements are fabricated and not mapped from the world. This type of digital diagram relies on the selection and
naming of geometric topological entities. In contrast, the topology of the digital image achieves its relational translation of the ‘real’ without recourse to geometric form. The quantified mediation of materiality and program through colour and luminosity functions, instead, through an interdependent relationship between the technology and real objects. The numerical basis of this relationship presents diagrams that are in the strictest sense abstract, mathematical constructs. The digital camera technologies offer more information than contained in Lynn’s purely formal topological forms. The relationality found in the digital image presents material and tectonic within defined parameters that frames both the reception of existing, as well as the projection of new, urban surfaces. The surface of the digital image is far closer to the non-formal logics of ‘topology’.

**THE CONSTRUCTIONAL LOGICS OF THE DIGITAL IMAGE: SCALING, SCANNING AND DIFFRACTION**

The topological functioning of the surface of the digital image depends on how the technical protocols used in the projection and dissemination mediate the view. The defining technological conditioning of the digital image rests on how incoming light is focused onto a light-sensitive, solid-state sensor. These sensors are comprised of a rectangular array of equidistant light-sensing elements or photo-sites. Each photo-site is electrically charged in direct proportion to the amount of light that strikes it over a given time period. There are two major image sensor architectures for image processing, the Charge-Coupled Device (CCD) and the Complementary Metal–Oxide–Semiconductor (CMOS). The CCD sensor offers a better dynamic response, with ten times more light sensitivity than CMOS sensor. Compared to the human eye, where vision is limited to 1 Lux, the CCD system can distinguish objects under a lighting level of around 0.1 – 3Lux.

The determination of image content is based on the organization protocols used within the solid-state sensor. The Colour Filter Array (CFA), located above the monochrome CCD image sensor, is used as a low resolution filter to determine the colour captured in the image scene. Each sensor cell has its own spectrally selective filter, making pattern distribution central to the colour, luminosity and shape of objects ‘in the image’. The pattern is critical to the accuracy of the imaging pipeline because it determines both the definition and clarity and the colour of the edges in the image. A disparity between the sampling frequency in the CFA and the signal structures of the captured image creates issues like aliasing and moiré effects. As Lucac and Plataniotis reveal, there are many unexplored CFA pattern arrangements. Their investigation of ten different RGB-CFA patterns proposes a new hierarchy of CFA patterns where pattern distribution can be linked to specific color shifts, artifacts and aliasing effects. In spite of the different benefits and defects of these and other patterns, the most common choice remains the traditional Bayer CFA pattern. This pattern, used in the following tests, illustrates how manipulating the sensor’s scaling and scanning protocols in built surface can create disruptive visual effects.

**Scaling**

Mirroring a CFA pattern is the built surface exerts a very specific logic to the ordering and scaling of surface components. Literally taking on the form of the pixel array pattern, the act of mirroring demands that the built form is anamorphically orientated to the camera. However, the final size of each component is disciplined by the interplay between the built surface and the camera’s resolution and zoom capacity. The ability to modify the distance separating camera and surface makes it possible to modulate the scale of the patterns appearing on the built surface. The surface captured within one pixel within the camera’s zoom trajectory can be fragmented into a set of smaller components (Figure 1). Given the zoom function allows a nesting of patterns within the built surface, the relational and dynamic relationship between camera and surface is a function of the f-stop settings of the camera.
The topological mathematics operating between camera mechanism, object and component allows the CFA pattern to appear anamorphically at a sub-pixel level. In effect capacity to accurately tabulate the f-stop/resolution relationship provides a predictive, multi-scalar fractal approach to the design of the built surface. The topology operating between the camera mechanism and built surface establishes highly controllable and repeatable visual effects.

Figure 1. Illustration of the range of modifications to the Bayer CFA pattern and the how a surface can be further subdivided within the pixel grid. This subdivision is multi-scalar and corresponds to the f-stop and resolution of the camera.

The organisation and scaling of the surface to the CFA pattern is made doubly significant because the image always mediates the materiality of the objects captured by the camera. The protocols of camera technology allow for the strategic indexing of materiality to the colour and luminosity ranges found in the additive RGB colour model. The RBG colour model, used in all digital reception technologies, serves as the basis by which knowledge of the registration of color and luminosity of the light transmitted from a surface to the CFA can be used to disrupt the Internet view. As a series of self-authored tests demonstrate, a vast array of disruptive visual effects can be tabulated when combining knowledge of the protocols governing the RGB model with an awareness of the topological relationship existing between the f-stop and resolution of the camera. (Figure 2).

Figure 2. The RGB CFA patterns tested. Left to right: Pattern 1 - Bayer CFA; Pattern 2 - Proposed by Lukac and Plationatis; Pattern 3 - Yamanaka CFA; Pattern 4 - Diagonal stripe CFA; Pattern 5 - Pseudo-random CFA; Pattern 6 - HVS-based CFA; Patterns 7 – 8 – non-CFA patterns; Pattern 9 - Periodic hexagonal grid; Pattern 10 – non-periodic hexagonal grid.

Further tests also revealed how the production of these visual effects were not symmetrical. The chromatic transitions change from blue to green on an inward zoom trajectory. (Figure 3) These results suggest that the colour and luminosity of a material can be used to create further visual discrepancies.
Used in conjunction with the f-stop/resolution relationship, these discrepancies override the reading of the image as a faithful re-presentation of the city. What all this work suggests is that the camera image can strategically inform the size and materiality of all surface components. Once the camera is set in motion, any interior or exterior surface, scaled to the pixel and conforming to the organisational logics of a CFA pattern, can be used deliberately to disrupt the Internet webcam image.

Figure 3. Computer screen snapshots showing operable webcam interface of (top) highly visible HVS-based CFA pattern applied to building façade, and (bottom) outward zoom trajectory of the same pattern showing aberrant transition from blue to green and blurring.

Scanning

A second way to disrupt the Internet image is to mirror the camera scanning process. Here a smooth, moving image is delivered by an algorithm that controls how image sensors convert the electrical charge received from original light-sensing elements. These sensor-scanning patterns, which assign digital values during the image processing stage, are part of a highly strategic process that mimics the procedure by which the human visual system (HVS) recognises shape. Variations in the scan order code are used to identify regions of specific interest in the image; meaning proprietors of these algorithms influence the transmission of image content. ¹⁵

The proprietorial aspect of scan algorithms makes it difficult to access the strategies used by camera hardware and software manufacturers. Klette and Rosenfeld refer to at least six varieties, including a ‘selective’ version of the standard ‘zigzag’ raster scanning sequence used in interlaced scanning.⁶ Cantoni’s discussion of artificial vision technology procedures presents a diverse range of scanning patterns based on deterministic space-filling paths or random paths. The latter attempts to mimic the saccadic movement of the human eye.⁷¹

The frame-transfer (FT) and interline-transfer (IT) are two CCD patterns used to transfer the accumulated charges from an array. The IT-CCD design incorporates legible strips of photo-sites that are located horizontally or vertically in the array. The faster data transfer rates and image accuracy of the IT-CCD result from the horizontal or vertical distribution of the legible strips of a selected photo-site within the array. IT sensors use a 2:1 interlaced or progressive scanning technique to display a video image on an electronic screen. Interlaced scanning creates a frame using two fields; containing the odd and even lines of image data.
Research by one of the authors reveals how the webcam image of an object can be profoundly affected by the duplication of the scan order pattern within a façade.\textsuperscript{xii} (Figure 4) Like the mirroring of the CFA pattern, the orientation and extrapolation of scan-order patterns onto the surface at an enlarged ‘hyper pixel’ scale can be used to predictively disrupt the view of an object. These tests used three patterns that were expected to produce the fewest ‘undesirable’ visual effects. (Figure 4) Targeting specific areas of interest, these patterns permitted the possibility of revisiting cells to enable even higher levels of image scrutiny and curation.\textsuperscript{xiii} Again, the tests indicate that pattern selection can be used to disrupt any correlation between the camera scan pattern and its mirrored counterpart. The results showed that the horizontal ‘mirroring’ the camera’s original scan order pattern consistently produced greater disruption to the image. (Figure 5) This result was particularly marked in the television raster scanning sequence pattern, where the camera was unable to resolve the image at both the low and high ends of the zoom trajectory. In contrast, the rotated patterns produced a highly legible image.

\begin{figure}[h]
\centering
\includegraphics[width=0.7\textwidth]{patterns.png}
\caption{Scan order patterns used in tests: Top row: standard raster scan order; Centre row: outward spiral; and Bottom row: recursive Z-pattern. Left to right: horizontal; 45° rotated; and rotated discontinuous pattern orientations.}
\end{figure}
Diffraction

The use of diffraction patterns is different to the previous examples because they do not mirror image sensor processing patterns. Diffraction patterns extend the notion of the image as topological surface by using patterns that are removed by sensor technologies. Diffraction exploits an idiosyncrasy of an object’s luminosity or brightness that occurs under specific environmental viewing conditions. Despite repeated attempts by camera manufacturers, disruptive patterns are produced when observing, on a screen, the effects of a surface that acts as an aperture mediating the reception of light between the camera lens and a light source. As demonstrated in the image below, the use of a magnified Fraunhofer diffraction pattern as façade reimagines the built surface as a diffraction grating screen. Figure 6 demonstrates the effects gained by modifying the scale and orientation of the pattern. Compared with a rectangular grid or vertical slit pattern, the Fraunhofer pattern radically modifies the image’s legibility. Furthermore, this macro-sized ‘diffraction grating’ emits highly visible patterns that vary according to the zoom trajectory to again connect the visual performance of the surface to camera’s f-stop settings. Thus a material translation of the Fraunhofer pattern can be designed to influences an object’s legibility and luminosity according to specific controllable effects. (Figure 7)
orientation; Pattern D3 – Recursive Z scan-order pattern; Pattern D4 – hexagonal, HVS-based pattern; Pattern D5 – Random or non-periodic pattern. Bottom row, left to right: Fraunhofer counterparts of each of the top-row patterns.

Figure 7. (Top) Street view of Fraunhofer pattern derived from a raster scan pattern applied to building façade. (Centre and bottom) Computer screen snapshots showing operable webcam interface and the highly disruptive effect of the same pattern during the webcam’s inward zoom trajectory.
CONCLUSION

Conventional digital design discourse has constructed processes upon individual, idiosyncratic representational languages. These languages are difficult to sustain once design research moves beyond the issue of formal novelty. Irrespective of the desire to reproduce the actual conditions of formation, the use of software never quite escapes the representational problems of translation. The geometric version of topology defers the question of materiality until after process has determined form. Quarantined within the performative dictates of parametric or animated software, architectural representation reduces design to problem-solving. This disciplinary convention privileges certain formal types while disregarding the impact of images within the digital economy. This encultured position of performance also questions the belief that performative design through the simulation of ‘emergent conditions’, can ever sponsor ‘authentic’ and ideologically free objects. The politics of the age and the end of formal novelty suggest that the image as topological surface may reinvigorate the conceptual and technical scope of digital design practice. To this end, this paper has attempted to demonstrate how the imagistic reception of the object may, within the digital œuvre, open an alternative procedural and formal logic.

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iv Greg Lynn, Animate Form (New York, Princeton Architectural Press, 1999), 35.
xx The tests referred to operate at a reduced scale and do not employ common building materials. The outcomes from those tests that rely on materiality, rather than aperture, are yet to test the full implications of this difference.
xxiv The tests showed that digitally-derived Fraünhofer patterns (algorithmic patterns used in digital camera procedures) produced much higher levels of disruption than non digitally-derived patterns.
xxv For example, the use of B-spline geometry is a simulation when used to formulate structural systems and elements, but become analogous when used to represent program.

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AUTOMOTIVE RISK MANAGEMENT IN THE DIGITAL CITY: 
SUB-SUBJECT MONITORING OF DIGITAL ROADWAYS

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ABSTRACT
This piece looks to rub poststructuralist and postmodern theory up against one aspect of recently enacted governmental legislation in automotive insurance in Ontario, Canada, with a focus on the digital devices that can now, as part of the recent changes, voluntarily be installed by policy holders in order to (hypothetically) lower insurance rates based on real-time automotive use on (thereby digitalized) city streets. It uses an embodied theoretical framework and engagement to look at the digital devices used, and the provincial legislation and private actors (i.e. insurance companies) that engender what I call the digital automotive governmentality of perfect safety. This piece builds on recent work that looked at the introduction of wireless and mobile parking applications in the City of Toronto that focused on the privatization of the (digital) signs and (digital) subjects that have flowed from the work of Marshall McLuhan. It also builds on other recent work that looks at personalized and preventative digital medicine's attempt to engage in total risk and potential risk management at the sub/post-human level. This piece attempts to use these two poles to centre the frame onto the digital automotive governmentality of perfect safety at the individual level, a governmentality of the (sub-) self that relies on both macroscopic hyperreal visualisation of the subject, as well as an electronic body without organs that is out of subject, but not subjectivizing, control. This reconfiguration is particularly interesting I argue as it rewrites the configuration of a key site of the pre-digital city – automotive freedom – whereby 20th Century North American Individualism had been hereto still enacted, in actuarial, street-way planning, and automotive discourses.

INTRODUCTION
In this paper I would like to look at two things:
First, the utility of a structuralist re-reading of postmodern and poststructuralist theory to look at the recent 2013 changes to automobile insurance in Ontario as part of the 2013 provincial government mandated rate reduction in automotive insurance fees and how this in turn maps onto looking at digitalization more generally in everyday culture and the everyday digital devices that powers digitalization. The key terms that I will here specifically reference are "digitality," "governmentality," and "subjectivity." While we can understand digitality in its simple sense to refer to the generalization of digital devices into all aspects of everyday life, governmentality I borrow from Foucault, and subjectivity I borrow from Althusser. For Foucault, governmentality, in its most basic sense, is a mode of conduct in which individuals lead other individuals in power relations and “one could say that power relations have been progressively governmentalized, that is to say, elaborated, rationalized, and centralized in the form of, or under the auspices of, state institutions”¹. For Althusser, subjectivity comes about by means of the (ideological) “hail” of power, one that is “always-already” operative². This discussion of digitality, governmentality, and subjectivity, especially, and changes that we may note that are engendered by everyday digital devices will be discussed below within the context of interpellation – how we become "hailed" by power – from Althusser into present re-narrativizations (especially and specifically queer³ and feminist⁴ perspectives).

Second, to examine in detail one part – the use of digital devices to look at the sub-individual in actuarial issues, rather than populations or groups of individual subjects – of the 2013 mandated rate reduction in auto-insurance in Ontario (a mandated rate reduction of 15%, within a private market system). I am interested here in how we did not see much if any of a fuss whereby the individual subject gets overstepped and overwritten by a reading and interaction with (pre-conscious; habitus; reactive) bodily actions with authoritative power(s) by means of everyday digital devices. In this case I think that using the terms subjectivity, digitality, governmentality and interpellation as they have been used (in social theory) can be of use in our everyday practices: in this case; in understanding the effects of clicking "yes" to terms and conditions of use, be they be to what seems fairly harmless, like...
Facebook; or clicking "yes" to the terms and conditions of use in the case of direct to consumer genetic testing, which usually raises a few more alarm bells (especially if you claim, as I do, that they amount to the same thing regarding effects). And alarm bells have been raised for some time with respect to actuarial insurance issues in healthcare within specialist and popular press and media, which is different than what has happened with automotive insurance actuarial technological changes. Playing (and perhaps inverting) Paul Virilio – the philosopher of speed/movement – formulation from Bunker Archaeology, and whose work was the initial jumping off point for this project, we could say that we are not witness to a “change of horizon” for movement but an erasure of (human)self as relevant to the future tense establishment of perspective for movement.

**DIGITAL DEVICES IN PRIVATIZED AUTOMOTIVE INSURANCE SCHEMES AND THE 2013 MANDATED RATE REDUCTION IN ONTARIO**

In 2013 the provincial government in Ontario, Canada mandated a rate reduction of 15% to automotive insurance rates – follow-through on getting us there?...not so great so far – as part of budget negotiations in the setting of a minority government in the legislature. As one of the four planks to effect this, or the one I am interested in and the one that is new insofar as we compare it to previous reviews and/or political attempts to reduce rates, industry (and government) were required to come up with some ways (and reasons) to effect lower premiums and thereby give the provincial government the political ammunition to make this change. This would contrast with the greater change in premiums that would be effected by a move to a public system which in the Canadian context – e.g., the provinces of Saskatchewan or Manitoba – have much lower premiums. For me, the interesting piece, the fourth of four bullets identified by the Ontario Ministry of Finance (the others look at fraud and regulation of industry, which have been the standard in previous reviews and politically directed changes) in their various news bulletins on the subject: "[We will be] encouraging insurers to offer consumers usage-based insurance, which uses technology to identify and offer discounts for safe driving habits." In the insurance plans or plan changes that followed from this directive there was (rhetorically and practically) the use of digital devices to monitor real-time driving behaviour (and location), where the individual metrics of one person's (or one vehicle's) driving behaviour (are said to) influence future premiums paid. All that is needed is a small device that the insurance companies provide that is plugged into one’s vehicle for the duration of the period needed to calculate driving behavior. Now, usage of these devices is optional, but as promoted by the insurance companies, this can and will save a fair bit; in my case, 5% for signing up, and up to 25% at the end of the assessment period. (I should note that my total savings, despite a clean and safe driving record in a low-risk car during the assessment period amounted to only 7%; this speaks to the difficulty in effecting an overall average rate reduction of 15%).

In one sense what this means is that risk identification becomes based on actual individual (and really, sub-individual) behaviours or acts (i.e. here, the bodily reaction time(s) which may be pre/post-conscious). Contrast this with insurance based on the old (but still current, in their continued use) categories such as "age," "sex," and "car type" and you can see what is rather radical about this. We have a movement from "possible or likely riskiness" based on an assessment of the previous behaviours of sub-populations (which is to say, groups of people), to an attempt to assess "possible or likely riskiness" and influence behavior – and set up or deepen a governmentality – at the sub-individual (subject) level since as part of the program weekly updates on driving behaviours are emailed out. Also of key importance, this sub-individual level and data-assemblage body or bodies is then what (literally) interacts with the market going forward, given the requirement to disclose being turned down for application of insurance, or cancelation of policy, in applying for future policies, in a private system, as in Ontario, regarding auto-insurance. What is different and of interest for me is that as distinct from direct to consumer genetic testing (and resulting concerns regarding future/present insurance rates) is that there is not a public/expert outcry of concern about the sub-subject becoming the predominant factor and agent(s) or actor(s) in setting automotive insurance.

Like a number of the other projects I do, there is an embodied aspect and use of the theory that I am looking at: i.e. in this case I got an insurance plan that involves a digital device that is plugged into my car, which looks at – and updates me on a weekly basis – on three things: "sudden acceleration
event”; "hard braking events”; and "driving during high risk periods," which is defined as driving during the wee hours of the morning.

What we see is that there is an attempt to institute a digital automotive governmentality of perfect safety, one which is organized in and by a private market, which is a type of disciplinary organization that effects us at the level of the everyday – i.e. the weekly updates on driving behaviours and the presumed resulting changes in driving habits – and one that, in the recourse to acts that are below the level of (a liberal) subject, as (sub- or pre- or non-conscious) habit and/or habitus, is a reconfiguration that is particularly interesting for me, and not just as the governmentality it engenders. I see it both as reflective of broader trends (i.e. here in automotive insurance and our interaction with devices around us and that have been with us before "digital" became a hot word; or in medicine and arguably politics, which I will turn to in a moment), but also in specific as it rewrites the configuration of a key site – automotive freedom – whereby 20th Century North American Individualism has been enacted in popular and everyday culture and discourse. One can here think of the role of cars as sites of agency for conforming or rebellious behaviour and the devices in question are interesting as they both cut out the moments for interpellative failure/excess already subjects (and therefore subjected in a way whereby there is no excess, escapeage, resistance, willfulness, etc.). As this narrative gets retold and rewritten, say in the work of Sarah Ahmed, Lauren Berland, Judith Butler, or Judith Halberstam, these two aspects – interpellative failure and that which escapes being subjected to interpellation – are (rightly) pointed to as sites where acts and embodiments that were to produce subjects do not, or do not in ways that are not foreclosed. Queered (re)narrations of interpellation insist that we do not, as Althusser puts it in the example that follows his exposition of interpellation, simply “become the sexual subject (boy or girl) which it already is in advance” (50; italics all mine). But the auto-amputation performed by (these) digital devices in question are interesting as they both cut out the moments for interpellative failure/excess (queer and affect theory) but also the subject in the “always-already subject” (Althusser) leaving a de-subject(ed) subjection of the matter that was bodies; always-already broken down pieces of what was formerly subjectivity.

So to those three points: To first put forward a retelling of the story/narrative/notion of power(s) hailing subject(s) (i.e. here in automotive insurance, but as could be applied to direct to consumer

WHAT SUBJECT IS HAILED AND SUBJECTED TO A DIGITAL AUTOMOTIVE GOVERNMENTALITY OF PERFECT SAFETY THROUGH THE USE OF SELF MONITORING DEVICES IN AUTOMOTIVE INSURANCE PLANS?

What I would like to conclude with are three brief notes about the digital devices that the 2013 mandated auto insurance premium reduction introduced in Ontario and how we can see how everyday digitality undoes/deconstructs/causes us to question things that we take for granted including subjectivity (or being an individual subject with definable walls); how a subject which may not be a (human) subject is constituted and given authoritative and responsive power – to the hail/interpellation – and put in what could be described as a self-referential and sub-(human)subject relationship with itself. My "conceptual" interest in this, which is to say an interest that is immediate and practical and referential and authoritative and responsive power – the hail/interpellation – and put in what could be described as a self-referential and sub-(human)subject relationship with itself. My "conceptual" interest in this, which is to say an interest that is immediate and practical and material, is a failure that I see in the queer critiques of the (liberal) subject that holds (natural) rights that follow from and/or utilize a (re)narration of Althusser's concept of interpellation. But in noting this failure, which I intend as a productive intervention into both queer theory and contemporary digital automotive, medical and political discourses and practices, is a very different act than to trumpet some form of liberalism as a response.

In "Ideology and Ideological State Apparatuses" Althusser: "...suggest[s] that ideology 'acts' or 'functions' in such a way that it 'recruits' subjects among the individuals (it recruits them all), or 'transforms' the individuals into subjects (it transforms them all) by that very precise operation which I have called interpellation or hailing, and which can be imagined along the lines of the most commonplace everyday police (or other) hailing: 'Hey, you there!'" This narrative, as it has been taken up within queer theory (or what gets interpellated as "queer theory"), tends to take Althusser to task for both the enactment of the hail (i.e. it can fail and fail in ways that produce new relations) and that individual are always-already subjects (and therefore subjected in a way whereby there is no excess, escapeage, resistance, willfulness, etc.). As this narrative gets retold and rewritten, say in the work of Sarah Ahmed, Lauren Berland, Judith Butler, or Judith Halberstam, these two aspects – interpellative failure and that which escapes being subjected to interpellation – are (rightly) pointed to as sites where acts and embodiments that were to produce subjects do not, or do not in ways that are not foreclosed. Queered (re)narrations of interpellation insist that we do not, as Althusser puts it in the example that follows his exposition of interpellation, simply “become the sexual subject (boy or girl) which it already is in advance” (50; italics all mine). But the auto-amputation performed by (these) digital devices in question are interesting as they both cut out the moments for interpellative failure/excess (queer and affect theory) but also the subject in the “always-already subject” (Althusser) leaving a de-subject(ed) subjection of the matter that was bodies; always-already broken down pieces of what was formerly subjectivity.

