



**University of Dundee**

## **Sensing the (Media) City**

Notaro, Anna

*Published in:*  
Journal of Urban Cultural Studies

*DOI:*  
[10.1386/jucs\\_00038\\_1](https://doi.org/10.1386/jucs_00038_1)

*Publication date:*  
2021

*Document Version*  
Peer reviewed version

[Link to publication in Discovery Research Portal](#)

*Citation for published version (APA):*  
Notaro, A. (2021). Sensing the (Media) City. *Journal of Urban Cultural Studies*, 8(1), 135-144.  
[https://doi.org/10.1386/jucs\\_00038\\_1](https://doi.org/10.1386/jucs_00038_1)

### **General rights**

Copyright and moral rights for the publications made accessible in Discovery Research Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

### **Take down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# SENSING THE (MEDIA) CITY

Anna Notaro, University of Dundee

## ABSTRACT

This article, originally delivered at the 16<sup>th</sup> international conference of the Architecture Humanities Research Association (University of Dundee, November 2019), seeks to engage with the ‘emotive’, ‘sensorial’ and ‘affective turn’, as defined by authors in the humanities, social and cultural studies in order to consider the emotional responses to the mediated experiences of place and to inquire into how individuals and collectives react to a changing sensory environment. It adopts a multi-disciplinary approach which blends historical, cultural and mediated dimensions of urban spaces and places while maintaining a focus on the kind of locative/interactive art which is less concerned with representation and more with radical construction, social engagement and communication. The purpose is to try and provide an answer to the question: what does ‘sensing the city’ exactly entail when the city’s form, as Baudelaire memorably put it, ‘changes faster than the human heart’?

## KEYWORDS

media city, sensescape, locative art, emotive turn, affective turn

Space [...] is in close relation to instincts, drives,  
emotions and actions. (Paul Schilder – psychoanalyst)

Cities are dynamic, evolving zones of transformation. They offer rewarding complexities of buildings and streets to navigate, leading to surprises, delights, mysteries, beauty, and are, at their best, about human dreams and human fulfilment. Locative/interactive art offers one way to navigate a city’s layered multi-media realities. Not surprisingly, the old metaphor of the map and the ancient art of storytelling have emerged as some kind of ‘city survival kit’ to cruise through the rough waters of the new multi-media realities, and explore its ‘extraordinary agglomeration of flows’ (Amin and Thrift 2002: 42-43). As one moves through space, a constant double movement connects interior and exterior topographies, transforming the exterior landscape into an interior map – the landscape within us. Conversely, we simultaneously project outward, onto the space we traverse, the motion of our own emotions. Space, as Giuliana Bruno cogently observed in her *Atlas of Emotions* (2002) is, totally, a matter of feeling. It is a practice that ‘engages psychic change in relation to movement’ (66) and is ‘in close connection to our instincts’, as the epigraph to this article aptly recognizes.

In *Flesh and Stone: the Body of the City in Western Civilization*, (1994), Richard Sennett highlighted the central role of the body and of sensory experience in the historical development of cities. In a similar vein, authors in the humanities and in the social sciences sought to address with the 'affective' and 'emotive turn' the neglected yet important subjects of touch and smell in the city (Bondi et al. 2005, Clough et al. 2007). Joseph Rykwert's book *The Seduction of Place: The History and Future of Cities* (2002) emerges from this juncture for instance, and other scholars have been keen to stress the importance of sound (Myers 2010), smell and taste (Tuan 1977) and touch (Rodaway 1994). Mags Adams and Simon Guy allude to Pallasmaa's study *The Eyes of the Skin: Architecture and the Senses* (1996) when they point out how: 'There have long been calls from within architectural studies for an "architecture of the senses" that challenges the 'dominance of the eye' and 'recognises the realms of hearing, smell and taste,' the 'haptic architecture of the muscle and the skin' (2007:133). In fact, the sensory experience of the city primarily defined in terms of the visual (Macnaghten and Urry 1998) had already been challenged by Henri Lefebvre in 1974 when in *The Production of Space* he had been critical of understandings of the urban which relied increasingly on the visual. This article builds upon the above scholarship to combine an emphasis on the multi-sensorial experience of the urban space with an interest in the convergence of media - increasingly mobile, instantaneous and pervasive - with urban space, and in how it has become a constitutive frame for a distinctive mode of social experience.

This is exactly the core argument of Scott McQuire's study *The Media City: Media, Architecture and Urban Space* (2008) that starts by considering how the term 'media city' is more useful than 'informational city' or 'digital city'<sup>1</sup> 'in encompassing both the historical dimension of the relation between media and the modern urban space':

While descriptors such as 'informational city' or 'digital city' are more established, I find media city more useful in encompassing both the historical dimensions of the relation between media and modern urban space, and in connecting this history to the changes driven by digital convergence in the present (2008: 21).

The always complex relation between cities and technologies has over the last few decades become rephrased in the language of digital, thus giving rise to the data driven narrative of the smart city, a city of driverless cars, delivery drones and smart buildings prompting concerns whether 'smart cities are an AI-powered dystopia that's already happening' (