So to those three points: To first put forward a retelling of the story/narrative/notion of power(s) hailing subject(s) (i.e. here in automotive insurance, but as could be applied to direct to consumer
genetic testing) as a retelling where turning happens in response to a hail and can productively be told as an instance of the (contemporary) hail of power and the interpellation of subjects/subjection. One could say that this is the digital self monitoring device as installed in our vehicle and how we (inter)(re)act with it, at least until it is installed and has been run. One could also say that in layering on the theoretical concept of subject/subjectivity as a response to a hail of power and the governmental that it engenders, this allows us to see how we are subjected differently in this case than in the case and situation of a person being asked questions by a police officer when we are, say, questioned regarding the speed of our vehicle (where the questions are put to a/the person as a whole) or when asked about and to narrate our previous driving behaviour when obtaining insurance (one can here think of how Judith Butler's formulation in Giving an Account of Oneself and The Psychic Life of Power where there is excess and slippage and the possibility of difference/change is problematized in this telling here). And, in much in the same way as we are subjected differently in the 2013 mandated rate reductions to auto insurance: the individual discursive subject deconstructs themselves and their parts or acts, which are then given authority, or, looked at as the real respondents to the hail.

Secondly, where in this retelling, it matters that matter and bodies may not be subject but are still subjected (subjected but not as a subject), in no small part because of the position played by specific body/bodies in queer and feminist articulations of interpellation (and post-structural and post-modern retellings generally) of how we become specifically subject/subjected to power and of the openings, fissures, cracks, and other possibilities that have been articulated in (i.e. the "failure" of) this address to bodies and plural (em)bodied response(s) that may not be (or not only be) a response to a hail. Here I am pointing to the importance of affective (and effected) bodily states and subjectivities in these retellings, which is something that we are moved from; as Ahmed, retelling Althusser/Butler in Queer Phenomenology puts it: "rather, in moving this way, rather than that [in response to the hail], and moving in this way again and again, the surfaces of bodies in turn acquire their shape..." (16).

Thirdly, where in this retelling of how subjects are hailed by power and what we may note as the object of the hail of power may not be subjects, but which is not to say that matter and bodies are not subjected. This is where, for Althusser especially, but for others that might focus on the affective as well as the effects to subjectivity and power become disoriented (in part by digitality). And this is the key piece that, for this paper I would like to point out that we see using the terms digitality, governmentality, subjectivity, and interpellation as they have been read through and into contemporary theory, and what I would like to leave you thinking about: First, here, now, we have parts speaking before and with more authority than the whole (person). In this, we can link to the more general social movement towards the control of risk(y) part(s). We see this in what was a particularly strong site for North American Liberal (possessive10 or possessed11) Individualism, which is to say cars, the mediated stories that are told in relation to them (where the Fast and the Furious franchise success is only a most recent example of their importance) and their material producing industries and their stories (i.e. the often told narrative of Ford wanting all employees to make enough to drive what they produced on the line). Second, in what digitally enabled direct to consumer genetic testing is looking for, in large part, the pre-symptomatic, and gives forth as the promise for the elimination of risk-at-all-of-any-chance, which is what we see moved toward with these devices in cars and of the fully self driving car programs (Volvo or Google for instance) where what is noted as the riskiest part of the driving assemblage is, of course, the human driver. And third, which, to concluded, is similar to the governmental approach to terrorism, one could say: the political will to eliminate all possible risk of action, down to the sub-subject level and hail and speak with that sub-subject as the authoritative subject (i.e. the monitoring of individual tweets and Facebook statuses undertaken by security organizations).
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1 Michel Foucault, "The Subject and Power" in Michel Foucault: Beyond Structuralism and Hermeneutics, ed. H. Dreyfus and P. Rabinow (Chicago: The University of Chicago Press, 1983). Or as put by Foucault: “One sees why the analysis of power relations within a society cannot be reduced to the study of a series of institutions, not even to the study of all those institutions which would merit the name ‘political’. Power relations are rooted in the system of social networks. This is not to say, however, that there is a primary and fundamental principle of power which dominates society down to the smallest detail; but, taking as point of departure the possibility of action upon the action of others (which is coextensive with every social relationship), multiple forms of individual disparity, of objectives, of the given application of power over ourselves or others, of, in varying degrees, partial or universal institutionalization, of more or less deliberate organization, one can define different forms of power. The forms and the specific situations of the government of men by one another in a given society are multiple; they are superimposed, they cross, impose their own limits, sometimes cancel one another out, sometimes reinforce one another. It is certain that in contemporary societies the state is not simply one of the forms or specific situations of the exercise of power – even if it is the most important – but that in a certain way all other forms of power relation must refer to it. But this is not because they are derived from it; it is rather because power relations have come more and more under state control (although this state control has not taken the same form in pedagogical, judicial, economic, or family systems). In referring here to the restricted sense of the word ‘government’, one could say that power relations have been progressively governmentalized, that is to say, elaborated, rationalized, and centralized in the form of, or under the auspices of, state institutions.”


5 c.f. the discourse which has occurred in the American Journal of Bioethics, The Lancet, and Nature since the marketing of the 23andMe genetic test as a product.


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LIFE AND RESILIENCE IN MODERN MEDIUM-SIZED CITIES

HOMAYOUN ALEMI
GREEN ARCHITECTURE

INTRODUCTION

This paper will better your understanding of the changing space in a typical modern medium-sized city and its characteristics and resilience due to the internet era of 21st century. We will try to explain the qualities of this space produced and organised by the new means of connection between individuals and society. It seems that the new space is eroding the historic balance of private and public sphere. This erosion, more or less, is happening to all types of cities, as communities are moving out of the traditional social space, into a virtual cyber space. However, here we have limited our study to a number of medium-sized cities in England, which represent the average European city. It shows how the public piazza invaded by private smart metonyms is going through a metamorphosis. It produces a completely new and unknown type of space. In other words, it seems that the smart gadgets that were supposed to create better and new relationships are having the opposite effect.

Traditional v New Space:
As Doreen Massey has indicated ‘space’ is the product of interrelations and multiplicity. It is also under continuous production. She says: ‘We understand traditional space as the sphere of the possibility of the existence: of multiplicity in the sense of contemporaneous plurality; and as the sphere of coexisting heterogeneity’. The strength and resilience of traditional space depended on citizens’ connections and relation particularly by creating a balance between public and private space. Nevertheless, today due to the increase in virtual communication individuals are losing touch with the physical community, not sharing the same space and time; and traditional space is changing into a more and more abstract space. Advances in technology, such as smart phones, cloud computing and open data; and a loss of confidence in being able to improve the society by direct participation and generations of disaffected citizens, strengthens the citizen’s belief in creating a global, online community rather than a real (physical) local one. This lack of participation and interest in the city has become a destructive force eroding the city’s balanced public and private life and traditional texture. This emerging space was coined ‘abstract’ by Lefebvre as it has no apparent clear meaning and function. A study was carried out in 2010 on 26 medium-sized cities in England by Clayton and Morris which shows how economic factors play a different role in these cities due to multiple local factors such as people’s skill, labour markets, physical proximity to larger cities, ease of travel between cities and industrial composition. We have taken the opportunity to base this study on ‘abstract space’ on the above economical conclusions and the other major research publication by Space Work Consulting on the changing social trends. Here we will discuss the characteristics of such space in relation to only most relevant cities from the Clayton & Morris’s study. It is in a second paper that we discuss how the amount of erosion of the traditional space is directly dependant on the city’s economic structure and its adaptability to change.

Abstract space
The characteristics of abstract space have been analysed from various points such as work-economic trends, quality of life, globalisation, public and private involvement of citizens. Some of the most important attractions larger cities provide, on a scale that cannot be matched with smaller cities, include the variety of activities, rituals and consumption benefits (leisure and cultural activities). These major pull factors tempt highly skilled professionals to migrate to larger cities. However, with the advances in technology this migration seems to have lessened. This is because the digital world has transformed the relatively bored citizens into a virtual world citizen, if one can use such a term. Suddenly size does not matter anymore! (Mid-size and small cities are showing higher smartphone penetration) This has changed the character of the space produced in the medium-sized...
cities. An abstract space now takes over the traditional one. Some of the main features of such space are discussed below:

a. Quality of life:

1. ‘Abstract space’ is the definitive non-event place. ‘The non-event is not where ‘nothing” happens. On the contrary it is the domain of ‘perpetual change’, of relentless actualization of an incessant succession in real time of general equivalence, indifference and banality… Buildings, churches, pubs, cinemas and the natural and traditional context are demolished or converted on a daily basis; resulting in a loss of identity. The gentrification of old town centre and the invasion of the public arena by private smart Metonyms are literally sucking the life out of the ‘place’. In addition, the zoning forced by financial markets is reducing the variety and liveliness of the city into a banal denominator applied on the traditional texture of the global village.

2. The shopping centre, the pub and the home in medium-sized cities emerge as the only arena for an actual meeting place or a stage for social participation. The pub culture is being gentrified by the illusory smart phone culture. The mall is the place where ‘spectacle’ is at its extreme and the only interaction promoted is between goods and buyers. Furthermore, homes have transformed into a hub for communication, entertainment and even buying and receiving goods. We now have the luxury to work, be entertained or shop from the comfort of our homes, with no need to go out.

3. ‘Consumerism’ turns thoughts and customs of life into certainties. Certainty has become a means to discharge the pain of social vulnerability. Religion, instead of belief and mystery has turned into a right and wrong attitude. Politics turns into a blame list rather than discourse. This, of course has a more devastating impact on smaller cities with weaker social cohesion and context, than larger or stronger medium-sized cities. (Cambridge for example is benefiting from the particular social context it has developed.)

b. Globalisation:

1. Most of the boredom and lower quality of life in the analysed medium-sized cities come from the predictable nature of the everyday life, the homogenising forces and security. The virtual world that is taking over our cities is a rich enigmatic force for economic growth; but it is producing a space with dubious and unclear quality. People cannot live permanently in a virtual world, which hardly result into something real and tangible. While, space and ‘Architecture is closely intertwined with human beings; we are born somewhere and we die somewhere. Architecture is visceral. It is not intellectual. It's the real that we touch -- the door, the window, the threshold, the bed -- such prosaic objects’.

You should feel the space, with its unpredictability, insecurity, diversity and difficulties or adventures. It runs like music through your veins and is therefore real. It is the reality of things and actions that creates memory; without which nothing exists. The city vanishes. Life vanishes. It is therefore by embracing the diversity and vulnerability of the society that we can discover its sheer beauty and avoid boredom.

2. Homogenisation of differences

Each city is unique due to its local and economic characteristics. Space produced due to these differences combined with collective memory and life events define a ‘place’ as different to another. Flexibility and changing of the space is constant as people and their inter-relations change.

We can never go to a place and find it exactly where we left it. Something has always changed, most of all ourselves; people.

The globalisation forces are set to erase the ‘differences’ of ‘place/space’ by homogenising it and purging the ‘quality’ out of ‘place’ and life. To see a Macdonald in Hampstead High Street or at Piazza di Spagna in Rome was a scandal 30 years ago, today it is the expected. The disappearance of local characteristics reinforces the ‘abstract space’.
3. The virtual world seems to follow the same trend\(^{38}\). It separates time from place and destroys 'difference'. It is odd as the extreme personalisation or differentiation of individuals in the digital world is destroying the local commonality. The 'abstract difference' kills the 'reality of diversity'. It is the abstract nature and fun of being transferred out of the reality of everyday life that attracts the individual to the gadgets\(^{39}\) and the virtual world. The gadget becomes an extension of the body, a sensory membrane that connects us to the online wonderland.\(^{40}\)

c. Private and public space:

1. Private space increases, as public space shrinks. This is due to single individuals occupying the public space and connecting privately with others. The bored citizen of a medium-sized city is now in connection with the world and becomes a global consumer\(^{41}\). The 'online' is meeting the unmet needs of the citizens. It removes not only the impetus to go to larger cities but more importantly to seek face-to-face contact\(^{42}\). People have therefore moved into a virtual space\(^{43}\), where it is easier to socialise with none of the inconveniences of physical encounters. Therefore, the medium-sized city continues apparently with the outdated physical social space but with an ever-growing cyber space. While the historic city was about the strengthening of individuals by bringing them together in public places, the modern urban life is about empowering the individual by a virtual network that is making traditional connections redundant. The 'individual' loses 'the society' but gains unsurpassed power through the virtual world. He now has power to access unlimited information\(^{44}\), entertainment and live the world through a virtual self, which has invaded every public space.

'As the thin line between public and private space tends to become blurred, the emergence of digital connectivity raises controversial issues concerning the notion of private and public realm both in physical and informational space.'\(^{45}\)

2. The inversion of the traditional society\(^{46}\) where 'verbal expression prevails on visual communication.'\(^{47}\) This inversion is the result of 'abstract space' promoting a culture of narcissism\(^{48}\), which covers up our vulnerability and breaks up the connections instituted for centuries within social space. Weakness of public institutions, relations and political disaffection are the main causes of this social fragmentation. It leads to the rebellion, alienation or mistrust of individuals against whatever the previous society represented\(^{49}\). However, something else also happens. As these individuals try to connect with each other through the Digital Ecology coined by Boyle\(^{50}\) it brings together people of a completely different class and background. The attraction of this togetherness is not an ideology or tribal attributes as in the traditional society but the digital way of connection. Digital connection is prevalently visual and therefore leaves a lot to interpretation and vagueness, which in a consumer-narcissist society is hiding the extensive conformism of the society. This type of communication is prone to cause two types of illusion in the society, as described by Lefebvre. The 'naturalistic illusion' (organic) and the 'transparency illusion' (minimalism) that screen off the virtual or unreal nature of this type of relation with the society. Visual communication in order to attract needs to be easy and adaptable. This simplicity and speed of change turns communication into sound bites. It distracts\(^{51}\) the public from thinking and it attracts us to 'how somethings look' rather than 'how something is'. Thus, the lonely individual, loses the public space while searching it online; and is overwhelmed by its visual expression of modernity and individuality.

d. Economic issues\(^{52}\):

The benefits of locating in medium-sized cities for some individuals and firms can out-weigh the cost of locating in a larger city – involving higher rents, congestion and pollution\(^{53}\).

1. Medium-sized cities often have a compelling quality of life.

2. They also afford opportunities for firms and individuals to take advantage of some of the benefits of agglomeration\(^{54}\) without high costs.

3. Medium-sized cities are critical nodes within the national economy. Their ability to overcome the challenges presented by recession and to plan for and invest in the future is critical to economic growth at a national level.
4. The different performance of medium-sized cities both before and during recession highlights their diversity and the importance of policies that recognise and support this and then enables these cities to thrive during the upturn.

Four clear policy priorities for recession and recovery emerge from Clayton & Morris’s analysis:

- First, having strong civic leadership across sectoral boundaries, with public, private and third sector organisations working towards a clear long-term vision of sustainable economic success;
- Second, medium-sized cities should seek to work with surrounding areas to invest in economic development and regeneration;
- Third, investing in workforce skills;
- Finally, creating an economic development strategy that responds to the changes in the economy.

Nevertheless, none of the above seems to be able to reduce the speed of ‘abstract space’ production in cities today. However we have noticed that the poorer pockets of society are still resisting this type of space and it is not clear yet whether this resistance is due to economic factors or social cohesion and structure developed through centuries of local customs.

CONCLUSION

The physical society has been replaced within the past 10 years by a virtual one, which has destroyed all the safety and protective layers of centuries of social life and institutions. We are taking refuge from everyday life’s boredom into the illusions of modern life, losing ourselves.

The result is that we have replaced individual insecurities with ‘certainties’, neighbourhood production with the urbanization of consumption; urban retrofitting and increase of density with urban sprawl and housing projects; human rights with religious segregation and political disaffection. We steal our future putting it in present consumption, calling it GDP.

In conclusion, we would like to point out:

1. Production of abstract space has accelerated, and has a major impact on the urban space particularly in medium-sized cities with weaker social cohesion.
2. Direct participation in most traditional public spaces through religion, politics and leisure has almost stopped. This is reducing the resilience of the citizens.
3. This new abstract space is causing more conflict than integration and participation has turned into a virtual act involving a virtual persona.

Is it the end of citizenship due to lack of social action and avoidance of politics or as governments put it through prevention and security?

It seems ‘To be present within a space is only to participate as part of a group conforming to the advertised values of the group and not necessarily participating in getting or soliciting of values. We are ourselves signs within a codified urban life. Everything is abstract and each is a thing of myths and signs: peace or violence.

The ‘abstract space’ is therefore, functionally not working, as it is evident from the conflictual homogeneity it is causing. It is not sustainable as it is promoting ever more waste even if managed and recycled better than before. It lacks amenities by destroying the ‘public space’ or occupying it with individual mobile privacy. Structurally it is fragmented, lacking a centre in relation to the periphery; it is out of scale and damaging to the environment. Formally, it is meaningless and uncontrolled; creating more visual, abstract relations and separation rather than verbal and real connections. It promotes the illusions of simplicity and transparency in an attempt to hide the damage it is bringing to the social cohesion.

REFERENCES

1 (High, 2015, p. 30) City resilience is the capacity of individuals, communities, institutions, businesses and systems in a city to survive, adapt and grow, despite stresses and shocks. Or is it fundamentally a design problem?
2 (Broadband Stakeholder Group)
3 (Ampanavos & Markaki, 2014)
4 (Bernheimer, 2014, p. 19) …cities are becoming ‘entertainment machines’ encouraging the development of super-small luxury apartments for unmoored dilettante professionals and driving out middle-class families.
5 (Ampanavos & Markaki, 2014) People stay connected to their private networks even if they are located in public spaces…Consequently, interaction with the direct environment shrinks.
6 (Bernheimer, 2014, p. 9) The most overwhelming social change is a shift towards individualisation, which Ulrich Beck and Elisabeth Beck-Gernsheim describe as a major force of modern society…
7 (Massey D., 2006) 1) Space as the product of interrelations, as constituted through interactions, from the immensity of the global to the intimately tiny. 2) We understand space as the sphere of the possibility of the existence of multiplicity in the sense of contemporaneous plurality: as the sphere of coexisting heterogeneity. 3) We recognise space always under construction…it is never finished.
8 (Ampanavos & Markaki, 2014) Therefore, people choose to enclose themselves in ‘bubbles’ of private space and move through the city continuously remaining inside them…Cars are probably the ultimate piece of technology for isolating people from stimulation of their environment (Sennett, Reflections on the Public Realm) the vision of the self-driving car, liberating passengers from driving it and thus from inspecting the surrounding, could be the direct materialization of these bubbles.
9 (High, 2015, p. 31) Sascha Haselmayer, chief executive of Citymart.
10 (Bernheimer, 2014, p. 37) In 2010, only 34% of UK adults engaged in some sort of civic participation, falling from 28% in 2001.
11 (Refer to youth participation fall in general elections)
12 (Giffinger, Fertner, Kramar, & Meijers, 2013)
13 (Bernheimer, 2014) The workhubs Network study identified strong potential for expanding workhubs in rural market towns and urban=n centres. Rates of homeworking are higher in rural areas than in urban areas.
14 (Clayton & Morris, 2010) As well as providing increasing returns to scale, large cities have the potential to have:
A strong international presence; Sassen’s (2001) work on global cities identified a small number of large cities as having a direct and tangible impact on global affairs through socioeconomic, cultural and/or political means. Work Foundation since then has often identified London, New York, Paris, and Tokyo as the ‘big4’ with other large cities being assigned different rankings below them. Cities such as Manchester are moving up the rankings – but there are currently no medium-sized cities doing so.
Distinctive benefits for firms
Distinctive benefits to individuals
15 (Urban History 5 Chapters. 2011)
16 (Ericsson Consumer Lab: Rashy Varshney, 2015) Medium-sized cities in India show smartphone penetration levels at 33 percent, as opposed to the smartphone penetration levels of 27 percent in big non-metros and large cities, finds Ericsson Consumer Lab report.
17 (Baudrillard, The consumer society, myths & structures)
18 (Sean Poulter, 2013) We’re giving up pubs… and beer: Number closing each week reaches 26 while sales of lager fall to ten-year low
   Number of pub closures has increased by almost 50 per cent, says research
   Landlords argue pubs’ demise has been fuelled by supermarkets
   Industry figures suggest amount of beer and lager bought is at ten-year low
19 (Power & Wilson, 2000)
20 (Refer to Bradford) It is the triumph of ‘imaginary space’ of Castoriadis, the ‘spectacle space’ as defined by Guy Debord, or the ‘abstract space’ as projected by Henri Lefebvre, ‘a sophisticated reflection of the dominance of illusion in post-industrial capitalism’.
21 (Ampanavos & Markaki, 2014) The home emerges as a centre for communications receiving information and entertainment, obtaining goods and services, and linking in with workspaces…The home, becoming a node of communication, is not only tending to include the extension of the public realm; its interiority is flipped, turning what was inside out.
22 Scott Waters comments on face book about differences in America and UK: Pubs are not bars, they are community living rooms.
23 (Bernheimer, 2014, p. 24) As of 2010, 15.3% of workers spent at least one day a week working from their home.
24 (Baudrillard, The consumer society, myths & structures) Page 95: The following advert line is indicative of this magical synthesis. ‘To have found your personality, to be able to assert it, is to discover the pleasure of being truly yourself.’ The narcissism of the individual in consumer society is not an enjoyment of singularity it is a refraction of collective features. However it is always presented as narcissistic investment of oneself through smallest marginal differences. The individual is everywhere invited primarily to enjoy himself to indulge himself. The understanding is that by pleasing oneself that one is likely to please others…woman is sold to women…while doing what she believes is preening herself, scenting herself, clothing herself in a word creating herself she is in fact consuming herself…
25 (Brown, 2010)
loss of signification in every domain

Individuals.

social interaction.

communication was used to facilitate spontaneous, on-the-go meet-ups rather than replacing face-to-face social interaction.

Individuals constitute the society, unless they participate in it actively and through this participation create the relations, institutions and layers of social space, the society would be only an accumulation of individuals.

1) Either information produces meaning but does not succeed in compensating for the brutal loss of signification in every domain
2) Or information has nothing to do with signification…a kind of code perhaps like the genetic code: it is what it is, it functions as it does; meaning is something else coming afterwards…there would simply be no significant relation between the inflation of information and the deflation of meaning.

3) Or rather the contrary: there is a rigorous and necessary correlation between the two, to the extent that information is directly destructive of meaning and signification, or neutralizes it.

45 (Ampanavos & Markaki, 2014) Hastings, Stoke-on-Trent are some examples of these traditional medium-sized cities.

46 (Ampanavos & Markaki, 2014) Public space was the place of free speech where ‘verbal expression prevails on visual communication’.

47 Baudrillard, The consumer society, myths & structures, p. 87

48 (Cawley, 2014) This fragmentation is testament to the collapsing authority of the political class and to the havoc being wrought by forces of globalisation: the free flow of capital and prople, open markets, the dominance of a deracinated plutocracy, instantaneous digital communication.

49 (Boyle, 2008) This is where the notion of a “digital ecology” comes in. Boyle uses the environmental movement for an analogy to describe how a political economy of intellectual property can come about. He explains how the concept of “the environment” enabled different groups with different (and sometimes conflicting) interests to come together within a broad coalition. What is needed in terms of digital media, therefore, is a similar political framework in order to effectively defend “the public domain”.

50 (Eliot T., 1944) Neither plentitude nor vacancy. Only a flicker

Over the strained time-ridden faces

Distracted from distraction by distraction

Filled with fancies and empty of meaning

Timid apathy with no concentration

Men and bits of paper, whirled by the cold wind

That blows before and after time,

Wind in and out of unwholesome lungs

Time before and time after.

51 (Clayton & Morris, 2010)

52 (Henry Overman, Spatial Economics Research Centre, 2013)

53 (Clayton & Morris, 2010, p. 10) Cities offer knowledge-intensive businesses benefits of ‘agglomeration’. Work by Duranton and Page: The scale of a city means that it is possible to find a supplier, customer, employee or employer who is a better fit for your business model. ‘Matching’ and ‘Sharing’ allows increasingly specialised functions to be undertaken, and allows people and firms to develop specialised skills with the confidence that they will be able to find a market. However with the devoepepment of online marketing and access somehow it seems to have reduced this dependency on location.

54 (Hildreth, 2006)

55 (Clayton & Morris, 2010)

56 (Global Information Technology Report 2013, 2013) For example, a study by Deloitte based on data from Cisco Systems finds that countries with a proportionately higher share of 3G connections enjoy greater economic growth than countries with comparable total mobile penetration but lower 3G penetration. For a given level of mobile penetration, countries that had a 10% higher 3G penetration between 2008 and 2011 experienced an increase in their average annual GDP per capita growth rate of 0.15 percentage points. (Broadband, 3G and the intelligent use of big data could also revitalize economic growth. Governments play a crucial role in supporting this digital development, from funding broadband networks to addressing complex issues such as privacy and security. The economy as a whole will eventually reap the benefits as remote rural areas are tied into the national network, resulting in new jobs and broader educational opportunities.)

57 (Lefebvre, Writings on Cities, 2000, p. 185) This theory of social space encompasses on the one hand the critical analysis of urban reality and on the other that of everyday life.

58 (Baudrillard, The consumer society, myths & structures, p. 168) This rhetoric of thaumaturgy and solicitude which stumps the consumer society, affluent society with a particular emotional tone has precise social functions:

1) The emotional re-education of individuals isolated within bureaucratic society by the technical and social division of labour and by the parallel technical and social division — itself equally total and bureaucratic — of consumption practices.

2) A political strategy of formal integration which covers — and covers up for — the failings of the political institutions: just as universal suffrage, referendums and parliamentary institutions are designed to establish a social consensus through formal participation, so advertising, fashion, human and public relations can be interpreted as a kind of perpetual referendum in which citizen consumers are entreated at every moment to pronounce in favour of a certain code of values and implicitly to sanction it...
3) Political control by solicitation and solicitude is accompanied by a more intimate control over motivations themselves. This is where the term solicit assumes its double meaning, and it is in this sense that all solicitude is basically terroristic.

60 (Power & Wilson, 2000, p. 1)

61 (Power & Wilson, 2000, p. 10)

62 (Anderson, 2009) Strictly from a climate change perspective, cities are already relatively green. To reduce further greenhouse emissions we need to increase density, retro-fitting and re-greening; creating a community gathering space.

63 (Cowley, 2014) Nations turn inwards when people feel unhappy and insecure. The outsiders, welcomed in good times, is perceived as a threat, an agent of change, even of chaos.

64 (Bragg & Hare, 12-25 April 2013) It’s because people now feel themselves publicly helpless, don’t they? People feel they no longer exert either any individual or collective power over public life. The nature of public life has changed, hasn’t it?

65 (Castoriadis, Figures of thinkable, 2007, pp. 107-113) Polis

By politics I mean a collective activity endowed with self-reflection and lucidity, aiming at the global institution of society.

Considered this way, politics is a moment and an expression of the project of autonomy: it does not passively and blindly accept what is already there, what has been instituted, but calls it into question. Human history is creation. It is, first and foremost, wholesale self-creation, the separation of humanity from sheer animality, which is at once never complete but abysmal. Self-alteration of society: If they were made of rational ideas, they would last forever. But institutions are actually made of sanctioned social meanings and corollary procedures for giving meaning. These meanings are at heart imaginary – not rational, not functional, not reflections of reality. They are social imaginary significations. We can elucidate this creation in its general character, or in its concrete contents, after it has happened. But we can neither ‘explain’ nor ‘predict’ it, because it is not determined; it rather is determinant.

66 (Baudrillard, The consumer society, myths & structures) Page 114: ‘Today political power is no longer animated by some positive will, it is no longer anything but the negative power of deterrence, of public health, of prophylactic, immunizing, security forces. (Minority report by Steven Spielberg)’ In one way or another the population themselves are a terrorist threat to power. And it is power itself that, through repression, involuntarily seals this complicity. The equivalence in repression shows that we are all virtually the hostages of power…and if global demonstrations against the war have offered the illusion of a possible counter-power, they have certainly revealed the political insignificance of that international community confronted with American realpolitik.

Henceforth, we are concerned with the exercise of power in its pure state, without bothering about sovereignty or representation, the integral reality of a negative power. As long as it draws its sovereignty from representation, as long as political reason exists, power can find its equilibrium – in any case it can be challenged and contested. But the erasure of that sovereignty leaves power unchecked, without counterpart, wild (with savagery no longer natural, but technical). And by a strange twist of fate it recovers something from primitive societies, which, according to Levi Strauss lacked history because they knew nothing about power. What if our present global society, basking in the shadow of this integral power, was again becoming a society without history?

67 (Baudrillard, Utopia deferred, 1967-78)

68 (Lefebvre, Production of space, 1991) Space is no longer something concrete and opaque, that is, something to be experienced and lived (as well as perceived and conceived); it is now something abstract and transparent, something to be looked at passively and from a distance, without being lived directly. What is seen is not space, but an image of space. Space becomes “intelligible” to the eye (but only to the eye); space appears to be a text to be read, a message that bears no traces of either state power or human bodies and their non-verbal flows. Certain basic geometrical forms -- the rectangular, the square, the circle, the triangle -- are elevated to the level of the exemplary (microcosms of the universe) and are reproduced everywhere as images of rationality, harmony and order.

69 (Lefebvre, Production of space, 1991, p. 147) Like any reality, social space is related methodologically and theoretically to 3 general concepts: form, structure, function. In other words any social space may
be subjected to formal, structural or functional analysis. Each of these approaches provides a code and a method for deciphering what at first may seem impenetrable.

70 (Lefebvre, Production of space, 1991, p. 147) The term form may be taken in a number of senses: aesthetic, plastic, abstract (logico-mathematical) and so on. In general sense, it evokes the description of contours and the demarcation of boundaries, external limits, areas and volumes. Spatial analysis accepts this general use of the term, although doing so does not eliminate all problems. A formal description, for example, may aspire to exactitude but still turn out to be shot through with ideological elements, especially when implicit or explicit reductionist goals are involved. The presence of such goals is indeed a defining characteristic of formalism.

71 (Baudrillard, Utopia deferred, 1967-78, p. 33) Mobile, variable, retractable structures inscribe themselves in the formal demands of architects and in the social and economic demands of modernity. But this is only true in an ideal dimension. One must not lose sight of the fact that:

1. Neither the ephemeral nor the durable are absolute and exclusive values.
2. It is true that the social deficit that modular or prefabricated construction in disposable or durable materials represents today is colossal… meanwhile one must account for the latent psychological, familial and collective functions of integration that also return in the social budget.
3. The ephemeral will perhaps one day be the collective solution but for the moment it is the monopoly of a privileged fraction whom its economic and cultural position permits to question the myth of durability… only the privileged classes have the right to the actuality of the models. The others have the right once these models have already changed.

If therefore in logic of forms the ephemeral represents the truth of modernity, if even it represents the future formula for a rational and harmonious society, it still takes an entirely different sense in the present cultural system. In its logical foundation culture continually plays on two distinct terms: the ephemeral and the durable of which neither can be made autonomous. In the socio-cultural class system on the contrary this relation breaks into two distinctive poles of which one the ephemeral becomes autonomous in a culturally superior model returning the other to its obsolescence. This is not all to disqualify the formal research of the architect but there is a bitter derision in fact that search for social rationality succeeds precisely in reinforcing the irrational logic and the strategy of the cultural class system.
THE GLOBAL LOCAL

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INTRODUCTION

In 2008, more than two hundred production staff were made redundant from a dozen local newsrooms of the Global Television Network in Canada. Whereas local news was once produced in each regional market, by taking advantage of high speed data networks, automated camera tracks and the multiple time zones of Canada, successive 5PM local newscasts in each time zone across the country can now be produced by remote control from thousands of kilometres away. As part of this process, tangible studio sets were replaced with chromakey green screen environments in which virtual reality spaces could be digitally inserted. In the first generation of virtual environments created for these local newscasts, the space behind the news reader was designed to appear to be a bustling newsroom and control suite.

As part of a wider project exploring of how architecture, spatial design and technology conspire in the service of global capitalism, this paper is a first tentative exploration of one instance in which technology and architectural design collude in a hybrid of Lefebvrian abstract and absolute space, one that maintains an illusion of human activity even after technology has rendered it superfluous.

CENTERS EVERYWHERE

The spatial and architectural implications of the digital revolution have been evident in many of its earliest theoretical critiques. Marshall McLuhan wrote in 1964 that “electric speeds create centers everywhere. Margins cease to exist on this planet.”1 Over a period of just five years from the late nineteen-fifties until the early nineteen-sixties, McLuhan had witnessed the development of satellite technology from the periodic bleep of Sputnik to the trans-Atlantic television broadcasts of Telstar. Writing at this moment, he anticipated the social, economic and cultural revolutions that would be brought about just a few decades later by the advent of the information superhighway. Whereas traditional media producers such as network television broadcasters and regional newspapers once derived their authority from the distribution of knowledge and opinion from the centre (of production) to margin (of consumption), recent years have witnessed the elimination of this margin and implied division from the centre. This has profound implications for traditional media producers, as this paper will explore.

Writing two decades later, Michel Foucault also perceived the collapse of the centre-margin relationship that had defined the industrial and modern era, observing that “we are in the age of the simultaneous, of juxtaposition, the near and the far, the side by side and the scattered. A period in which, in my view, the world is putting itself to the test, not so much as a great way of life destined to grow in time but as a net that links points together and creates its own muddle.”2 For many architects, the stepping stone towards theoretical analyses of this condition is provided by Henri Lefebvre. He wrote in 1974 that “we are thus confronted by an indefinite multitude of spaces, each one piled upon, or perhaps contained within, the next: geographical, economic, demographic, sociological, ecological, political, commercial, national, continental, global.”3 Following in the theoretical footsteps of Karl Marx, who proposed a distinction between concrete labour (that which
directly generates a use value) and abstract labour (that which indirectly produces an exchange value), Lefebvre offers us a distinction between absolute space and abstract space. In his indistinct terms, it was in “the historical town of the West ... that productive activity (labour) became no longer one with the process of reproduction which perpetuated social life; but, in becoming independent of that process, labour fell pray to abstraction, whence abstract social labour – and abstract space.”

This paper concerns itself less with the speculative architectural solutions to Foucault’s digital “muddle”, and more with the ways in which producers working within established or traditional frameworks, such as network television, have attempted to respond to this situation. In the scope of this paper, it is worth highlighting two effects of the digital revolution on spatial and architectural practice. Firstly, with ever increasing speeds of communication and data exchange, distances in the information economy have collapsed precipitously. Secondly, and adopting Lefebvre’s distinction, with the capitalist abstraction of space from directly lived experience, a wealth of new digital spaces are created alongside and over that we perceive in concrete terms.

ARCHITECTURE AND AUTHORITY

In terms of the production of broadcast media, the changes of the digital era have largely been driven by rapid technological developments and ever increasing speeds of communication. With the advent of CNN in 1980, the instantaneity of current affairs broadcasting reshaped consumer expectations of television news, and prompted rolling news broadcasters to follow suit. With the shift from celluloid film to digital video, the economics and logistics of television production have changed irreversibly, and with the advent of high speed satellite links and broadband fibre optic data networks, the speed of media production changed for ever.3

These changes have brought about a collapse of distance and an abstraction of digital space. And yet representations of concrete architectural space continue to play an important role in traditional broadcast media. Bryan Lawson observes how nineteenth century banks employed a weighty marble and stone classicism to re-assure customers of their permanence and fiscal security,3 and in much the same way twenty-first century television news providers use visual representations of architectural scale and journalistic activity as evidence of the dependability and veracity of their reporting in an era of rapid and dramatic change.

As an example, the newly expanded and refurbished home of the British Broadcasting Corporation (BBC) in London, New Broadcasting House (MJP Architects, Sheppard Robson, and HOK, 2012) is used as an active component in top-of-the-hour countdowns and title sequences before news broadcasts. Digital satellite feeds are depicted in aerial footage of London as beams of data flying over the streets of the city, converging on the building and its global newsroom. These visual expressions of the information economy seek to reassure the viewer of the public broadcaster’s technological and human capacity for veracity and authority. New Broadcasting House was designed in such a way that its principal television news studio overlooks the newsroom, taking advantage of a familiar journalistic trope that places the site of journalistic production within the field of vision of the consumer of that journalism.

What is significant about the role of New Broadcasting House in BBC News broadcasts is that it demonstrates both its architectural interior and its urban exterior. The BBC is situated in the centre of London, itself a recognisable global metropolis. In similar terms the CNN Center in Atlanta, Georgia has long been acknowledged in television broadcasts as the site of journalistic production. In building a global English language network beyond its established base in the Gulf, Al-Jazeera prominently acknowledges its studios and newsrooms in Washington, London and Kuala Lumpur during hourly title sequences. The latter two studios are situated in notable skyscrapers, Renzo Piano’s
Shard and César Pelli’s Petronas Towers respectively, such that Al-Jazeera’s implied authority is tied not only to a global footprint but also familiar architectural landmarks.

MONTREAL AND ITS MEDIA

Although Montreal’s urban population of 1,650,000 might, on first glance, exclude it from this conference’s definition of the ‘medium sized city’, its linguistic makeup reveals a complex identity, and one in which it is particularly difficult for established media producers. Importantly, it is inaccurate to describe Montreal as bilingual. In the 2011 census, more than seventy per cent of the population reported French as their mother tongue, as opposed to fourteen per cent English. While Montrealers and Montréalais are typically demure about their working knowledge of both languages, the city represents a difficult context for English-language media producers, especially those that rely on the sale of commercial advertising to support their activities. Of the four weekly free magazines founded in the city in the nineteen-eighties and nineties, Mirror (1985-2012), Hour (1996-2012) and Ici (1997-2009) have all closed. The French language Voir (founded 1991) continues, albeit having reduced from weekly to fortnightly publication in 2013.

But it is not only English language outlets that have had to respond to declining sales and advertising revenue. Founded in 1884, the French language newspaper La Presse discontinued its Sunday edition in 2009, and was the first daily newspaper in the world to scrap its weekday print edition in 2016. Editor Guy Crevier reported that since the launch of the newspaper’s digital apps a few years before the abandonment of weekday print editions, not only had subscriber numbers increased but that readers were engaging with both editorial and advertising content for longer. The design of a custom suite of apps for different mobile platforms was not only engaging a larger and typically more affluent audience, but it was also providing advertisers with detailed information about the readers engaging with their advertisements and advertising executives with valuable metrics to secure further clients.

While the example of La Presse represents a global first, Montreal’s mainstream television outlets have been slower to adapt. With television channels divided according to their audience’s language. English-language broadcasters have struggled to remain economically viable in the face of a small Anglophone audience and limited advertising revenue.

The television station Global Montreal traces its existence back to CKMI-TV, which came on air in 1957 when it was licensed in Quebec City (two hundred and fifty kilometres north of Montreal). Whereas fifteen per cent of Montreal’s population speaks English as a mother tongue: less than two per cent of the much smaller Quebec City population speaks English in the home. Licensed to an overwhelmingly francophone city and entirely dependent on English advertising, CKMI struggled for much of its existence. In 1997, a controlling stake in the station was sold to the Canwest Global conglomerate. The Global Television network was created by the media magnate Izzy Asper with the piecemeal acquisition of about a dozen regional television stations across the country. Alongside the public CBC and the private CTV, Global was the third English-language network that could claim to broadcast nationally from coast to coast. Although CKMI’s audience and advertising revenues were poor, it was the missing piece in Global’s national network. After acquiring the station, Global moved its production operations to Montreal and, in 2009, succeeded in persuading the Canadian Radio-Television and Telecommunications Commission (CRTC) to move station’s license from Quebec City to Montreal. This important reclassification this allowed the station to carry local advertising from the more populous and more anglophone city.
PRIME TIME

For the 2007-08 season, Global imported a line up of American comedies and dramas, including season premieres of Bionic Woman (from NBC), Cashmere Mafia (ABC) and Back to You (Fox), in which Patricia Heaton and Kelsey Grammer starred as two bickering anchors reunited on a local television newscast in Pittsburgh, Pennsylvania. While these imports dominated primetime, CRTC stipulations to local broadcasting licenses obliged stations such as Global Quebec to maintain a minimum number of hours of Canadian content and locally produced programming. Nationally, Global National had been the network’s flagship early evening news broadcast since 2001, and was usually followed by a local newscast from each regional station. The dispersed population of Canada (thirty-five million spread across the second largest country by area) creates a number of problems for traditional network television. As Global National targets an early evening audience across the country, it is necessary to record and time-shift the programme. Filmed in studios in Burnaby, British Columbia at 2:30pm, Global National is broadcast live at 5:30pm in the Eastern and 6:30pm in the Atlantic Time Zones. The programme is repeated one hour later in each of the Central, Mountain and Pacific time zones. Unless late breaking news necessitates a re-recording, viewers in British Columbia are often watching a national newscast first broadcast several hours earlier in eastern Canada.

LOCAL NEWS IS NEXT

On the evening of Monday 3 March 2008, some five months after the announcement of the redundancies described at the start of this paper, television viewers in the Canadian city of Montreal sat down to a choice of local newscasts on six channels, three French and three English. On channel 46, as a dark teal map of Canada zoomed into the province of Quebec, a red ribbon wove across the screen. As the titles dispersed, a studio camera moved through a bright new studio towards Global Quebec’s senior anchor, Jamie Orchard. Orchard was behind at a redesigned desk, formed by a pair of intersecting segments, in a redesigned studio. Television monitors bore the animated logo of the network. The same palette of teal, blue and steel grey of the title sequence was used on a series of overlapping panels, some transparent, a few metres behind the anchor. In the distance, the recognisable Montreal skyline was visible through a frosted glass window. As Orchard delivered the first item, the viewed changed to a closer shot, and over her shoulder, through another frosted glass panel engraved with a map of Canada, multiple monitors in the production gallery flickered. The Evening News had a new look, one that placed Orchard in the foreground of a sleek, modern news
studio: one that with segment reminded the viewer of the proximity of the bustling control room and the journalistic expertise behind the stories.

That representation was a forgery. Whereas earlier Global Montreal newscasts had placed the newsreader in the newsroom or in front of a soundproofed window into the control suite (figure 1), this simulation (figure 2) was created digitally using a chromakey (or ‘green screen’) studio (figure 3). Of the two hundred redundancies announced in 2007, most were production staff, and half of all the redundancies were made in the eastern provinces of Quebec, New Brunswick and Nova Scotia. Global Quebec lost staff in Montreal and closed its bureaux in Quebec City and Sherbrooke. While two hundred jobs were to be lost in Global’s local stations, fifty new jobs were created in four production suites at television stations in Toronto and the western cities of Vancouver, Edmonton and Calgary. A memo circulated to staff admitted that Global Quebec and Global Maritimes were “underperforming financially.” Media commentator Steve Faguy connected the widespread redundancies with the motives of the network to focus on its most profitable programming, namely its primetime imports.

The reason Global is doing so badly monetarily is because they don’t have viewers for their newscasts. They don’t have viewers because they put on crappy newscasts. These cuts will make the quality deteriorate even further and drive even more people to competing regional news from CBC and CTV. Global is shooting itself in the foot in its rush to the bottom. But they don’t care. Their profits lie in rebroadcasting American content.

BEHIND THE SCENE

The two hundred redundancies enacted in 2007 meant that local newscasts would no longer be produced in the city that they were broadcast. Four centralised control suites would now produce thirteen different local newscasts. From March 2008, the Montreal Evening News was produced from a control room more than two thousand miles away in western Canada. A depleted staff of permanent reporters, complimented by a number of freelance journalists, would research, record and file local news stories to be broadcast each evening. Those packages would be transmitted via high speed digital connection to the control suite in Vancouver, where they would be prepared for transmission as part of the local newscast. Sitting down at her new desk before the start of the Evening News, Jamie Orchard fitted the familiar in-ear headphone and began talking to her producer, not on the opposite site of a soundproof window, but on the opposite side of the continent. In order for pictures recorded in the Montréal studio to be broadcast to television viewers in the same city - even the same building - as Orchard, video was transmitted across Canada, packaged into a broadcast-ready signal, and then returned to the local market for over the air and cable transmission. Even with the fastest ISDN lines, at the launch of the new system Orchard and her colleagues were required to accommodate a two
second time delay at the start and end of pre-recorded packages. After touring the CKMI studios in 2009, Steve Faguy posed the ethical question:

If photo manipulation is so scandalous in print, why is such video manipulation considered OK in television news? Isn’t it dishonest to show a newsroom behind an anchor’s desk that doesn’t actually exist? The problem extends further than the virtual set. The weather and sports anchors are based in Toronto and Vancouver, respectively, but give presentations from a Montreal perspective that imply they’re in Montreal (no mention of their actual location is ever given). It’s a slippery slope from there.  

Figure 3. Global Montreal studio.

Today, Global Montreal’s evening news continues to be produced remotely from a control suite in western Canada. As Steve Faguy comments, having established this more economical method of television production, it’s a slippery slope from here onwards. At what point does a local newscast cease to be local? And what role does the on-screen presentation of a newscast have to play, especially if it includes a virtual reality set that appears to locate the production both in a particular city and in the context of media producers?

While McLuhan, Foucault and Bourdieu presaged the theoretical implications of the digital revolution, none foresaw what might happen in the difficult context of a multilingual medium sized city. Global Montreal’s virtual set is an abstract space designed to convey a reassuring scale of journalistic activity. And yet the static appearance of the newsroom, and the occasional two second time delay as data is transmitted back and forth across the country serve as snags that, on closer inspection, serve to reveal the motivations and techniques of a commercial broadcaster.
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7 The show ran for one season and was not renewed.
dCODE: A NEW TOOL FOR CAPTURING PREFERENCES OF THE BUILT ENVIRONMENT

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INTRODUCTION

I wandered on to the High Line as a visitor to New York during the summer of 2010. As I sat on oversized benches of reclaimed teak and marveled at the juxtaposition of steel softened by overhanging tufts of native grasses, I knew the park, an easily identifiable 1.45 mile linear form constructed on a historic freight rail prominently situated above the meatpacking district was exceptional both in design and experience. But I did not snap photos with an iPhone or report my visual happenstance via Instagram. My visit occurred at the edge of a technological advancement. My encounters were left in my mind and encapsulated through the use of a digital camera as illustrated in Figure 1.

Figure 1. Image captured on the High Line by the researcher in 2010

In the spring of 2015, I visited the High Line again, this time to engage in an informal photographic inventory of the site. I was looking to answer the question, how can Instagram be used to gather user perceptions about the built environment? I was equipped with a smart phone and the Instagram App. Again, I stopped and admired the steel bed and the city beyond the Gansevoort Street overlook. And again, I was compelled to snap a photograph (Figure 2). But this time, I also shared some of the images of my walk through social media. It was no longer stored on a computer disk or saved in a scrapbook of personal memories. It was forever attached to the High Line. My images were “visually chronicled and preserved in a vast cloud-based database”.

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Through visual social engagement, people can connect to our shared histories and further record their preferences through likes and comments. Each image the public imprints from the built environment has the potential to transcend its transparent nature and become a visual sounding board to learn about the built space. What is not as clear for today’s practitioners is that this vast set of visual data can be called upon, through queries to extrapolate, and find commonalities and hidden patterns. The data can be used to help discern opportunities as well as constraints of the built environment.

**Historical Significance of Perception and Landscape**

“Perception is viewed as not merely dealing with information about the environment, but at the same time yielding information about what the possibilities are as far as human purpose is concerned.” The development of devices over time also contains a symbolic thread. Technologies drive the creation of tools, in turn, drive researchers to understand how humans connect to or give meaning to the built environment. While perception of our surroundings is intrinsic in the genetic makeup of humankind, understanding about perception to help learn about the built environment has a shorter history. Photography has been used in three primary ways to understand user perceptions: viewer preferences, visitor employed photography, and time-lapse photography.

The Kaplan visual perception model of coherence, complexity, legibility, and mystery paved the way for studies on perception in the field of landscape architecture (Figure 3). Through their research, the Kaplans found responsive patterns present in how people view an outdoor space. Viewers react to the visual array or the two-dimensionality of the space as well as to the potential patterns in the three-dimensional space. “The idea of the visual array is easiest to think of in terms of a photograph of any given landscape. The pattern of light and darken the photograph, the organization of the “picture-plane,” constitutes the basis of this level of analysis.”
Kaplan’s research made seeing beyond the picture-plane a comprehensible idea, and other research soon followed. Exploring the idea of observers taking the photographs to be assessed was the genesis behind visitor employed photography (VEP). Introduced in the 1970s, VEP was a way to collect and investigate the visual quality of the landscape. While VEP has not become a widely used methodology, it is relevant to explore the idea of handing cameras to a selected audience and asking them to take photos of a particular park, trail, or scenic stop. The idea behind VEP offers insight to researchers looking for directional, scholarly background to navigate current research methodologies. And what is accomplished in this study, exploring the capabilities of Instagram’s accessible data to instruct how users perceive built space, can be traced back to VEP. Other experts have employed time-lapse photography. William Whyte’s research for the New York City Planning Commission in 1969 used observational methods of capturing and documenting pedestrian movement and “street life”. His work offered insight into human interactions in the built environment and he held the power of observation in high regard. As state by Project For Public Spaces, “Whyte believed, we can learn a great deal about what people want in public spaces and can put this knowledge to work in creating places that shape livable communities.”

Instagram: The Tool of Today

Today, people are capturing and sharing their own images of the built environment. Research investigating the technological movement from capturing to capturing and sharing is at an introductory stage of development. Educational Institutions have been analyzing social media content to understand what people are taking images of and what is popular. In an early onset of visual social media research, the popularity of Instagram as a new source for insight into social, cultural and environmental issues was addressed at the Eighth International AAAI Conference on Weblogs and Social Media in the paper What We Instagram: A First Analysis of Instagram Photo Content and User Type. The findings of this cutting-edge research used the Instagram application programming interface, (API) along with computer vision techniques, clustering and human coding to reveal eight popular photo categories, see Figure 4. The eight categories: friends, food, gadget, captioned photo, pet, activity, selfie and fashion were used as the foundation for coding Instagram photos in this report. Each predetermined category helped in the identification process, allowing for the sifting of landscape images from the deluge of photos.
Figure 4. Image of exemplary photos and associated category from What We Instagram: A First Analysis of Instagram Photo Content and User Type

FROM IDEA TO A HYPOTHETICAL PROFESSIONAL REPORT

Moving from the hypothesis, *how can Instagram be used to gather user perceptions about the built environment?*, used in a hypothetical professional report required a codebook. Both automated and manual methodologies were used to query and code the data pulled from the Instagram API Console (Figure 5). The computer automation used in this report explores the potential for design practitioners to harness the developer side of large sets of visual data to provide insights into perceptions and experiences. While working with the parameters of back-end development requires an understanding
of software, coding and programming, the benefits have the potential to take research to a new level and allows researchers to gather images without creating bias.

**Figure 5. Main Methodologies Diagram**

**dCODE**

The hypothetical professional report presents the procedure as dCODE, a visual intelligence tool. dCODE queries images and metadata from Instagram based on the needs of the firm and the project. Each captured and shared photograph is manually coded and categorized. The output is a series of visual representations of the space overlaid with the design created by the client. dCODE takes the site analytics of the report a step further and offers findings. The concept of this technological deep dive is illustrated in Figure 6 and presents opportunities and constraints through a series of heat maps and photomontages. The analytics have the capabilities of keeping design practitioners on track with today’s changes in technological advances and human interactions in the urban environment by offering visual stories to aid in the competitive RFP processes and as a platform for analyzing competitive intelligence.
The Client
This particular project was conducted as a beta test for James Corner Field Operations. The firm comprised of landscape architects and urban designers was one of the core components of the team commissioned to bring life and the pulse of the public back to the abandoned railway.

The Methodology
An automated hashtag search was conducted using dCODE to query the captured and shared photographs from a 168-hour pull from June 14th through June 20th of 2014. The dates were selected to avoid major holidays and poor weather conditions. The data pull resulted in 2,060 photographs and the associated attributes.

The results of the automated query were then manually processed to weed out all Non Park, Not Applicable, and Other categories. The remainder of images that fell within or surrounding the park were categorized as Activity. Each of the Activity images was further manually coded to reveal seven secondary Activity categorizations: Views, Public Art, Vegetation, Architecture, Trails & Pathways, Site Furnishings and Signage and the results are illustrated in Figure 7.
Each of the seven secondary Activity categories, or a total of 1064 images, were further addressed to find hidden patterns or commonalities and labeled as a Designed Element, Non-Designed Element, Non-Discernible or Not Applicable, based upon the potential the image had to be geo located, as illustrated in Figure 8.

The constructed details of the park as a Designed Element versus Non-Designed was determined using the maps of each section of the High Line pulled from the book, *Designing the High Line: Gansevoort Street to 30th Street.* The Design Elements map was recreated based upon this collection from pages of
the book and is illustrated in Figure 9. Both the Non-Discernible and the Not Applicable Elements were not mapped as they were unable to be geolocated.

![Image of the Design Elements map compiled with visual information from Designing the High Line: Gansevoort Street to 30th Street.](image)

**Figure 9.** Image of the Design Elements map compiled with visual information from Designing the High Line: Gansevoort Street to 30th Street.

**The Findings: Example Query of the Views Category**

The hypothetical professional report revealed findings for each of the seven Activity categories, or 1064 of the 2060 images collected through the query. In order to adhere to the brevity of this paper, only the Views, or 510 images were further analyzed.

**Views**

510 photographs fell into the Activity Views category, revealing a tendency for the general public to take pictures of the park and surrounding region. Whether the vantage point was on, below, adjacent, or above the High Line, the Views accounted for approximately 47% of the Activity photos and almost doubled the numbers found in any other category as illustrated in Figure 7. A total of 15 vantage points were located at Designed or Non-Designed Elements and the Views also take into account the more prominent Non-Discernible Elements. The breakdown of the View categorizations can be seen in Figure 10.
Maps: Designed and Non-Designed Elements

The Designed Elements and the Non-Designed Elements of the High Line Park were mapped to bring context to the space. At a high level, the maps are intended to supply Field Operations with a quick overview of the findings of the report. Views maps are illustrated in Figures 11 and 12. Intensity was used to visually define captured and shared areas of the park in opposition to less prominently captured and shared portions. The heat map is accompanied an illustrative map, locating where the distinctions between Designed and Non-Designed Elements fell.

Figure 10. Image of the Views category breakdown of the Designed, Non-Designed and Non-Discernible Elements

Figure 11. Image of the Views heat map
Figure 12. Image of the Views sample photographs and activity elements

Designed Elements: 10th Avenue Square
The most prominent Designed Element in the Views category was centered around the secondary Views sub-category, 10th Avenue Square. The details illustrated through the collection of photographs from the weeklong study in Figure 13 are twofold. People were either taking photographs of the surrounding region while immersed within the design or they were capturing and sharing extended views with the backs of other pedestrians in the foreground. Pedestrian captured and shared photographs illustrating the park, or extensions of the park to the city beyond, indicate high use of the design. When the captured and shared images begin to encompass the viewpoint of other pedestrians as illustrated in the example photographs of Figure 14, the findings bridge commonalities between public perception of space and a trained practitioner’s eye.
As practitioners of the built environment, our designs are intended to meet the challenges of use and each pre-built rendering is expressed with the final touch of human engagement. In Figure 14 pedestrians captured and shared other pedestrians looking at the views, just as designers render the space with human figures. These results offer alternative clues to the success of 10th Avenue Square. Advances in technology provide the pedestrian with the tools to capture and share the visual information. William H. Whyte said, “What attracts people most, it would appear, is other people.” A portion of the captured and shared photographs on or near 10th Avenue Square begin to illustrate Whyte’s past work through the advances in technology. Field Operations should value the 10th Avenue Square photographs of people taking pictures of people and look to the design of the space as an entity to emulate in further advancement of public work.

**Non-Designed Elements: Eduardo Kobra Mural**

The most prominent Non-Designed element in the secondary Views sub-category illustrated in Figure 15 was the Eduardo Kobra mural. A reinvention of the 1945 photograph V-J Day in Times Square by Alfred Eisenstaedt, this installation showcased vivid coloration and was known as a popular attraction among pedestrians.
Walking along the Woodland Flyover, the trail begins to narrow and the site furnishings are at a minimum. Field Operations design suggests movement. Yet, for an extended period of time the commissioned piece offered a surprise pop of color and it congested the pedestrian path. The High Line came first. Section 2 (West 20th Street to West 30th Street) opened to the public on June 8, 2011.11 Eduardo Kobra painted the mural at 25th and 10th Streets in June of 2012.12 The High Line offered an exceptional vantage point of the mural. Within all seven categories, the most captured and shared photo was the Eduardo Kobra mural. The upside, the iconic status of the High Line depicts the powerful potential to catapult well-received work placed on and around the High Line. The downside, the mural had the potential to bottleneck the park diminishing the pedestrian experience on heavily trafficked days.

**Non-discernable: Sunrise/Sunset**

The secondary Activity sub-category Sunrise / Sunset accounted for the most prominent collective group of Non-Discernible Elements. This grouping of photos illustrated in Figure 16 suggests there is a desire for pedestrians to utilize the built environment to connect with nature. Each photo’s most distinct reference is of the skyline or the reflection of light off of man-made elements. These photographs have the potential to impact future designs by identifying the need for parks to be a dynamic space capable of ebbing and flowing.
Before examining the Sunrise/Sunset sub-secondary category, the Views represented in the findings touched on the volumes of people using the space. And while a high visitor count suggests a successful design, photographs where people are not the primary focal point begin to reveal the calm and urban space has the potential to provide. Just as nature has its seasons, each day and hour on the High Line suggests a differing level of intensity. And through the analysis process, the Views illustrate the need for parks to capture the full spectrum of human interaction.

**CONCLUSION**

The future of dCODE and the application to the field of landscape architecture could prove to be an effective tool capable of saving time and money producing unbiased results as illustrated through this research. But Instagram is an ever-changing platform creating shifts in the operational process of querying visual social media. Beyond technology, it is also important to consider the human-centric aspects. People’s perceptions of the built environment become more and more critical as our luxury of technology has the potential to reduce the ability for people to give preference a thought. The question that started out simple, how can Instagram be used to gather user perceptions about the built environment? spiraled into a complex journey, weaving technology into the understanding of our landscape. dCODE’s ability to tap into uninhibited data collection, which was originally deemed a strength, became more and more apparent as the research ended to also be a weakness. Only through more research, can dCODE truly offer a visual sounding board capable of being applied to professional practice.

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MONUMENTAL CAPSULES AND NETWORKED MOVEMENTS: INFRASTRUCTURES AND EXPLOITS IN CLEVELAND’S TOWER CITY COMPLEX

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Cleveland’s landscape exposes the city’s past and present development eras through a kind of material patchwork. Near-ubiquitous neoliberal development projects abut neighborhoods hollowed out by both the foreclosure crisis and the era of austerity urbanism (the latter are spatial consequences of the former). In terms of the urban landscape, the city’s crisis is one of scale. More than 20,000 vacant lots dot the city. Its population has seeped to the outer suburbs and other regions. A once prosperous industrial urban center (holding the title of the United States’ sixth largest city), Cleveland currently loses, on average, one resident every fifty minutes. A diminished population of 390,000 residents is a fraction of the city’s peak of 900,000 residents at the apex of its economic influence in 1950. The globally-known health care provider, the Cleveland Clinic, along with a number of supporting healthcare and higher education institutions have ensured the city’s economic strategy remains typically neoliberal. Currently, clusters of development in gentrifying neighborhoods and economic anchors receive the most apparent benefits of the city’s recent ‘renaissance’—read: a handful of neighborhood revivals geared mostly toward white, upper middle and upper class leisure and consumption.

Cleveland’s infrastructure primarily operates and functions under an early 20th century model. Services to largely vacant neighborhoods are costly to suppliers and the city. A $2 billion consent decree from the Environmental Protection Agency requires sewer infrastructure to be upgraded for stormwater capture at a 98% rate. At the same time, the city relies heavily on income taxes (much of which are collected from people who work within the city but live outside its limits) to support already lean city services while generous tax-abatement on property development coupled with the ongoing foreclosure crisis result in multi-million dollar losses each year. The city struggles to attract tax dollars through new mega scale projects like a new casino and an already struggling new convention center intended to attract medical professionals and vendors from across the globe. Cleveland is not, currently, self-sustaining.

While, at least nationally, the city’s prominent narrative is one of decay, the surrounding metropolitan region contains a relatively stable population and functioning services. Buildings and infrastructural fragments of a bygone industrial era in the city, though, serve as a material signifier of a powerful yet incomplete economic narrative of Fordist production and nostalgia. While vacancy and demolition are prominent in certain parts of the city, the more common, yet less imageable phenomenon, is that of incompleteness and asymmetry. Half-vacant downtown buildings and gap-toothed neighborhoods with diminished social and economic capacity present a problematic that neither allows for complete re-imaging nor substantive economic recovery. In a desperate attempt to re-market these neighborhoods and properties as economically viable, a $50 million municipal bond was issued in 2014 to demolish more than 1,000 houses each year—a municipal bet that suggests economic value will return to these neighborhoods based on the demolitions. The popular city image in the region vacillates between a “rust belt chic” aesthetic, and one of perpetual neoliberal renaissance through new “iconic” development, both of which produce the architectural edifice as representative indicator of the city itself. However, given the scale of political and economic operations, a more accurate map of the city may be a pervasive field condition and interlinked network topology, made present in half-occupied structures and half-occupied neighborhoods. Given these material conditions, any legitimate analysis of the urban environment would benefit from a rhizomatic approach.

One salient example of the forces and flows (informational, commercial and material) at work in Cleveland and many cities like it is the Tower City complex, completed in 1930 during the city’s industrial and economic boom. Composed of both it’s namesake Terminal Tower, it also consists of multiple linked structures and additions. A recognizable anchor in the skyline, it serves as a nexus of urban traffic at the heart of Cleveland’s central business district. Housing a shopping mall, a data
warehouse, a movie theater, two hotels, and a public transit hub, it is a material constellation of relationships that constitute the city (and that deeply impact those who use it), both historically and presently. The most recognizable and distinguished high rise in Cleveland’s sparse skyline, Tower City (like its larger urban environment) struggles to retain occupancy across its diverse portfolio of leasable programs. While centrally located in the city, low foot traffic through the complex coupled with outdated ceiling heights and floor plate sizes makes leasing difficult. This has led to multiple studies for how to convert the complex, in particular the retail spaces, into more economically viable uses, ultimately ending in the conversion of a large multi-level department store into a casino, and lower level spaces into data storage terminals and server farms.

Using Cleveland’s urban landscape, and Tower City specifically, as an heuristic, our paper explores the material remainders of historical and economic relationships in the urban environment and attempts to model an alternative epistemology of the structure available to city-users for distinct (and user-focused) urban formations. Locating in the complex both a paradoxically monumental and transitional agglomeration of spaces, that is to say spaces of flows as well as of capsularity, our work is invested in understanding the potentialities of contemporary urban intervention both in Cleveland and in contemporary urban landscapes more generally.

Urban theorist Lieven De Cauter describes a tendency to encapsulate and enclose as the expansion of informational and material networks hastens the movement of human and data bodies through multiple spaces. He argues in Capsular Civilization that capsular spaces and discourses, under the banner of security, claim to protect us from perceived threats of otherness and that capsularity increases as network phenomena proliferate.44 The capsule as both spatial phenomenon and biopolitical strategy is visible in the architecture and development history of Tower City. A close reading of this sites’ functions and failures also exposes, though, ways in which excesses and alternatives are embedded in urban structures, even and perhaps especially, those that are both monumental and capsular.

A varied and dynamic approach to Tower City and its relationship to capsularity begins with a basic look at its economic history and current leasing strategies. The Tower City complex has struggled to maintain economic vitality since the urban flight associated with post-World War II suburbanization. The complex is owned by Forest City Enterprises, a real estate developer and manager founded in Cleveland in 1920 during Cleveland’s rapid industrial and urban development. A publicly traded company since 1960, Forest City has recently restructured to become a Real Estate Investment Trust (REIT) in 2016. Through the restructuring, many of its real estate holdings will be sold, and its home office relocated to Maryland. The firm will maintain, however, a headquarters in the Tower City complex.

There are eighteen separate buildings in the Tower City complex, each requiring its own contracts with external forces. At present, contracts exist with the Greater Cleveland Regional Transit Authority, Rock Gaming (who owns the casino located within the complex), the US Department of Transportation, as well as individual retail and office lessees.

Henri Lefebvre in the Survival of Capitalism suggests that capitalism requires perpetual transformation of space. Spaces need to be continually commodified, abstracted, and branded in order to provide value.45 This is perhaps most obviously seen in gentrifying neighborhoods. However, a more powerful and less present form of spatial abstraction through capital occurs through financial devices like REITs. Traded much like a stock, space is no longer tied to its leasable attributes, but is further abstracted into a larger pool of multiple buildings and properties. Space itself becomes a decentralized abstract infrastructure traded on the market. The city, in this model, becomes a series of data points, conceivably hackable through a re-routing of financial and real estate apparatuses. In this way, the Tower City complex can be seen as a material presence fixed in a specific site in Cleveland, while also being abstracted at the level of larger market forces.

Nothing, of course, in the architecture of the Tower City complex indicates to its users the financial speculation or complex legal and commercial structures that function to define it. The invisibility of such phenomena is a capsular move. While presenting itself as a unified, secured and materially stable entity (through its iconicity for Cleveland, its relative aesthetic coherence as a visible structure, its naming, etc.), Tower City hides its own abstract moves. It harvests from its monumental, capsular status an image for itself that runs counter to the facts of its ownership and operation. It in this way, too, it manifests the relationship between capital and space articulated by Lefebvre, albeit in a distinctly contemporary way.
To further unpack the complex’s dual function as monumental and capsular just as it is transitional and fluid we can map out the structure’s vertical and horizontal axes. On the street level, that is the horizontal plane of its intervention in the city, the complex is oriented along highly manicured retail storefronts. These commercial surfaces limit and direct public experience. They hide the gritty support systems (be they human labor, economic or material infrastructure) as well as keeping the majority of the building’s traffic away from high-income office space. The store fronts encourage consumption while the building’s other assets are effectively contained and protected, encapsulated.

Vertically, circulation is also highly controlled. Data warehouse activity in the lower levels is secured and invisible to most of Tower City’s users. While very high volumes of informational traffic move through Tower City (by some accounts, nearly all of Cleveland’s digital communication does so) its function as a conduit is obscured from public view.

Urban users of the structure may indeed understand it as a transitional site in terms of the movement of people, but such movements are carefully routed. Usually foot traffic is first directed up from the transit hub or street level and through the struggling retail environment. Once in this commercial space, little or no wayfinding assistance guides the visitor (a strategy typical of 20th century commercial centers, specifically the mall). The Terminal Tower office space is highly secured, however, and gated off (appropriately capsular in the sense described by de Cauter), and the diverse crowds that make up the foot traffic in the building are thus effectively neutralized for occupants in the tower above.

Wandering within the complex one is confronted with prohibitions via security protocols and limited access (again, reifying the position of Tower City as monumental and capsular), and on the other with a rather dynamic and flexible pattern of movement through commercial space. This latter ‘space of flows,’ as we have indicated, is amplified by the relationship the structure has to the RTA system, assuring a consistent movement of human bodies throughout and below the complex. The complex, through its data management and transmission and its public transportation activities, facilitates large amounts of human, information, and financial flows into and out of the city. Its verticality assures its functional capsularity—helping to hide data traffic and ‘protect’ business spaces, its horizontality its gestural position as a site of capital flow—seeing the ebbs and flows in capital in the form of consumers, laboring bodies, investments and more. It succeeds, in this way, at reproducing its position as a monumental site for Cleveland, and fails at place-specific stability. Its uses are proscribed even as it instantiates itself as a site of flux and exchange. The sorts of exchanges, informational or otherwise, it enables are simply managed rather than allowed to proliferate or change.

Such management, of course, directly inhibits alteration as well as alternative imaginations of the complex and the city over which it casts its shadow. Management, indeed, might be the appropriate way to characterize what Tower City and structures like it are built specifically to do. What they are managing, however, is not only their own image and use, but also the larger scale possibilities afforded to the user of the city. Space and data are ‘secured’, effectively monetized, and their perpetual value in the system is assured by the structural prohibition of thinking, experiencing, and using space and data differently.

Structurally, the complex is comprised of numerous separate buildings linked together by networks of retail mall walkways, tunnels, parking garages. Additionally, the complex spans the distance of several blocks and exists underneath two roadways. The 18 differently controlled spaces involve multiple players, including transportation authorities, who must collaborate on complicated scheduling, public access, and maintenance issues. Non-standard building conditions, such as roadway expansion joints, limit the adaptability of the retail environment, hampering efforts to modernize the shopping experience. While the complex of spaces and owners might normally suggest a disruption of Tower City’s monumental position, and of its capsularity, the density of forces at work in and through the structures that compose it are effectively hidden by, on the one hand, the nature of the structure’s architecture (its service as a referential indicator of Cleveland’s industrial heyday, its continual position as the city’s iconic synecdochical image in boosterist publicity materials, etc.), and on the other, by public fantasies about informational and financial exchanges as virtual rather than material and by a general assumption that such flows are contained and ordered.

Architect and theorist Keller Easterling writes, “spaces and urban arrangements are usually treated as collections of objects or volumes, not as actors. Yet the organization itself is active. It is doing something, and changes in the organization constitute information.”

Tower City leverages this
popularly practiced “habit of mind,” as Easterling calls it, in which users are encouraged to ignore architecture’s power to allow or inhibit the flow of information as well as bodies. The typical user of the complex, thus, is insulated from contact with the actual producers and powers at play within and through it. By extension, users are also sheltered from the ways in which such forces, through the architecture of the complex and the economic, social, and epistemological pressures it engages, work on them.

Easterling furthers earlier arguments stemming from both cybernetics as well as landscape urbanism’s investigations into the urban surface as grounds for alternative speculation. For example, landscape urbanist Alex Wall is interested in spaces that evoke, “...the functioning matrix or landscape tissues that organized not only objects and spaces but also the dynamic processes and events that move through them.” These critics suggest latent potentials both in material alterations of space, as well as dynamic flows to make apparent the abstract and veiled forces that shape the Tower City complex.

Vertically, the complex is quite diverse both socially and economically. However, the limited, horizontal public experience is constrained. No one occupying any space within the complex has a true comprehensive understanding of complex and fragmentary totality of the space or its full operational scope/reach.

The Terminal Tower as well as the spaces within the Tower City Complex present themselves as grand and monumental. Their contributions to the image and function of the city is undeniable, however, the complex is stuck in between functioning realities. The configuration and processes of the complex are extremely outdated and function neither in an historic preservation model nor in an adaptive reuse model. That they are obscured from the public also prevent potential intervention for alternative goals. “We need both network and encampment,” writes media theorist Geert Lovink, to move politics. While this is, it seems, indeed the case (as evidenced by, among other things, the Occupy movement’s employment of network technologies alongside traditional spatial occupation), the Tower City complex as a spatial software also relies on both network and encampment, even as it hides its networked nature. It too, and not at all in the service of resistant politics or alternative urban futures, wants to engage in monumentality just as readily (and simultaneously) as it does with rapid, networked flows, though those flows it seeks to strictly direct and contain. The distinction between the plausible tactics of an affirmative speculation in the city and the foreclosing of alternative urban engagement (a foreclosure surely embodied by Tower City) lies in the relationship of either to capsularity.

It is, partly, our contention that a dynamic epistemological puncturing of the capsule (here to be read both materially and conceptually) can make structures like the Tower City complex more legible to its users and might, indeed, encourage a radical reframing of both monumental and networked phenomenon as they work in contemporary urban landscapes. An operative puncturing of its current spatial configuration, its programmatic function and data flows allows an imaginative re-interpretation of what space might be or how it might function. We find Gordon Matta Clark’s “Conical Intersect” of 1975 a worthwhile precedent—its disruption of urban epistemology and temporality. The contemporary use of digital design and data-driven methods might also lead to a formal restructuring along the lines of Russian Constructivist, El Lissitzky’s Proun design methodology. Driven by social aims, El Lissitzky’s proun drawings suggest a single materially legible form from multiple vantage points, while at the same time striving for a boundless amount of possible solutions.

If the Tower City complex and its users, can reimage monumentality and legibility in terms of process and not of control or management, then the opportunities for a unique shared public in both the vertical and horizontal directions, as well as the associated social and economic engagement such an alternative monumentality would encourage, could redefine complex urban arrangements.

While Lovink’s interests are in social media, rather than specifically spatial, his argument about the nature of the contemporary functioning of the social is useful in pointing toward an effective reformulation of Tower City’s monumentality: “The term ‘social’ has effectively been neutralized in its cynical reduction to data porn,” he writes. “Reborn as a cool concept in the media debate, the social manifests itself neither as dissent nor as subcultural. The social organizes itself as a techno-cultural entity, a specific effect of software, which is rendered addictive by real-time Facebook features. [...] The social is precisely what it pretends to be: a calculated opportunity in times of distributed communication.”

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In terms of the Tower City complex, the social has been conceived as an effect of its own spatial software rather than a site of complex negotiations, of otherness, or even of community. But what if instead of this version of the social, manufactured by Tower City’s current monumentality and its capsular functionality, the space could be hacked for alternative purposes? What if reading Tower City as the site of extremely complex flows (again: economic, informational, material) would allow its users to make a different sort of cognitive map? We are thinking, of course, of Frederic Jameson’s work (through Kevin Lynch) on cognitive mapping and ideology.\textsuperscript{38} It is no accident that in the development of his theory of cognitive mapping, Jameson reads another kind of monumental structure: The Bonaventure Hotel in downtown Los Angeles. What we are trying to offer here is a model of a certain kind of cognitive mapping. And we think the way to do it is, literally, on the ground, in the city. The structures (and structural software) that surround us as we wander the city are ripe sites for both material and epistemological intervention. In effect, reimagining capsular spaces as only fictionally so (that is, as already punctured, leaky, strange and dynamic) will help unearth those networked forces on which the capsule relies, but which it seeks to hide. By rendering visible the invisible forces that shape the networks, economies, and spaces of Tower City, we can ascribe new meaning to the void, and the half-empty. By making material the abstract forces that comprise monumental capsules, latent potentialities and social cohesions may arise from an otherwise complex and obfuscated complex of spaces.

Jameson’s exploration of the Bonaventure, like the one we have offered here of the Tower City complex, is meant to indicate the spatial consequences of global (for Jameson, unrepresentable) capital. Its postmodern operations move bodies through buildings (and cities) in certain ways. They prohibit some epistemological strategies and allow others. We hope to add, though, another cognitive map: that of the network, of ownership, negotiation, informational and material flows which constitute a kind of hidden backside to capsular structures. Of course this map, like all cognitive maps, remains only partial. But it does insist on the relationship between monumentality and capsularity. It also insists that the traces of social and economic relationships (those networked and global, and those site-specific and local) that constitute urban life are, with a little work, visible in the city’s very architecture. That little work, which we have tried to do here, is necessary if Cleveland, or cities like it, are to be able to reimagine and in turn reform their city spaces in more egalitarian ways that will rely not on fictions of unity and coherence, of security and order, but instead on coming to terms with the fragmentary nature of the urban landscape, its residents, and its economy.

\textbf{Figure 1. Section through Tower City & Terminal Tower}
References

6 Lieven de Cauter, Capsular Civilization (Belgium: NAI Publications, 2005).
11 For a much larger discussion of affirmative speculation (urban and otherwise) see An Uncertain Commons, Speculate This! (Durham and London: Duke University Press, 2013).
"METABOLIZING THE URBAN: THE POST-INDUSTRIAL CITY AS HYBRID, CYBORG AND ASSEMBLAGE"

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ABSTRACT
The emergence and development of digital media and “information and communication technologies’ (ITC) has led to fundamental reconceptualizations of the nature(s) of urbanity, of the multivariant processes and agents involved in the progressive urbanization of the world, and of the way socio-cultural identities fundamentally relates to environment.

Ecology has become a widely (and often uncritically) used concept to (re-)theorize the interactions between multiple, interdependent and networked human and non-human systems, between flows and materialities of information, energy, labor, capital and resources. The resultant “new” ecologies were variously construed as “hybrid” and “cyborg”, blurring traditional and emergent boundaries between human and non-human, nature and technology, material and immaterial, space and flow, determinate and open-ended, fundamental to our understanding of ourselves and the environments we occupy. They propose multiple, simultaneous realities that are materialized, mediated, enacted and reproduced across different spatial/(im)material conditions and operate across and in-between physical space and cyberspace, concrete and imaginary.

This paper traces conceptualizations of relationships between dimensions of “city” and “urbanity” as “hybrid” and “cyborg” ecologies, concepts that have influenced contemporary discourses on the nature of urbanity as socio-ecological assemblage and as medium-mediated. It investigates the development of “metabolism” as a critical third dimension, facilitating a deeper understanding of the complex situated processes, actors and agents that shape and mediate cities as lived-in realities, including their accompanying socio-ecological constructs. It identifies some of the limitations of these concepts and theories, and introduces assemblage theory as a potential remedy.

The paper critically reframes these new realities that are governed less and less by boundaries and more and more by connections and flows, and assembles an alternative framework to reimagine and reconstruct urban environments, new processes and fields of action empowering traditional and new actors, further blurring the boundaries between human and non-human processes. It identifies and proposes a series of critical questions and propositions, grounded in a survey of the most recent literature, and in the processes and experiences of the International Building Exhibition (IBA) Emscherpark (Germany, 1989-1999), one of the most challenging and large-scale projects addressing the revitalization and conversion of a economically depressed region shaped by heavy industry.

DECONSTRUCTING DUALITIES: EPISTEMIC AND METABOLIC RIFTS, AND A NEW ECOLOGY

Cities, and more generally, urbanity have traditionally been conceptualized as the pinnacle of the project of civilization, and as the opposite to nature. The underlying Cartesian binary – the Nature/Society dualism – is at the core of an epistemic rift – a series of “violent abstractions implicated in the creation and reproduction of two separate epistemic domains: ‘Nature’ and ‘Society’. (...) This epistemic rift was an expression – and also, through new forms of symbolic praxis, an agent – of the world-shaking material divorce of the direct producers from the means of production.” The past and current conceptualizations of the city and urbanization as “hybrid”, in terms of human and non-human ecologies and “cyborg” in terms of the city as a result of processes that fuse the social with the physical, producing a ‘cyborg’ city with distinct physical form and incongruous socio-ecological consequences are still shaped by this epistemic rift. Despite the
reinterpretation of Marx’s conception of social metabolism as the “metabolism of nature and society”9, the separation of “nature” and “society” has proven astonishingly resilient. Metabolism in this context continues to be conceptualized as the metabolic exchange between “nature” and “society” as separate entities, cementing the aforementioned dualism. A few authors, such as Moore10 and Luke11 propose an alternative view: moving from the duality of humanity and nature to the dialectics of humanity-in-nature, and to “a singular metabolism of humanity-in-nature” allows to explore specific configurations of human and extra-human natures.12 Capitalism then, instead of being “nature’s” antagonist, much in Marx’s tradition, can be understood as a “rich totality of many determinations”13, or, more provocatively, as “world ecology, joining the accumulation of capital, the pursuit of power, and the co-production of nature as an organic whole.”14 This reading of metabolism then might “unify humans and the rest of nature through “the unbroken coincidence of our being, our doing and our knowing”15 and replaces the concept of environment as object with environment-making as action. The increasing role of human action in the dramatic and accelerating global changes, often referred to as the new geological era of the “anthropocene”, can only be understood if one replaces the dualism of the “economic” and the “environmental” with an understanding on how the capitalist world-ecology has both created and resolved crises over time. The relational critiques of the society/nature dualism, such as by Harvey6, Smith17 and Williams18 have produced a dialectic ecology that eschews the distinction of a “social metabolism” that then encounters a “natural metabolism” in specific geographical-historical constellations for a singular metabolism in which human and non-human agents, processes and forces participate. The “apparent solidity”19 of specific geographical-historical arrangements (e.g. town and country, bourgeois and proletarian, nature and society) is replaced with a much more fluid and inclusive idea of capital, class and metabolisms as an organic whole, rendering “all social relations as spatial relations as relations within the web of life”.20 Ecology then, in a new and much wider sense, can, and should, be conceptualized as a representation of the web of life and becomes a critical tool to engage the realities of capital, power and nature outside of dualist categories. This engagement then, transcends and replaces the idea of an “external nature”, so carefully constructed, “mapped, abstracted quantified and otherwise subjected to linear control” by the capitalist project since the 16th century, and confronts us with both possibility and necessity of “changing humanity’s relationship to nature, which is to say also humanity’s relationship to itself.”21 While potentially hopeful and constructive, it also makes for a much messier understanding of the world-with-us-in-it, making it impossible to conceptualize, categorize and derive any insights of the world as separate from us.

“Such a perspective defies the convenient and Cartesian notion that capital, power, and production can be placed into their bloodless and disembodied boxes, next to another, bigger but still quite tidy box called Nature. And if we still recognize that the capitalist project creates something like nature in discrete forms (resources, genes, etc.), a world-ecological view of metabolism reveals this view of compartmentalized nature as a “God-trick” – please do pay attention to the man behind the curtain.”22 The advantage and challenge is that this metabolic understanding of ecology and the world contextualizes human action and the attendant decision processes within the realm of the political – and thus (re-) assembling the social and the ecological.

METABOLIZING URBANITY: BLURRED BOUNDARIES, FLOWS AND TERRITORIES

Urban environments have traditionally been a prime locus of design interventions –by choice and necessity. Often produced and shaped by the radical pragmatics of capital production and accumulation they almost equally often produce a need to address the physical, environmental, economic and social side effects and aftermaths of a socio-economic system based on growth. Cities shaped by the heavy manufacturing industries of coal and steel are a prominent example of the cycles of growth and decay. The Ruhr District in Germany, the Rust Belt and Detroit in the United States, or the Manchester-Leeds region in the United Kingdom are not just examples of innovative design and planning across many fields and disciplines to facilitate the rapid historic and uneven growth, but also the location of some of the most inventive approaches to address the decay that started in the late 1970ies and 1980ies. They illustrate convincingly that it is not just the increasing complexity of urban environments themselves that presents a formidable challenge, but their expanding social and
environmental interdependencies across the earth. Ibanez and Katsikis describe a “condition of generalized urbanization, increasingly diffuse agglomeration patterns blending with a dense mesh of infrastructural networks and are strongly interwoven with expanding zones of production, supply and disposal that cover the whole planet”, and suggest that it has to expand the focus on population densities and built-up space to include “the operationalization of a series of often distant but socially and ecologically interdependent territories, (...) the vast zones of food production, resource extraction and energy production, (...) the logistical spaces of trade and circulation.”

In the context of ongoing and wide-reaching socio-environmental transformation on a planetary scale the concept of urban metabolism has obvious appeal as an analytical basis for “gauging the continuous flows of energy, material and population exchange within and between cities and their extensive operational landscapes”, interweaving their various locational contexts and allowing the investigation of the various interactions among social and ecological processes in the production of urban environments, and “potentially enabling designers to address a broad array of processes operating at multiple spatial scales.”

On the other hand, the historic and contemporary discourses on urban metabolism have failed to integrate formal, spatial and material attributes: Ibanez and Katsikis suggest that “technoscientific approaches have been “limited to a performative interpretation of flows while more theoretical attempts to interrogate the socio-political embeddedness of metabolic processes have largely ignored their spatial registration.” The underlying tension between fluidity of flows and their materialization in the geographical patterns of human occupation has been driving discourses on the nature of cities and urbanity for a large part of the 20th century – from the metropolitanism of Patrick Geddes and Lewis Mumford to the regionalisms of Ludwig Hilbersheimer and Benton MacKaye and to the multi-scalar models of Ian McHarg, fueling some of the most striking architectural utopias: the work of the Metabolist group, Archigram, and Buckminster Fuller. It is important to note here that, while all of these, most prominently McHarg, were referencing the planetary scale, their projects and proposals were distinctly related to particular locations or regions. The dictum of “think globally, act locally” may well be an expression of their acknowledgement of scalability and nestedness, but one that is rooted in a reductive understanding and application of systems theory, complexity and criticality theories, and an inability to gather, measure and operationalize the overwhelming amount of data needed to develop sophisticated models to simulate outcomes based on that data.

The early debates on “sustainable development” which gained prominence in the 1980ies and 90ies (culminating in the United Nations 1992 Rio de Janeiro Earth Summit and the resultant Agenda 21), while generating a huge amount of quantitative data to model urban metabolism have remained largely descriptive and “blind to the underlying socioeconomic tensions associated with their geographic embeddedness”, rarely investigating metabolic interdependencies as sociospatial constructs but instead presenting them simply as “naturalized elements of organic ecosystems.”

This is somewhat surprising as the underlying model of the “triple bottom line” aimed to address the connections and interdependencies of social, environmental and economic processes and values. This issue has been increasingly addressed during the last 15 years. Influenced by political economy and neo-Marxian urban geography, the concept of metabolism has been “reappropriated in a dialectical manner that attempts to analyze the spatial complexities of metabolic processes in ways that also capture their social, natural, political and technological hybridities”, leading to an understanding of metabolic processes as “historically contested elements of a socially and ecologically unequal exchange within successive waves of capitalist development.”

Both technoscientific and critical approaches to urban metabolisms have not critically addressed the formal-material organization of the expanding urban fabrics, leaving design fields to somewhat uncritically engage the processes of urban metabolism: An uncritical obsession with design concepts that foreground adaptability, indeterminacy and flexibility, that focus on the quantitative aspects of performances and efficiencies that prioritize energy, material and climate optimization, and that foreground the a metaphoric interpretation of fluidity and organic forms is characteristic of the current state of the discourse. Concurrently, more analytical approaches look either at investigating particular metabolic processes, such as flows of food, water etc., or at particular territories and sites with distinct metabolic functions, such as landfills, ports etc.
Ibanez and Katsikis\textsuperscript{30} in one of the most thoughtful critiques of the complex dimensions of urban metabolism, argue that “the more seamless and contiguous the global metabolic system of exchange becomes, the more it is engraved in a geographically discontinuous organization of the earth’s surface”. The expansion and thickening of urban regions generates a “series of distinctive and rather sclerotic fabrics of urbanization”\textsuperscript{31}, by becoming increasingly interdependent with the development of specialized regions of service and supply (e.g. agricultural lands) and a “densifying mesh of connectivity infrastructures that enable the increasing volumes of exchange.”\textsuperscript{32} A key observation is that the “articulation of these fabrics (…) is becoming increasingly splintered as the differences inherent in the specificities of natural geography are coupled with the uneven patterns of capitalist development.\textsuperscript{33} Simultaneously, the elements of this fabric operate as parts of “a multiplicity of metabolic cycles (…) at a series of both spatial and temporal scales, from the building to the planetary, from the daily to the geologic”\textsuperscript{34} as well as being “artifacts of a process not only of capital investment but also the reorganization of materials and resources (…) and as such of a longer-term geo-metabolic alteration for the earth.

This approach to metabolism is profoundly critical of any kind of determinism – whether the “metabolic determinism” that sees conditions on the ground as reflection of metabolic processes, or the “geographic determinism” that interprets metabolic processes as a result of the specificities of a (natural) geography. Ibanez and Katsikis\textsuperscript{35} suggest that metabolism is an operational framework that “aspires to uncover the complexities between the historically path-dependent, socially and politically contested negotiations through which metabolic processes and their geographic imprints are co-produced. It aims to reveal metabolism not as a “natural”, “organic” process configured automatically as urbanization unfolds, but as a laborious and highly asymmetric effort to coordinate social and environmental systems, always mediated through the forces of capital and power.”

This approach produces a number of potentials and challenges:

- It highlights how almost every metabolic process transcends the urban to reach the even the most remote territories of the globe, interweaving a multiplicity of sites. Design then should aim to investigate its agency in shaping socio-ecological circular connections and interdependencies.
- It helps to overcome historically inherited conceptual and territorial binaries – society/nature, town/country that are inadequate and misleading in describing and analyzing the contemporary conditions of urbanization.
- It is critical of the current fascination with the apparent weightless circulation of energy, information and material, suggesting that contemporary architectures and urbanisms are still deeply interwoven with heavy material transformations and spatially confined processes, tightly connected to the specificities of natural geography.
- It suggests that the geographic interpretation of metabolic processes enables the simultaneous conception of the “construction” of a site vis-à-vis the “deconstruction” of others, proposing that the resulting composite of sites and territories and their associated social and ecological transformations might offer a nuanced redefinition of the context of design beyond traditional notions of proximity, connecting labor, operations and power relations with the material specificities across sites.
- It connects the fixity and motion of material circulation. Long-term material rearrangements can be conceived as part of a process of creative destruction, historically mediated through capital and power relations, opening up opportunities for understanding buildings, infrastructure or land uses and landscape itself as systematically temporal and in perpetual motion.

The strength of “metabolism” may well lie in its ability to act as as a descriptive and explanatory framework. Its attraction to many “urbanists” and “urbanisms”, in particular their more recent iterations in the United States, “Landscape Urbanism”\textsuperscript{36} and “Ecological Urbanism”\textsuperscript{37} is grounded in its ability to render visible complex socio-ecological processes and their geographic-material
constituents and consequences. Some of the critiques of “landscape urbanism” and “ecological urbanism” have centered on their alleged limits as “glorified mapping projects”, their “obsession with process over form” and their lack of a clear evaluation of the existing and development of preferred alternative scenarios. While some of these critiques originate in distinct ideological positions, in particular of the neoliberal kind, it remains a valid concern what, if anything, these “urbanisms” have to offer in guiding planning and design decisions, as they tend to avoid the more contentious issues of uneven development and social justice.

It is precisely here that assemblage theory may play an important role in providing an analytical and normative framework in addressing the aforementioned shortcomings.

**ASSEMBLING THE SPACES OF URBANITY**

It appears that understanding urbanization on local, regional or global scales is an exercise in overcoming binaries, dualisms, boundaries as well as other constructs that denote difference without making distinctions disappear. To use Deleuze and Guattari’s analogy of smooth and striated space, both conditions need to exist simultaneously to develop an operational understanding as a basis for action. It is suggested here that assemblage may provide a new productive conceptual understanding and framework. Assemblage, as a relational process of agonistic composition conceptualizes the city not simply as an output or resultant formation, but as ongoing construction (or development or creation), structured through inequalities of power, resources and knowledge, and produced as an unfolding set of uneven practices. First, assemblage emphasizes a deeper understanding of the relations between history and potential, or between the actual and the possible, “offering new ways of the different processes that historically produce urban inequality and the possibilities for those conditions of inequality to be contested, imagined differently and altered.”

Second, assemblage attributes agency to both the material-spatial and the social, suggesting new ways in which the many different ways urbanity and urban inequality in particular is produced and experienced can be understood and engaged, looking in particular at the material-spatial agency in developing resistance against urban development and re-development as mere capital accumulation. Third, assemblage can be imagined as collage, composition and gathering, offering generative and actionable ontologies and epistemologies.

Assemblage focuses on potentiality, generating concerns and assembling difference, involving both the formulation of alternatives and the debunking of existing claims (to legitimacy, to a particular space, to the city, to power, etc.). It is important to understand that potentiality exists as a tension between hope, inspiration and the scope of the possible.

Assemblage foregrounds the sociomaterial and sociospatial interaction instead of separating the social and material, between the material-spatial and the social, calling attention to the agency of spaces and materials themselves, and to how they might help shape inequality and the prospects for resistance and alterity.

Lastly, assemblage’s emphasis on composition holds potential to reconceptualize difference and unevenness to strategically and tactically generate new compositions across difference, based in mutual recognition and solidarity as the basis for new alternate and subaltern forms of city, urban space and urban life, and its productions and reproductions.

**ASSEMBLAGE INSTEAD OF MASTERPLANNING**

Although assemblage theory (or its predecessors) was never explicitly mentioned, the way the International Building Exhibition (IBA) Emscherpark (Ruhrgebiet, Germany, 1989-1999) was set up, is a compelling example of what this framework can accomplish in the conversion of post-industrial cities and regions. The IBA Emscherpark was a 10-year, 4 billion DM (German marks) project for “a regional policy and planning programme for sustainable ecological, economic and aesthetic renewal for an industrial region made up of over 30 cities that had been exploited to the maximum.” The IBA employed a distinct planning process: it provided an "open forum", combining a top-down regional planning approach with bottom-up local initiatives, promoting public-private partnerships,
and decentralizing planning and design decisions, employing concepts of the post-fordist city. The author attributes its strength and success in identifying a direction for and developing consensus on the overall goal of sustainable ecological, economic and aesthetic renewal, and simultaneously creating a process that facilitated the “assemblage” of many different, conflicting and complimentary projects, ideas, values and actors. A key component was the radical inclusiveness of the process and openness of the organization – and the emphasis on ongoing conversations and discourse over determinate decisions, aided by the 10-year timeframe. The IBA facilitated an understanding of the metabolic processes and geographic conditions in the sense of Ibanez and Katsikis, including a much improved understanding of the different scales and roles of different locations. The resultant concrete concept of the “Emscherpark Region” very much looks at the area/region as a metabolic system, a network, in terms of layered and interconnected material, social, economic and ecological processes over time and scales. Made up of 30 cities from 600,000 plus to less than 30,000 residents, the IBA allowed every single location to identify their roles within the larger metabolic systems. The assemblage approach then created a fluid mosaic of ongoing conversations, decisions and measures that were then evaluated, amended, intensified, counteracted etc., providing a forum to critically understand, discuss and implement changes. While the IBA ended officially in 1999, with many successful individual projects, ranging from adaptive reuse to economic and research incubator to ecological restoration to the development of new performative hybrid ecologies, and a contribution to the overall economic, ecological, social and cultural conversion of the region that was overall considered successful, it is noteworthy that some of the processes modeled by the assemblage approach and the IBA and continue beyond its life.

CONCLUSION

Of critical importance is that assemblage does not rely on resolving differences and unevenness (although it also does not exclude a resolution) – it is able to continuously and critically interact with the whole range of actors, networks, materialities and spatialities, processes and values. As such, it may provide an explanatory and enabling process model to reconceptualize city, urbanity and urban space in new ways that empower and activate established, alternative, subaltern, hegemonial and marginalized, visible and less visible actors. Assemblage with its engagement of both the social and the spatio-material (and their relationships) may hold a key to better and more productively understand and act across these domains of human culture to facilitate more socially and environmentally just cities. The efficacy of this key may very well lie in expanding and extending the idea of “being in process with one’s environment” as an experiential, social, critical and political “practice of everyday life” that subverts and reimagines the social orders and cultural meanings inscribed into urban space.

The assemblage approach suggested here counters the post-political erosion of the urban (public) sphere associated with austerity and resilient neoliberal governmentality, and counters the accumulation of capital with an accumulation of the commons, suggesting the transformative potential of the urban field itself. It may well provide the framework that allows to operationalize and implement the findings and conclusions coming out of the theories of city and urbanity as “cyborg” or “hybrid” ecologies and “metabolism”, and may hold the key to empower a wide range of actors to re-imagine and remake post-industrial cities into more socially and environmentally just and liveable places.

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A CRITIQUE OF PARTICIPATION IN THE DIGITALLY MEDIATED CITY THROUGH MIXED REALITY PERFORMANCE EVENTS

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ABSTRACT

This paper aims to critique the concept of participation in the digitally mediated city through ethnographic research on two case studies of mixed reality performance events in medium-sized cities: Blast Theory’s A Machine To See With in Brighton, UK and Rimini Protokoll’s Ciudades Paralelas in Cork, Ireland. Both Brighton and Cork are vibrant cities that are not part of the established network of ‘global cities’ but have a significant historical and cultural role in their respective countries. A Machine To See With and Ciudades Paralelas are performance events that combine digital technologies, narrative, urban space and citizen participation to enable reflection on our interaction with the digitally mediated city and with other citizens (both familiar to us and strangers). Such events trigger two opposing points of view: first, the argument that they facilitate active collaboration between participants and artists and in turn engagement of citizens with urban space and with other citizens. Second, the argument that the combination of digital technologies with urban space in such events is a form of control and surveillance that steers and commodifies citizen participation. I aim to question these points of view and propose an alternative framework that exposes the potential of mixed reality performance events to enable reflection and multiple participatory outcomes in the digitally mediated city.

INTRODUCTION

Cities of all shapes and sizes—from the ‘global cities’ and their dominant communication networks to the smaller cities that sit outside these networks—have always been mediated entities, both being interpreted by several media forms (such as photography and cinema) and serving as the stage for these media forms. However, the advent of digital media has amplified this process and reshaped the experience of interacting with the city into a highly networked and complex experience. Digital exchanges control sophisticated infrastructure networks but also importantly mediate citizen interactions both at street level and through virtual environments. Digitally mediated interactions occur through pervasive technologies that are portable (mobile phones), surround us (digital dashboards and information displays) and govern our ability to access services (transport card systems) and places (electronic key cards). Such interactions are imbued with powerful agency and operate through an inherent contradiction, as Wendy Chun reminds us: “power now operates through the coupling of control and freedom [and] the coupling of these terms is uniquely tied to information technology and our current political situation”.

However, pervasive technologies are more commonly interpreted through an uncoupling of control and freedom that is expressed through two polarising arguments. First, the argument that such technologies enable levels of freedom and agency that were previously unimaginable. The mobile phone is symbolic of this process, by enabling us to communicate remotely with our peers through a plethora of ways (phone calls, text messaging, social media networking, video-enabled calls), to find services and to navigate the city, enabling a higher degree of freedom and choice. It is also symbolic of the potential to interact with strangers on an ad-hoc basis through location-based apps such as the controversial Tinder app and its associated ‘dating revolution’ (for good or worse), triggered by the increased amount and speed of connections that it is able to facilitate. Second, the argument that such technologies subject us to higher degrees of control that are both perceivable and unquantifiable. We are subject to control when we are locked out of a hotel room by a faulty electronic keycard or when
we can’t get access to our emails because we forgot our password. Yet we are also subject to unquantifiable and uncertain forms of control due to the ‘blackboxing’ property of pervasive digital technologies that hide their inner workings, or in Bruno Latour’s 5 words: “the way […] technical work is made invisible by its own success. When a machine runs efficiently, when a matter of fact is settled, one need focus only on its inputs and outputs and not on its internal complexity”. One of the most pressing consequences of ‘blackboxing’ is the ability to reassemble ‘digital crumbs’ from our usage of digital information technologies to compose elaborate pictures of our lives. This process can be used for marketing purposes but also as support documentation for criminal cases by assembling the data trail of location-enabled phones in the search for alibis. 6

In this paper I propose an alternative model to understand participation in the digitally mediated city. While acknowledging Chun’s argument of the coupling of control and freedom, I argue that the citizen-participant engages in a process of narrative translation that enables multiple and non-prescriptive outcomes while also enabling reflection on their digitally mediated lives. I will outline my argument through two steps. First, I will conceptualise participation while avoiding a binary interpretation of its outcome as being fully controlled or fully empowering. Second, I will support my argument by describing ethnographic research that I conducted on two case studies of mixed reality performances that took place in two medium-sized cities: Blast Theory’s A Machine To See With in Brighton, UK and Rimini Protokoll’s Ciudades Paralelas in Cork, Ireland. Mixed reality performances are live events that combine audience participation, digital media and rule-based structures “in which the artistic experience is interwoven with ongoing everyday activities”. 7 Such performances draw from a rich heritage of participatory art that unfolded through several twentieth century avant garde art movements such as Futurism, Dadaism, Neo-Concretism and Fluxus. Steve Dixon argues that Futurism—a movement that began over a century ago—“forms a fundamental philosophical and conceptual basis for contemporary digital performance” through its foregrounding of the machine and its artistic potential. 8 Mixed reality performances are enacted in the city through digitally mediated narratives that subvert and reappropriate the technologies that govern our everyday lives in the city. I will argue that such performances enable reflection on our digitally mediated lives in the city, while also enabling temporal (and sometimes more durable) forms of spatial reconfiguration of public space and alternative modes of social interaction.

A CRITICAL ANALYSIS OF PARTICIPATION

My critical analysis of participation in everyday life events in the city is influenced by audience participation in theatrical events and the perceived transformation of the ‘passive spectator’ into an ‘active participant’. 9 In theatrical events, spectators are perceived as passive viewers, devoid of knowledge of the production and of the ability to act while presumably being manipulated by the artist’s vision. The so-called ‘solution’ to this is the argument that the artist can—rather than manipulate—‘emancipate’ the spectator. Yet Rancière 10 challenges this argument by stating that artists “deny using the stage to dictate a lesson or convey a message”, but rather “wish to produce a form of consciousness, an intensity of feeling, an energy for action”. He also argues that spectators, regardless of their perceived passivity, “play the role of active interpreters, who develop their own translation in order to appropriate the ‘story’ and make it their own story”. The same can be said of city dwellers: regardless of their perceived passive or active stance, they don’t need to be ‘emancipated’. Instead, they actively interpret and reshape the (multiple) digitally mediated narratives of their everyday lives. In doing so, I argue, the citizens’ translation of such narratives facilitates the reconfiguration of public space and social interaction. Therefore, urban art interventions—like theatrical events—cannot be simplistically interpreted as emancipatory events, as they are actively reshaped and reinterpreted by participants.

Likewise, it is not acceptable to simply portray digital (and pervasive) technologies as tools of repression and surveillance, despite the concerns raised by their ‘blackboxed’ nature. This includes locative media technologies that combine GPS, Wi-Fi and mobile phone signal to pinpoint the user’s location at any given time. Marc Tuters and Kazys Varnelis 11 argue that locative media—commonly employed in contemporary art performances in the city—“is virtually unthinkable except as a question of code”. They suggest that such reliance on computer code equates locative media with software
development. Tuters and Varnelis point out that locative media practitioners—or in other words the artists that deploy locative media technologies in their projects and performances—are reluctant to “position their work as political”, and therefore their projects have been critiqued by theorists as being the “avant-garde of the ‘society of control’” (Andreas Broeckman), “shopping-driven locative spectacle” (Geert Lovink) and for substituting “an abstract ‘connectedness’ for any real engagement with people” (Coco Fusco). Such a point of view implies that the spectator-participant is not only passive but also being manipulated and ‘brainwashed’ into following the logic of the code that governs digital interactive technologies. Yet I have argued elsewhere 12 that art should not be envisioned as an autonomous ‘machine’ but instead as part of an assemblage with “capitalist, information, cybernetic and surveillance machines” where each of these is an intrinsic component of the mediated city. In doing so, urban art interventions—including mixed reality performances in urban space—do not attempt to commodify participatory outcome “simply because they incorporate technologies and operational practices of contemporary institutional forms of control”. 13 Instead, such projects engage with these other ‘machines’ (including the urban machine) in a “mutual process of reconfiguration” 14 while—in Brian Massumi’s 15 words—drawing “participants into a collective unfolding [...] of their own sociality”. He argues that urban art intervention “has its sights more immediately on the augmentation of urban reality than its representation” and therefore can be defined as “a social laboratory: a performative platform for provisional group definitions of potential”. Therefore, I argue, we cannot simply label urban art interventions as either emancipatory or oppressive. Instead, they operate through the coupling of ‘freedom’ and ‘control’—as stated above by Chun—yet this coupling does not hinder their ability to trigger reflective potential for participants nor to enable multiple and unpredictable outcomes. To support my argument above, I will discuss the outcomes of the ethnographic research that I conducted on Blast Theory’s A Machine To See With and Rimini Protokoll’s Ciudades Paralelas.

THE REFLECTIVE POTENTIAL OF MIXED REALITY PERFORMANCES

Both Brighton (in the United Kingdom) and Cork (in Ireland) are vibrant cities that are not part of the established network of ‘global cities’ but have a significant historical and cultural role in their respective countries. Cork’s cultural significance is highlighted by its designation as European Capital of Culture in 2005. 16 It is the second largest city in Ireland and its metropolitan area has a population of 289,740. Cork is Ireland’s second largest economic hub (behind Dublin), and its economy has become stronger in recent years through foreign direct investment with an increase in 12 per cent in
the number of jobs in 2015. However, most of the companies behind this increase in jobs are located in the suburbs; Cork’s redundant docklands and brownfield sites in the city centre (defined by wide avenues and low density) do not reflect its economic progress, despite its strong cultural and artistic background. 17 Brighton and Hove city (the official title of Brighton city) has 275,800 inhabitants with a very high population density and is known for its diversity and tolerance, with 20% of the population defined as Black and Minority Ethnic and an above average number of people in same-sex civil partnerships (five times higher than the rest of England). Brighton generates a significant income from tourism (with 8.5 million visitors in 2011) and from the arts and cultural sector (three times the UK average for this sector). 18 The events that I am analysing as case studies were performed as part of two established art festivals in these cities: the Brighton Digital Festival in 2011 (A Machine To See With) 19 and the Cork Midsummer Festival in 2012 (Ciudades Paralelas). 20 I conducted ethnographic research on Blast Theory’s A Machine To See With in Brighton, UK over the period of a week, interviewing the artists, participants and collaborators while also observing and taking part in the event. Originally developed as part of a ‘locative cinema commission’, it is described by the artists as “a film where you play the lead”:

You sign up online and hand over your mobile phone number. On the day, you receive an automated phone call giving you the address you need to go to. Once you arrive on your allotted street corner your phone rings. From there a series of instructions lead you through the city. You are the lead in a heist movie; it’s all about you. As you move from hiding money inside a public lavatory, to meeting up with a partner in crime and onwards to the bank, the tension rises. It’s up to you to deal with the bank robbery and it’s aftermath. 21

During the performance, participants partnered up prior to executing the ‘heist’ inside a car parked on the top floor of a multi-storey car park in the centre of Brighton. The heist was aborted at the last minute and thus participants never got to execute it, but the imaginary references in the narrative (such as surveillance cameras, suspicious bystanders and the bank’s internal layout) heightened the imagination of participants, subject to their willingness to suspend disbelief. The active engagement of participants in the narrative suggests a level of collaboration between participants and artists. However, Blast Theory artist Matt Adams argues that A Machine To See With “follows a traditional artistic model” and that participants are not necessarily “collaborating in any meaningful sense”. 22 In fact, the narrative combines prescriptiveness (or control)—through clear step-by-step instructions—with ambiguity, by giving contradictory instructions to ‘partners in crime’. The narrative told one of the partners to execute the heist and the other to flee prior to its execution. It was also unclear to the
participant if the narrating voice was an actual person speaking or a recording. Blast Theory intentionally reconfigured and displaced everyday forms of communication such as mobile phone calls and automated call centre systems, enabling participants to reflect on our level of trust of such systems and how they “enable you to speak in certain ways and say certain things and they also silence you in particular ways”. 23

The unresolved narrative contradiction between control (prescriptiveness) and ambiguity enabled different modes of participation and engagement. In my ethnographic research, I identified three distinct patterns of participant engagement with the performance from observing and interviewing nineteen participants: play (“game-like, immersive, task-oriented participation”); exploration (“reflective and emotional engagement with the city and its spatial ambience through non task-oriented participation”); and critique (“the desire to understand the mechanics of the narrative in relation to the city through non task-oriented participation”). 24 These three categories—play, exploration and critique—highlight the importance of analysing participation as a process of active interpretation (or translation) of the artistic narrative by the participant, as I have argued above via Rancière. In doing so, participation becomes a broader and richer term that is not tied to dualistic interpretations through keywords such as emancipatory/prescriptive or active/passive.

My analysis of *A Machine To See With* unveiled a multiplicity of outcomes, levels of engagement and reflection that were not necessarily aligned with the envisioned artistic outcome yet caused a strong impression on participants. Most importantly, such impact was envisioned in a positive way by most participants that I interviewed and their answers suggested that on some occasions this impact extended beyond the duration of the event. For example, one of the participants that I observed and interviewed told me how he ended up in the wrong car park, and described the experience of being suddenly enveloped in thick fog while anxiously waiting for the car to materialise (in the wrong car park) as “absolutely mind-blowing”. 25 Another participant that took part in the performance with a group of friends mentioned how they would like to reflect on the performance at a later stage: “We hoped [we] would all be separate and we would meet up afterwards and then we would discuss our different experiences”. 26 Some participants engaged with the performance in a detached way (through critique) and were more interested in the mechanics of the narrative, while others approached it as a game (through play) with a clear objective (executing the bank heist). A female participant in the latter category that took part in the performance with her partner highlighted the immersive potential of the performance by stating that: “If they told us that there were some scissors [...] by that door, break that lock, we would have just done it! We would have done anything that they told us to. We just believed in the game”. 27 This same participant highlighted the beneficial effect of taking part with her partner:
“there is a real bonding exercise that happens within that because you don’t often get challenged together on such an intimate level with something like this”.

The busy and narrow streets of Brighton’s city centre also heightened the immersive effect of the narrative as it played with suggestions of ubiquitous surveillance and suspicious bystanders. Brighton’s urban landscape shaped the user experience through unpredictable events (such as the event described above) but it was also reshaped by these events and their parent event (The Brighton Digital Festival), becoming—in Massumi’s quote above—a (temporary) ‘social laboratory’.

Rimini Protokoll’s Ciudades Paralelas 29, a project curated by artists Stefan Kaegi and Lola Arias, consists of eight urban interventions by several artists enacted in functional urban places that are common to all cities: hotel rooms, shopping centres, factories, train stations, libraries, the roof of a building, a court building and an apartment block. According to the artists’ statement: “the projects make theatre out of public spaces used every day, and seduce the viewers into staying long enough for their perception to change. They invite you to subjectively experience places built for anonymous crowds”. My ethnographic research on Ciudades Paralelas consisted of taking part as a participant in four of the interventions—Hotel, Home (apartment block), Station and Shopping Centre—and asking questions to the project coordinators on location. In both Hotel and Home 30, Rimini Protokoll employed “experts on particular experiences, knowledge and skills”, namely the chambermaids in Hotel and the flat residents in Home.

In Hotel, the participant navigated several customised hotel rooms with unusual props that were intended to provide a reflective account of the chambermaids’ work and everyday lives. On exiting the last room, the participant encountered one of the chambermaids, who took them on a quick tour of their working environment. I described the moment I encountered the chambermaid in my notes of my participation: “It felt like meeting a character from a book in person”. 31 In Home, two blocks of flats opposite each other along a public street served as stages for the reenactment of everyday life scenes from their inhabitants. Through headphones, participants could listen to recorded dialogues from the ‘experts’ inhabiting each flat. Participant’s attention was directed to each window at a time (through switching on the lights). Each window displayed different characters and stories, revealing the connections between inhabitants and bringing the flats to life while also questioning the dichotomy between spectator (or participant) and actor, as I described in my notes: “at the very end it seemed that the audience/stage relationship had been inverted: it ended with participants looking at us through their binoculars”. 32
In Station, interactive screens were placed in the lobby of Cork’s train station. Writers commissioned by the artists in possession of laptops or mobile phones anonymously typed up comments about passersby, which were relayed to the interactive screens. The comments were witty and directed towards passersby yet catching the attention of small groups of train station users, amused and perplexed by the messages (directed towards them or to other users). The reappropriation of a taken-for-granted digital technology for functional needs (the information dashboard) reconfigured space into a temporary ad-hoc stage for unexpected interaction between anonymous writers and bemused passersby.

In Shopping Centre, a group of participants (including myself) were taken to a suburban shopping mall and given radio transmitters tuned to a mobile radio station that was carried around by one of the project facilitators in a concealed bag. The radio station sent us instructions suggesting “to us that we were about to join the ‘First International of Shopping Malls’”. The narrative enticed participants to conduct unusual performative tasks inside the mall, such as clapping hands, walking in synch with each other and dancing aimlessly. Yet it also prompted participants to reflect about the space of the shopping mall and its purpose. It stated, for example: “the mall is a place where commodities are venerated and where “visitors are meant to lose sight of any objectives””.

I felt slightly uncomfortable taking part in the experience and my social interaction experience was quite restrained; yet it was enjoyable to engage with a functional space in an unexpected way. While both Station and Shopping Centre might be interpreted as light-hearted entertainment, they enable two important outcomes: a change in the participant’s (and passersby) perception of urban space and how this reconfigured space in turn supports emergent forms of social interaction.

The events I described above as part of Rimini Protokoll’s Ciudades Paralelas are neither driven by an oppressive and preemptive narrative nor examples of explicit collaboration between artists and participants or between participants themselves. Yet they enable reflection on the status quo of the (functional) spaces of our everyday lives and—by temporarily reconfiguring them—facilitate emerging forms of social interaction. As in A Machine To See With, these emerging forms manifest themselves through play, exploration, critique or any combination of these. The temporal reconfiguration of Cork’s urban space unfolded through multiple outcomes that varied according to the visibility and performative impact of each performance and how they engaged both participants and bystanders. For example, in Shopping Centre the performance engaged most shoppers and even the security guards, puzzled by the unusual (and sometimes synchronised) actions of a seemingly random group of people. In Station the outcome was more subtle yet equally engaging, facilitating small gatherings of people as I described above. The Home performance triggered an interesting
dynamic between the residential flats and the street (where participants were situated) as they both took turns as audience and stage. Finally in Hotel, the reconfiguration of space occurred inside the hotel rooms, as they were transformed into surreal staged scenes to tell the story of the chambermaids. Some of these scenes sought reflection on the working conditions of the chambermaids, such as the room with a ceiling-high mound of dirty linen and towels laid out on top of the bed. In this room, a recorded video of a chambermaid played in the background on a standard TV set with a playful narration that suggested that the chambermaid was talking directly to the participant while describing their working conditions. Other scenes transported participants to the chambermaid’s everyday life or their place of origin, such as the room with a simulation of a bucolic forest landscape: the floor was covered in soil, trees were laid out across the room and fish swam inside the ensuite’s bath. Through an unusual assemblage of props, functional space and digital technologies, Hotel sought reflection and nurtured an unusual—yet meaningful—form of social interaction between the chambermaids and the participants.

**Figure 6. The ensuite bath in the Hotel intervention (Copyright: Author)**

**CONCLUSION**

Urban art interventions, and more specifically mixed reality performances that employ digital media and engage participants with public space foreground the contradictory nature of ‘blackboxed’ digitally enabled information technologies: while they promise freedom and user empowerment, such technologies are also frequently described as totalitarian tools of control. The digitally mediated city also operates through this uncanny and seemingly contradictory coupling of freedom and control, and therefore we must accept this as an inherent condition of contemporary cosmopolitan life. The mobile phone is the most pressing symbol of this condition: while we are aware (to a lesser or higher degree) that it ‘controls’ a significant number of our everyday social interactions, we tend to welcome such control if our perception of its influence is positive. Yet what does it really mean? Reflecting on our usage of mobile phones and other pervasive technologies in the city raises several issues and doubts: can we trust the information we receive? Is it impartial? Is there a human being on the other side of the line? Does it enable us to partake in more meaningful social interactions of does it simply generate more superficial and pointless interactions? And does it enable us to better understand the complexity of the world that surrounds us or instead shield us from reality?

The mixed reality performances that I described in this paper address such questions while exploring the potential to reconfigure urban space and to generate emerging forms of social interaction with (generally) positive outcomes that may extend beyond their fixed duration. Performing the role of
aesthetic machines, such performances interfere with the functionality of the ‘city-machine’ and enable reflection on the powerful narrative of digital media in contemporary life. In doing so, these unusual and sometimes uncanny events change our perception of the city. Yet crucially their outcome is dependent on how we translate their narratives through our participation, enabling multiple and unpredictable outcomes and modes of interaction (such as through play, exploration or critique). Likewise, the outcome of our everyday lives is dependent on how we translate the complex and intertwining narratives of the digitally mediated city.

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There are many different kinds of mediated worlds, and that topic has been essential through our occidental history and not just quite recently since technical devices allowed for ‘mediating’ worlds in new and encompassing ways.

In order to gain some preunderstanding necessary for the topic, some terms of reference first need clarification: what is a mediated world? And together with such a notion, what does a ‘world’ comprise?

A mediated world is a one that we do not experience in its immediateness, and since the days of Baudrillard (Baudrillard and Glaser 1995) most recently, it is an entity associated with something that has been derived from something else, from a kind of blueprint that it is the copy of, as its derived entity; in other words, when we speak of mediated worlds there is an undertone of the simulacrum, of original entities – e.g. even entire ‘worlds’ which passed through some kind of filter, some medium. And which are now conceived – and directly perceived, first of all – as mediated ones, as derived entities resembling a (thought of) original. And to return to the second question, in this way the term ‘world’ indicates that we are speaking of entireties, of closed wholes as a certain type of gestalt – the blueprint, the ‘original’ – from which derivatives are formed, as another type of gestalt: the mediated version of that so-called ‘original’.

Related to such notions are others comprising entire mental models or ideas. Since, with the idea of an original, other connotations are associated: ones of authenticity for instance, and related to these, of identity and self-reliance. When we look at such ideas more closely, what then is meant by a ‘mediated’ world? What is “authentic” inside its terms; what kind(s) of identity it does generate? Moreover, assigned to it, what will be mediated (a), from what, and (b), for whom, in (c), which regard? And what is going to happen with the culture-specific preunderstandings underlying such notions if a phenomenon occurs that also relates to that of being mediated when the medium, or in more broader terms of understanding, when the mediated entity, turns into the original? Sozein ta phainomena, ‘saving the phenomena’ Aristotle would have said – what to save then, for whom, and what’s about the mediation of such a process?
To close that phenomenology of (pre)understandings – which in fact exists, as a mental and conceptual prerequisite to mediate worlds in their entirety – which kinds of ‘original’ worlds have been the favourite subjects of mediation in terms of history? That is, which ways and subjects of mediation do we settle upon in our recent approaches to mediate worlds? For instance, there have been ideal worlds which have been mediated – worlds which lack any ‘original’ in reality, but had been worlds conceptualized first and foremost as ‘ideal’ places for a new human identity: ideal cities, ideal communities, ideal spaces to be, which then had to be mediated to a broader public in order to gain acceptance and followers. Or in case of the Abadyl approach presented below, when should such ‘ideal’ and ‘imagined’ worlds become reality, then, i.e. will turn into a real world? Which is another and reversed process of mediation: it is not mediated from something already given (the ‘real’), but vice versa, an idea shall be mediated into its correspondent reality, shall become real.
In the working group *Ideal Spaces* we are concerned with mediated worlds, especially the one of ideal worlds reconstructed, mainly concentrating on a classical topic of a “mediated” city through history, namely that of a utopian ideal city. How these utopian places have to be conceived as being “ideal” ones. How this has been mediated, in terms of their modes of presentation, but also in those of the ideas underlying them as regards the different audiences that were thought to be addressed by them? These historical conceptions of what an ‘ideal world’ should or could be is a classic topic of our cultural sphere, and focuses upon one perspective of relevance, that of an ideal city. Since the onset of what has been called ‘modernity’, now providing the actual background of the actually built cities we all live in, as our environment of relevance. Such conceptions of ‘ideal’ relevant worlds can be compared, as a background folio, with the approaches to an ‘ideal’ environment as they become evident in the concept of the City of Abadyl. That in itself is a proposed ideal city, a fantasy, a set of codes and models, a library of maps, architecture, artefacts and prototypes, derived from mostly realized cities and places from all over the world. Since its inception in 1999, it has grown into a large database of materials interlinked through the shape of a city, regardless of their respective incompatibilities. The approach in this project is to create an environment which facilitates research, design and artistic work practice in complex production environments such as those of the digital media and its forms of representation.
This mediated city establishes a ready-made, fictitious gravity that others can participate in and transfer their knowledge into. We provide here a detailed and complex yet open world that we utilize through a database that contains all the information gathered so far in different file formats; it also is a storage facility for all of the physical artefacts; it is a website used for communication and documentation; it is a map for navigating; it is a collection of stories extracted by the co-creators; it is a board game; it is a collection of images, sound, music and films recorded in Abadyl.

So how far have we gone about exploring and experiencing this complex digital space? We could, for example, let people walk the streets of Abadyl in, for example, a game engine, or visualize it through CG, but we have chosen to go in another direction. We use this material in order to create and hand over scenarios for the temporary visitors and co-creators of Abadyl for further explorations. The scenarios try to bring aspects of field study and fantasy together (fieldasy), to slowly create a discrete dynamic tension or displacement between persons, objects, time, places, and events that are not usually, if ever, associated into new and surprising conjunctions. It is an approach which does not explicitly define and reduce objects to a sole function, but which instead enables objects to continually generate something else, to develop hidden potentials. It is, furthermore, a method whose applicability in no way is confined to resolute, practical problems, but a method that may as well be used theoretically, poetically, hallucinatory, phantasmatically, etc.

The main method we use is as mentioned above, called Fieldasy, and started to evolve in 2003–2004, first presented as an exhibition in Malmö, Sweden at the Gallery Skånes Konst, and later as a research paper for the Pixel Raiders conference at Sheffield Hallam University in 2004. (Johansson and Linde 2004) With Fieldasy, we tried to unify different methods into one creative process that attempts to understand and redefine our world in a situation where information is lacking. This lack of information is used as a resource, for example by providing ambiguous fragments as a starting point, removing constraints on the imagination. It was designed with respect to staging a conflict that has a mind-triggering influence on the co-creator with a set of problems that can only be captured in a given material. Fieldasy was a method for engaging multiple perspectives in the creation of a world, and the mapping of its virtual space, by extracting artefacts and stories from the actual world through the scenarios, scores and game-boards developed. Fieldasy itself refers to the methods of field working and
imagination by using physical objects. The objects constitute a shared ground for collaborative creativity, serving as nodes in a complex narrative and as a basis for world-making. Fieldasy plays a vital part in the creation of a space where we could be in a constant dialogue with a large database of material that is interlinked through the architecture of a city, regardless of its incompatibilities. This begins when its parts and what they signify exceed their signification. When what one thing means, or conventionally functions in one role, discloses other possibilities a double movement occurs in which new families of association and structures of meaning are established.

The method establishes a multidisciplinary common ground for an art practice, interaction design and technology development, through an investigation of philosophy and criticism in a dynamic material, in which we try to mediate possible worlds and their spaces no matter whether it is planned, practiced or imagined (Lefebvre and Nicholson-Smith 1991). Virtual as well as real spaces are also more than monuments and buildings, more than streets and landmarks. It is an approach which does not explicitly define and reduce objects to a sole function, but which instead enables objects to continually generate something else, to develop hidden potentials. To be discovered or re-discovered, allowing the unfamiliar to co-exist with the comfortably familiar. To introduce a phenomenology of the urban built around the issues of the fragmentation of experience and commodification, opening the way for a micro-sociology of urban daily life; the observation of the trivial, the ephemeral and fleeting should lead to a critical analysis of the structural features (Jenks and Neves 2000) of urban life. To create a process where digital worlds challenge and inspire digital expressions, tools and models with physical play and exploration.

Already George Crumb recognized the complexity of the living environments, and what we do not recognize, which also applies to virtual and mediated spaces, what is in the background and how fast it changes. In his series of photos of ordinary American street corners that later found its way into his covers for Weirdo magazine, he stated in an interview: “People don’t draw it, all this crap, people don’t focus attention on it because it’s ugly, it’s bleak, it’s depressing,” he says, “The stuff is not created to be visually pleasing, and you can’t remember exactly what it looks like. But, this is the world we live in; I wanted my work to reflect that, the background reality of urban life” (Reznik 2013)

Figure 5. Fieldasy The process for artefact creation and assimilation into the virtual City of Abadyl
It is an open-ended way of working where the original scenarios originate, previously unknown artefacts and virtual environments. The scenarios’ relation to the overall project is loosely defined so as to allow the creation of artworks, which, though enriching the database, are still autonomous from the mother project in the sense that they can be exhibited by themselves. They also act as generators while they generate new and unforeseen processes which extend into new and likewise unforeseen contexts. Our scenarios are handed over to the invited temporary citizens and co-creators of Abadyl. They can then act in relation to the scenario, in and by themselves choosing tools and materials, that in the end helps them produce an artefact. Hopefully, the co-creators themselves import qualities into the world, which do not and cannot stem from the City of Abadyl itself. As one participating artist expressed it:

“Imagination was tickled by the knowledge of being part of a networked mapping I didn’t know in detail. The scenario got me going, but I felt no repressing obligation towards it and also felt more liberated than in the situations of my own work where I’m the responsible and potential object for critique.”

In Abadyl, the openness towards what happens in between the design cycles is important. We do not formulate any detailed specification or goal for the concept beforehand, apart from some dramatic or situated qualities that indirectly plot the creation of the artefact and its environments. Here we work closely with the co-creators going from scenario to concept and further on building the different prototypes, later finalizing the artefact. Sometimes we use the prototypes a little differently, where the shortcomings and quirks of the prototypes themselves can be used as major features and qualities. So, when we try to follow the co-creators’ intention or concept, we are open to the fact that the prototypes themselves can produce qualities that are not known beforehand. By continuously evaluating information together with experience, and going from total disarray to a strategy that can be expressed, the co-creators will gradually build up knowledge of how to proceed through their concept development and prototyping, making the final artefact incorporate the findings as it develops. However, the concept first has to reach a certain state of complexity, a complexity max (Hoberg 2006), so as to ensure thorough exploration and original artefacts. Therefore, a production environment plays a crucial part in facilitating this kind of work. Since the artefacts consist of both artistic and technological proposals, we do not want them to end up doing art well and computing more dubiously, or doing computing well but art questionable. We have recognized the persuasive act of negotiating a communicative contract with co-creators when proposing scenarios and models of possible worlds. Co-creators accept or refuse this contract based on whether they believe the proposed world to be plausible or not. Our aim is for them to accept the world as a setting where it is safe to play and take risks.

To conclude this part, the co-creators will disseminate their knowledge into the platform, but they will also extract something which can inform their own future practice. Each component introduced in this work process has the ability to play with and displace the co-creators’ models of the world in different ways. For us, this has been an important experience of learning how to design and stage both the details and the whole of the world that the co-creators are going to populate. This is a process similar to fragmented storytelling, often used in games where the player must find fragments during the progression and piece them together. By continuously introducing dilemmas (twists) and turns (creative operations) in this context, Fieldasy serves as an intriguing source that, through the narrative it is and based on the artefacts and experiences it creates, generates ideas and concepts that are sometimes not known before, and which could guide and help rethink our assumptions about the future. This combination of interactive situations and artefactual production we call “fieldasy”. We are concentrated on developing collaboration in the production of new media and their artefacts. We try to produce
artwork that actually incorporates surprising visual and technical proposals that are unusual, enriching and engaging. By building prototypes and iterating them over time and amongst the co-creators, it lets us explore this area in a fruitful way, moving between artistic intentions/screenwriting, artefacts and digital generated expressions and script/code writing. Here, the virtual object or and environment can challenge the physical with qualities that are very hard to achieve in the physical world, and in that conflict, new expressions can be developed. Hybrid creations have become a method for working with cultural production not only with different elements of form, but as blending the identities of the creators as well. This work with physical artefacts and virtual environments and objects becomes a practiced space to think, digest and re-work what has been the object of investigation, it is a matter of adding knowledge, connecting what we already know and capturing the new, that differs from merely observations and also extends knowledge and observations as a bi-product into other practices and science. 

Through this work, we have developed several methods of world-making (Goodman 1978) based on the creation of environments, images and animations about possible spaces and their implications. Here, the aspect of imagery is of particular importance since comparisons can be made between traditional conceptions of pre-planned ideal worlds – e.g. the ideal of a functionalist city, of a typically ‘modern’ one, etc. – and imageries that evolve de novo and unplanned, as is tried in the case of Abadyl. Moreover, such comparisons inform about a further aspect of imagery and hence, of being mediated. We have to take the notion of the ideal in both its connotations as a mental or inner image on the one hand (from the Greek eidos, or idea); and on the other, as a perfect state to be achieved and longed for (the ideal in its common terms of understanding). If we do so, then it becomes evident that even seemingly ‘new’ and ‘spontaneous’ outcomes like those in Abadyl are informed by mental or ‘inner’ images that are deeply rooted in what is called a cultural memory, that is, ones that rest on a culture-specific substratum. And it is very interesting to see how these both layers of imagery, the “new” and the “old” one, are influencing each other in mutual terms. Which is a very important topic of mediated cities today, since the assumption is that what is happening in Abadyl is also happening here.

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MEDIATED CITIES: THE IMPACT OF LOCATIVE MEDIA ON SPACE, PLACE AND SOCIAL CONNECTIONS

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INTRODUCTION

The social and spatial possibilities of the city are continually being reframed by the digitalization of urban space. As Townsend prophetically suggested, ‘portable digital communication tools … will undoubtedly lead to fundamental transformations in individuals’ perceptions of self, and the world, and consequently the way they collectively construct that world’. A significant part of this reframing is the mobile web. The mobile web allows people to access digital and locative information on their smartphones as they traverse their environment. The rise of locative media and location-based social networks (LBSNs), such as Foursquare, are predicated on this merging of physical and digital space. De Souza e Silva refers to this intermingling as ‘hybrid space’. Since Foursquare’s unveiling at the South by Southwest (SxSW) festival in 2009, a multidisciplinary body of research has coalesced around it, with recent studies examining this LBSN in the context of identity, time, and playful mobilities. Foursquare has also changed considerably over the years. In late 2014, it began solely focusing on place-based suggestions and navigation, with a second application, Swarm, taking over much of its locative mechanics. Prior to this Foursquare operated in a social, locational, and playful manner. Users were able to share their location with friends by ‘checking-in’ at a place through the application, and vice versa. Foursquare could also be used to explore space and place, with preceding check-ins algorithmically employed to offer personalized locative suggestions. Lastly, Foursquare turned ordinary life ‘into a game’, awarding points for check-ins, badges for combinations of check-ins, and mayorships to users who checked-in at a certain place more than any other user within a 60 day period. It is this original version of Foursquare that is the focus of this research. That said, much of the ensuing points are equally applicable to Swarm. The paper will explore Foursquare’s impact on space, place and social connections along two interconnected lines. First, it will examine the various ways in which this LBSN is used to arrange social interactions, paying close attention to the impromptu social opportunities it might enable. Second, it will investigate the effect Foursquare and its playful digital architecture are having on spatial relationships and mobility choices. This is an important area of study as ‘research approaching locative media from the perspective of mobile communication is limited’ and often lacks qualitative grounding. Addressing this issue, the paper is based on an original qualitative study involving 22 active Foursquare users. Participants were recruited through social media sites, including Facebook, Twitter and Foursquare, as well as through adverts, posters and leaflets. All participants lived within the Southeast of Britain so face-to-face interviews could be held where possible. In sum, 20 participants were interviewed in person, and 2 via Skype. Participants encompassed 17 men and 5 women, with ages ranging between 19-65. Interviews were semi-structured, lasted for roughly an hour and focused on questions revolving around space, place and social connections. Post-interview data was thematically analyzed in line with the research questions guiding this project. In the following section I will detail the development of these questions, respectively drawing on Simmel’s (1950) understanding of the metropolis and social coordination, alongside traditional approaches to play and ordinary space.
THE VISUALISATION OF SOCIAL CONNECTIONS

Simmel’s work on the metropolis and its effect on mental life has ‘been used by mobile phone scholars to address issues of trust, freedom and anonymity in public spaces’. At the same time, his work (see xv xv) is similarly useful when exploring the important factors prior to mobile communication and locative media that have underpinned social coordination in urban space (see xvii xviii xix). For Simmel, the rise of the metropolis, and the geographical dispersion of social connections it precipitated, meant social interactions had to be coordinated through time in order for them to work. As Simmel suggests, ‘the technique of metropolitan life is unimaginable without the most punctual integration of all activities and mutual relations into a stable and personal time schedule’. To this end the ‘universal diffusion of pocket watches’ was a significant advancement that made metropolitan life much easier to manage. Simmel’s reliance on ‘punctuality’ and time-based coordination, however, has been challenged over the years. First, by mobile phones and the ability to adjust social arrangements in transit, and more recently, the rise of locative media, and the socio-spatial sentiment this enables. Indeed, the conflation of the ‘mobile web’ and locative media has produced new ways of coordinating interactions through the ‘visualization of space rather than the management of time’. This leads me on to my first research question:

RQ1: is Foursquare used to coordinate social interactions, and does the visualization of space lead to impromptu social meetings?

LOCATIVE PLAY AND MOBILITY

‘When we look at the theoretical literature surrounding games, there is one concept that is often used to describe the soap bubble that is the game world in relation to the environment “outside” it’. The ‘magic circle’, a phrase famously taken from the work of Dutch historian Huizinga, ‘became a popular game studies concept due to … game designers and researchers Katie Salen and Eric Zimmerman. As Huizinga explained, ‘[all] play moves and has its being within a play-ground marked off beforehand either materially or ideally, deliberately or as a matter of course’. Echoing this sentiment, in Man, Play and Games, Caillois similarly proposed ‘[play] is essentially a separate occupation, carefully isolated from the rest of life’. A corollary to this is the assertion that for something ‘magical’ to happen, games must ‘take place in a space and time separate from ordinary life’. This is of course noteworthy when it comes to the kind of spatial practice associated with Foursquare, as the digital architecture underpinning this LBSN enables a ludic attitude that can take hold in any space, be it ordinary or otherwise, and at any time. While it could be argued that Foursquare extends ‘ordinary’ space, it nonetheless occurs within a space not cordoned off from day-to-day life, and therefore challenges such a division. This research is therefore in alignment with other studies that has similarly explored locative play in the context of ordinary life. With this in mind Foursquare has the potential to impact not only how users orientate themselves to their environment, but also the routes they use to move through it. This leads me on to my second research question:

RQ2: what effect is Foursquare and its playful digital architecture having on spatial relationships and mobility choices?

FINDINGS

Social coordination and impromptu meetings

The coordination of meetings through the visualization of space and surrounding social connections was a common occurrence amongst participants. ‘I was going to meet up with a friend and I didn’t know where I was going to be and I just said, check where I am on Foursquare and you’ll know where
I am’ (Tony). While participants did use Foursquare to coordinate a variety of social situations, for the most part there was an emphasis on the coordination of interactions with work colleagues on a designated night. These gatherings would often include several different venues, and would habitually involve people arriving at various times throughout the evening. As another interviewee explained. ‘We used to do it at work, especially at the media agency because there are a lot of people using it. People would finish work at different times, depending on what department they were in, so they would maybe go off to a pub or a restaurant and then say, come find us later. So instead of picking up the phone and calling them, you would just find the person, see where they were ... You wouldn’t have to worry about rushing out the door or following them, you can just wait until they checked-in, and then meet them there’ (Lucas). For Lucas then, the spatial sentence Foursquare provided him with meant that he didn’t have to ‘rush out’ after colleagues if he still had things to do in the office. He could instead choose to join them at a time and place that was ostensibly convenient to him.

For the participants who used Foursquare in the manner described above, another significant feature of this LBSN was it made social gathering that were previously difficult to arrange, easier to organize. Social events like the ones outlined in the examples above were commonly discussed as being harder to assemble prior to Foursquare. The difficulty here frequently revolved around colleagues being less able to hear their phone ringing as the evening went on, making it unlikely that the whereabouts of others would either be known or shared. In contrast to this, by using Foursquare participants could see what social opportunities surrounded them, rather than having to individually contact friends to ascertain either their location, or to alter arrangements on the move. Owing to this, participants didn’t feel they had to be at a certain place at a certain time, as might be the case were they using older mobile devices (see xxxi xxxii). One interviewee enthusiastically noted that Foursquare allowed him to change his mind about an event without feeling guilty that he’d let anyone down. For these participants the social interactions arranged through Foursquare were pointedly more about choice and less about requirement. What this research shows then is that the visualization of space, and with it the visualization of social connections, doesn’t only reduce the need for punctuality, more significantly it reduces the obligation to make an appearance in the first place.

The visualization of space and surrounding social connections also meant that participants were more likely to be involved in unplanned encounters with other Foursquare friends. As one interviewee explained. ‘My school was in Petersfield and I saw some old people who used to go to that school live nearby, and sometimes they check-in and I’ll say, hey do you want to come in for a coffee. I did that a few times. In fact, I did that pretty much every week People come by and visit. So yeah, that’s been really useful. I imagine it will be good at Surrey, as a lot of my friends are quite close to Surrey, so a lot of them will probably be nearby’ (Rupert). This kind of meeting is accordingly different to the social interactions organized through older mobile phones (see xxxii xxxiii) that would be predicated on prior mutual intent. Indeed, the ability to visualize where friends were led to participants engaging in a higher volume of unprepared social encounters. As one interviewee noted. ‘I’ve had a few funny moments in that sense, when I’ve arrived somewhere, checked-in and [Foursquare] has said your friend Ben is here, and I’ve looked up and he’s walking around the corner in the pub’ (James). Such encounters, however, weren’t always warmly received. Participants who discovered they were either near a group of friends, or in some cases were in the same venue, often then felt obliged to make contact with them, whether they wanted to or not. In sum, while Foursquare can imbue space and place with an additional sense of socialness, a more complex set of variables is involved in whether this is ultimately appreciated.

Locative play, spatial relationships and mobility choices

Many participants approached their environments differently as a result of the playfulness Foursquare enabled. The use of Foursquare effectively imbued otherwise normal daily activities with a sense of excitement and difference, just as it incentivized them. As one interviewee explained. 'I became aware that if I went out more I’d get more points' (Molly). The desire to be more physically active as a way of receiving additional points, badges or mayorships was a common theme amongst participants, and one that was explicitly associated with this LBSN. 'Foursquare is about what is going on right now. I think Dennis Crowley said it in an interview one time that Foursquare involves closing the laptop and
getting out in the world, rather than the opposite, which is Facebook’ (Rupert). Just as the digital architecture of Foursquare merged with the tangible texture of the city in these instances then, the playfulness of Foursquare equally became a part of participants’ ordinary lives. From this vantage-point, and with the proviso participants had adopted a commensurate attitude, play was no longer allocated a space of its own (see xxxv xxxvi), abstracted from the quotidian, but instead free to move with participants as they moved through their environments. Nieuwodorp’sxxxvii adaptation of Goffman’sxxxviii ‘screen’ metaphor is helpful here, as the magic circle from this position is no longer solid, but rather ‘a permeable membrane through which conventional meaning, psychical artefacts and environments, and players alike can slide in and out of the game’. Alongside the desire to go out more, many participants found that the mayorship game mechanic served to remind them of their connection to the environments they routinely frequented. Participants who had just acquired or maintained a particular mayorship often then experienced a stronger sense of connection to these environments. As one interviewee explained. ‘You just feel like you’re loyal to that place’ (Maxine). Likewise, participants quickly became possessive and territorial if another user threatened to steal their favorite venue. In many cases this then led participants to purposefully checking-in at these places to prevent such an occurrence. ‘The number of times I have come here to just hang on to the mayorship’ (Sergio). While these actions were usually taken in a jovial fashion, the mayorship mechanic of Foursquare nonetheless did alter how participants orientated themselves to their locale. Indeed, participants who engaged with this aspect of Foursquare often then experienced some degree of ownership over their portfolio. As one interviewee joyously explained while discussing his favorite mayorship. ‘It is mine!’ (Adam). On a phenomenological plane then, the spatial ownership enabled by Foursquare wasn’t simply digital but equally physical. Goffman’sxxxix ‘screen’ metaphor is again applicable, as ‘the screen not only selects but also transforms what is passed through it’. While these places are tangibly the same, semiotically speaking, the ‘screen’, or rather Foursquare, significantly changed them.

Moving forwards, the desire to score more points and collect badges by checking-in at new locations meant that many participants experienced places they wouldn’t have otherwise happened upon. ‘There was an occasion when we [Maxine and her friends] went to a load of new places just to check-in and get the points’ (Maxine). ‘I was checking in everywhere that I went’ (Andrew). As a symptom of this, several participants exhibited a touristic mindset, in that they actively sought out new spaces and places to experience. For those who orientated themselves towards the gaming side of Foursquare, the spaces and places they thought they knew inside and out suddenly felt unfamiliar again. These participants would then move through their environments using pathways and routes that they hadn’t taken before. This particular use of Foursquare, however, was predominantly adopted by younger participants who were either new to the game, or who were cognizant that checking-in to new locations meant more points. Ultimately then, and in line with comprehension the magic circle developed above, the degree to which Foursquare affected mobility choices and experiences of place were dependent upon the adoption of a playful mindset. For those who chose to ludically engage with Foursquare’s digital architecture, ‘ordinary life’ and its connection to place in turn felt markedly different.

CONCLUSION

This paper has examined Foursquare in two interrelated ways. First, it explored whether the visualization of space is being used to coordinate social situations, and whether this then leads to a rise in impromptu social encounters. Second, it explored whether the overlaying of space and place with locative play is affecting approaches to the urban environment and mobility choices. Regarding the first research question, this paper supports de Souza e Silva and Sukto’sxl suggestion that the visualization of space will increasingly mediate social life. However, this does not mean that time won’t equally be a factor. When Foursquare was used in the social situations detailed above, time was still very much involved. Although this LBSN did allow certain social gathering to be organized in a more relaxed manner, and did allow individuals to feel able to pick when, where and what events they attended, these choices were still very much rooted in time. Participants would use Foursquare to see
where their friends were, and then make a decision to either join them or not at a time that best suited their needs. The visualization of space can, however, lead to a rise in unplanned social encounters, with the successfulness of these encounters predicated on a complex set of variables beyond the scope of this LBSN. Moving on to the second research question, this paper demonstrates that the reframing of play through Foursquare can impact how participants approach and move through their environment on a day-to-day basis. The participants that used this LBSN as a locative game found themselves traversing their usual environments using different routes, just as it saw them uncovering new places that they hadn’t been to before. At the same time, environments that participants believed they knew suddenly felt fresh again. The desire to maintain certain mayorships also led to some participants repeatedly going back to these places, as well as experiencing a degree of digital ownership over them. In all cases, the extent to which Foursquare impacted the social interactions, spatial relationships or mobility choices of participants was directly related to how users orientated themselves towards this LBSN (see vi). As locative media continues to be integrated into new and varied application, so to will there be new ways of approaching space and place. Understanding what effects these developments are have on peoples’ day-to-day lives is an important area of study that warrants attention and will provide valuable information on our changing relationship with urban space.

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TACTICS OF OLD AND NEW MEDIA IN SOFT-CORE URBANISM.

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OVERVIEW

Urban space has acquired increasing significance as a medium for provocative sexualised communication making the general public a captive audience to soft-core, pornographically styled images. It is estimated that over twenty-five percent of advertising includes sexualised content, and with the influence of novel, dynamic and mobile advertising typologies, engagement with hypersexualised images in urban environments is complex. These images and events – once viewed as ‘harmless’, passive, or nostalgic sexual representations – are increasingly understood as actively hypersexualised occurrences with subtle yet concerning consequences. Of particularly interest in this paper is the way that infrastructures materially express the production of hypersexuality where over the past decade traditional advertising tactics and infrastructure has been ‘made new’ in the neo-liberal media city (figure 1). With new and old media reconfigured I propose a hybrid ‘technology of sexiness’ emerges that reinforces gender stereotyping and heterosexist behaviour.

By looking in detail at a controversial advertising case study I examine four interrelated media: the hypersexualised advertising photography; the activation of a hypersexualised ‘promotional’ salespersons; hypersexualised social media and; the press media coverage generated by the controversial campaign – all operating across old and new infrastructure in the mediascape of the city. The issues and questions addressed by this research include how the expansion of consumer media into new and novel typologies may help to expand hypersexual encounters that limit diverse participation in cities. Furthermore, how the use of old and new media results in a distributed and mobile hypersexualised culture that resists legislation and planning policy as well as revealing gaps in the self regulated advertising standards system. I conclude that rigorous critique of sexualised content, novel infrastructure and urban context will allow for better understanding of how these hypersexualised and highly mediated sites contribute to shaping social space and gendered behaviour.

RISE OF SOFT-CORE IN OLD AND NEW MEDIA CITIES

In the ten years since Ariel Levy published Female Chauvinist Pigs: The Rise of Raunch Culture, the incorporation of ‘porno-chic’ into mainstream culture has launched a new regime in urban aesthetics. The ‘cross-over’ of sexualised images from the pages of magazines to the outdoor advertising campaigns of billboards and digital mediascapes has become central to the pervasive and instructive modes of contemporary media. Yet unlike a magazine or the television, where the content can be ignored or simply turned off, the exposure to hypersexualised images is more difficult to dodge. In the ‘attention economy’, outdoor advertising space is framed as ‘the only medium you can’t turn off’. Hypersexuality in urban life is unavoidable and certain.

Today, outdoor advertising formats include the traditional sheet billboards and ‘spectaculars’, but are also built into street furniture, bus shelters, public toilets, rubbish bins, buses, scooters and an array of variables that increasingly include display-animated advertisements (figure 1). The transformation of cities as a result of the rapid integration of advertising infrastructures is not limited to wealthy cities, and constitutes ‘one of the first and most visible instances of what we would today call the commercialization of public space.’ And while alertness to the ways consumer media changes social life is well documented, there is a gap in the study of consumer media as it pertains to urban space and architecture.

Highlighting this gap, sociologist Anne Cronin states that scholars have explored the political economy of cities, yet there is a lack of investigation into the importance of representational aspects. Other scholars have noted the transformative effects of mediated cities too. Architectural critic Beatriz Colomina’s suggests that both media and architecture are altered by the consumer landscape, where, in the past twenty years the integration and occupation of consumer media in and as the space of
architecture has created new hybrids and typologies. Scott McQuire discusses mediascapes and how neo-liberal cities are transformed by the co-constitution of media and architecture. The ‘increased convergence with mobile and pervasive media’ suggests that contemporary cities are dominated by exchange between architecture and advertising as well as between infrastructure and screen (figure 1). Hypersexualised representations are frequently part of advertising campaigns for the retail industry, entertainment and leisure brands, where women’s images dominate in brandscapes. These industries amount to a significant proportion of the ‘out–of–home’ advertising encountered in urban space. As consumer spaces increasingly privilege ‘co-constituted’ urban materiality, it follows that hypersexualised representations are also increasingly privileged. As such, subtle forms of hypersexualisation are normalised and an accepted characteristic of participation in neo-liberal cities. Post-feminist rhetoric assists the hypersexual acceptance by conflating female empowerment with porno-styled representations of women who appear ‘up for it’. In these instances, consumer sites are spaces that borrow the discourse of post-feminist empowerment but are also spaces where women’s behaviour is narrowly produced and regulated through hypersexualised images. Jean Gagnon’s analysis of heterosexual pornographically-styled images suggests that the city is a ‘cultural reservoir where individuals draw the representation that they more or less consciously incorporate into their lives and value system’, and indicates a flow between the hypersexualised image and the occupant of the space. Similarly, Winship argues that advertising campaigns entering urban space become events crafted both by the city and by consumer media, where the civic domain is diversely mobilised and occupants become part of a shared currency. Judith Butler importantly takes these observations further and suggests that it is through our sexuality and, by inference, our sexualisation we are able to assert our individual value. The media city assists in this production, where sex is not a static description of what one is but a norm by which one becomes viable. Within neo-liberal cities women live their sexualities through media infrastructure.
My categorisation style in this diagram draws directly on and extends precedent examples found in Learning From Las Vegas. The duck or ‘novelty building’—as proposed by Venturi et al.—is followed by ten new contemporary advertising types. These types are variations on the traditional billboard but each has its own nuance. The co-constitution of architecture and media becomes apparent where, as McQuire states: ‘Rather than treating media as something separate from the city—the medium which represents urban phenomena by turning it into an image—I argue that the spatial experience of modern social life emerges through a complex process of co-constitution between architectural structures and urban territories, social practices and media feedback.’ My inventory of contemporary urban advertising types demonstrates how advertising media develop opportunistic ways to contact their audience. These typologies operate through architecture, urbanism, advertising and art practice where, at times, each can no longer be individually defined.

**SOFT-CORE TENSION IN CONSUMER URBAN SPACE**

Issues around hypersexualised images are triggered for a variety of reasons, while always as a direct result of their unavoidability, specific offence generated by the content of an image is also a ‘combination of a particular advert’s content and location’. This suggests that despite media researchers striving to investigate their target audiences and their general attempt to weave industry need with public need, there is still a lot of content in urban advertising that will impact people who are outside of the target market. In addition, the content of controversial hypersexualised urban advertisements is...
frequently re-circulated by press media, precisely as a result of their controversial content or placement. Images may range from the playfully ‘sexy’ to overtly provocative, containing syntax from the sex industry, where icons and symbols such as nudity, suggestive posture, fetish, uniform and sex accessories are used to market consumer products, ideas and regimes. Furthermore, hypersexual images enter the urban realm in various permutations and in high circulation, appearing iteratively in large campaigns across various locations and media formats. What is problematic here is not the content per se, but the relationships that it forges with context and the occupation of that context. The amplification and enabling of stereotyped and gendered behaviour, as well as the ways the hypersexualised urban environments regulate behaviour; raise questions concerning the potential negative impact on women.26 The repeated contact with hypersexualised representation construct what Judith Butler would describe as a ‘sequence of acts’ of a ‘repeated stylization of the body’ with a regulated framework and a ‘script’ from which ‘we make a constrained gender choice’.27 Importantly, recent discussions have elevated alarm about how context can shape and make conducive environments for violence against women.28

Cronin pointedly observes a temporal connection between image and viewer that fuels my own position about the impact of hypersexualised images in urban space. She states:

[T]he image is not a static, fixed container of meanings — these meanings are produced in the time of vision ... they reach out for an explicit temporal connection with the viewer. Therefore we must pay close attention to the relation between the temporalities of self in moments of vision and the multidimensional connection of differences (gender, ‘race’, sexuality, nationality and so on) to the material body of the viewer.29

In this statement, Cronin implies that the relationship between the observer and media space can be shaped by their temporal interaction, constructing a material ‘support surface’ which is ‘untethered’ and able to generate meaning and effect.30 Hypersexualised media un tether and reductive representation of women as stereotypes of soft-core pornography are objectified and heterosexist, and as such, normalise women’s inequity.

**CASE STUDY**

The selected case study incited public comment and contention, indicating visible, even measurable, social tension.31 While the example is selected from an Australia city, it reflects similar phenomena and activities in other neo-liberal cities across the world.32 In Australia the Advertising Standards Bureau (ASB) is a self-regulating body established to set ‘rules and principles of best practice to which the industry voluntarily agrees to be bound.’33 Although it is not my intent to offer solutions to the complex issues at hand, the ASB – and similar bodies established in cities world wide – is positioned as a key factor in the continued provocation of the hypersexualised mediascape, where decisions are not enforced but only advised.34 As a result of the unaccountability of the ‘self-regulated system’ the following case study reveals that hypersexualised content remains unregulated and prolific within the co-constituted urban form of contemporary cities, thus perpetuating gender inequity and amplifying heteronormative behavior.

**General Pants / Ksubi Jeans, Australia Wide**

Just as sex and advertising have long been expedient allies, urban shopping precincts are spaces where advertising, architecture, style and seduction merge and have been primary sites of hypersexualisation. The *Ksubi* jeans advertisement (figure 2) displayed in General Pants stores in Melbourne’s central business district and across Australia in 2011 was, nonetheless, a surprise to some consumers. The ASB describes: ‘A topless young woman with black Electrical tape across each nipple. There is a man behind her but you can’t see his face and he is in the process of removing her jeans. The word SEX appears above her head in huge bold type’.35
The Ksubi campaign reveals a move towards a ‘porno chic’ advertising style in which the tropes of stripping and pornography are deployed, using the rhetoric of ‘girl power’, and portraying these tropes as agents of women’s sexual autonomy. These sexualised tactics are often legitimised by the representation of ‘sexually autonomous heterosexual young woman who plays with her sexual power and is forever “up for it.”’

A number of claims against the advertisement were submitted to the ASB, with more complaints directed against the multi-platform media campaign. One complaint began:

> These advertisements are in public places. They contain explicit and highly suggestive material and their huge size in the front windows of stores make them impossible to ignore thereby removing the choice of the consumer to be exposed to these images.

More than the usual image-based advertising, the Ksubi campaign included young adult retail staff wearing ‘I love sex’ badges (figure 3), and was extended by linking erotic online videos to the in-store promotion. One of the original forms of billboard infrastructure the ‘human billboard’ aspect of the Ksubi campaign ‘directs’ the mobile bodies of the salespeople and instructs a sexualised interaction that impacts the urban retail space. The Daily Telegraph reported that some staff were uncomfortable about wearing the badges and felt that it was inappropriate to send this message to the teenage customers who frequent the store and mall. The CEO of the company offered an alternative view that it was ‘a bit of a stretch’ to suggest the campaign might encourage teenagers to have sex.
During the Ksubi advertising campaign at General Pants the staff describe how they were uncomfortable wearing the 'I Love Sex' badges. 'It’s pretty degrading as a woman but there is nothing we can do’ one employee stated. The campaign featured the fashion label images as well as an erotic video with all the in-store mannequins topless.

The complaints were upheld by the ASB, with the Case Report on November 5 noting that the ‘image overall conveyed a strongly sexualised image’. The complaint was registered on November 5 with the store advised November 23 of the outcome. Rather than remove the advertisement as requested by the ASB, the company played into the urban controversy by ‘stamping’ a more traditional ‘old’ media-style post across the hypersexualized images with the word ‘censored’ – thus announcing there was something provocative to see (figure 4). This did two things: it created more publicity for the brand, and it directed consumers to their ‘new’ media online material that included the campaign’s provocative porn-styled and hypersexualised video content. The controversy of the image was re-circulated by other forms of press media and social media hype, potentially contributing to the brand’s breadth of hypersexualised impact.
Writing from a gender and politics position Lauren Rosewarne’s suggests that ‘the ASB rarely upholds a complaint relating to sexist portrayals, and if a complaint does survive adjudication, the ASB has no ability to withdraw the offensive advertisement or punish the advertiser’.44 If the advertiser does choose to comply, by the time due process has been implemented the campaign has made its impact. Advertising campaigns designed to run on short but intensive timeframes feel no impact. Secondly, there is no disincentive for advertisers to ‘edit’ or reflect on the representation that they place in the urban realm. More controversy equates to more attention and sales.

Ksubi’s campaign is a ‘porno chic’ advertising style in which the tropes of stripping and pornography are portrayed as agents of women’s sexual autonomy and desirability demonstrating the ways that contemporary media rely on post-feminist techniques where the ‘entanglement of feminist and anti-feminist ideas’ coalesce.46 In this case, the objectified, headless female body speaks to the problems raised by second wave feminism, yet the available and powerful pose of the female body may speak to anti-feminist notions of self-objectification. Part of the acceptability of this hypersexually-styled image in urban space arises from the tactics that are legitimised under a rubric of a ‘sexually autonomous heterosexual young woman who plays with her sexual power and is forever “up for it”’.47 Rosalind Gill offers extensive critique of the sexualisation of culture and its impact on the individual subject, asking if it would be ‘more productive to talk about sexism rather than sexualisation?’48 Certainly, for the past sixty years, feminists have worked persistently to critique the commercial representation of women and, more recently, the increase in the sexualisation of these images. However, Gill’s critique takes a step further by suggesting that sexist public advertising is a form of sexual harassment.49 For retail spaces where hypersexualised images are prevalent, it is reasonable to suggest that power structures can be transferred onto the urban space. When the pornographically styled images usually seen in men’s magazines emerge in urban space and communicate the acceptance of the objectification of women. This results in a gendered territory that also excites and reinforces heterosexual masculinity ‘marking the space as a male domain’.50 This is further amplified where single campaigns are repeated across the central business district and in proximity to other sexualised campaigns (figure 6).
Figure 6: Territory of Ksubi campaign, Nicole Kalms, 2011.

In metropolitan Melbourne the General Pants Ksubi campaign was intensified in the inner city with six stores. This amplification of influence can penetrate and shape the city. For retail spaces where sexualised images are prevalent, this results in a gendered and hypersexualised territory that excites and reinforces heterosexual masculinity "marking the space as a male domain. With the Ksubi campaign the dispersal is set within a smaller area thereby intensifying the potential impact and iterative contact with the images and product.

The trajectory from the appearance of the single advertising image to the cumulative and iterative impact of hypersexual urbanism can be understood by documenting the pragmatic extent of the advertising campaign (figure 7). The iterative pervasiveness of campaigns like Ksubi indicates that interactions with individualised images are one aspect of a much larger system of hypersexual instruction across multiple sites and often across multiple media platforms.
In ‘Eroticising Inequality—Technology, Pornography and Young People’, Marie Crabbe and David Corletts discuss the pervasiveness of the porno chic aesthetic in the public realm and social life. Their argument states that the pornified aesthetic is now culturally present in ‘billboards, music videos and designer stores [that] shape the desires and imaginations of a younger and younger demographic’.

This is also reflected in the way young women are increasingly presented ‘as active, desiring sexual subjects’. Crabbe and Corletts draw on their positions in sexual education and social research to assert that the cumulative effect of hypersexualised representations in the urban realm is the key determinant for gender stereotyping and unequal gender relations. When urban space is co-constituted with billboard, media and consumer spaces, this mediated architecture typology can facilitate and legitimise gender stereotypes. Young heterosexual men who occupy or journey through spaces of hypersexualised consumption may experience a feeling of sexual entitlement, which may incite sexual aggression and even harassment. Further, women’s occupation of hypersexual space may result in pressure to experiment with the porno chic representations that the media routinely displays, in order to feel valued or valuable, and to see these practices as viable.

CONCLUSION

Advertising media and opportunistic tactics are part of the urban consumer landscape, and pose challenges for spatial practitioners and policy makers. I argue that these encounters with hypersexual representations in urban space, while not new phenomena, are becoming increasingly important to the context of architectural praxis and discourse. In this paper, I suggest that the hypersexualisation of everyday life shapes sexual identity and social relations. I have examined hypersexuality as a triangulated occurrence where hypersexualised images in urban spaces merge with the co-constitution of the media city to shape city spaces and potentially the occupants themselves. The organisation and ownership of advertising sites mean that the legislation and policies that enact (or not) the regulation of hypersexualised representation come to be vital components of the analysis as well.

A number of issues have been foregrounded, including: the nuances of hypersexualised advertising campaigns circulating in urban space; the potential consequences of the heterosexist activation across territories of urban space and the dominance of these heteronormative images. One of this paper’s overarching hypotheses is that images, events and spaces, acting together and cumulatively, legitimise the objectification and subjugation of all women. Through the Ksubi case study, I have argued that hypersexual
culture legitimises stereotypes of women as passively receptive, and available for male pleasure. I problematise self-regulation in Australia (and in other neo-liberal cities that rely on the self-regulation of advertising), that take a reactive approach. As outlined in the case of the Ksubi advertising campaign, the process has almost no impact on the length of the advertising campaign and can have the opposite effect of generating more publicity leading to deliberately provocative advertising campaigns across various media platforms – both traditional and contemporary.

What this research is able to suggest is that the tension brought into urban space by hypersexuality impacts socio-cultural politics and individual behaviours. Further discussion of regulation is required to evaluate freedom of expression in advertising versus the suppression of hypersexualised content. At a time when sexual violence towards women and gender parity is central to social and political concerns, the interaction taking place within the hypersexualised media of neo-liberal cities are both a cause and a consequence of gender inequality.

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2 This statistic is from ‘The Existence and Effectiveness of Sexual Content in Advertising’ by Thomas W Whipple in Advertising and Popular Culture: Studies in Variety and Versatility, ed. Sammy R. Danna (Bowling Green State University: Popular Press, 1992). 136. This research develops a key argument that the conflation of media with architecture is a dominant aspect of neo-liberal cities.
9 A spectacular is a large infrastructure both in size and stature and is usually sited on main arterials and inner city streets. This is opposed to a ‘landmark’ billboard that may be associated to a building or particular site. Advertising Federation Australia ‘Outdoor Advertising advisory paper and checklist’ http://www.communicationscouncil.org.au/public/content/ViewCategory.aspx?id=301. Accessed September 25, 2013.
15 McQuire, The Media City.
25 Ibid.
26 While hyper-masculine images of men are an indication of how hypersexuality resonates with representations across gender and sexualities, the number of hypersexualised representations of men is in no way equivalent to the prevalence of hypersexually-styled, porno-chic representations of women that circulate urban space. This imbalance indicates that hypersexualised sexism is directed at women and is thus the focus for this paper. Certainly the equity of women will benefit men too.
30 Ibid., 105.
31 This has been documented by the Advertising Standards Bureau (ASB), but the press media also follow this area keenly. Therefore, current media also follow this area keenly, and current media and picking policy are all used as mediums to analyse.
46 Gill, ‘Postfeminist Media Culture’, 149.
50 Ibid., 321.
51 Ibid.
52 Kubi has media and online video links to the advertising campaign.
54 Crabbe and Corletts, ‘Erotising Inequality’, 12.


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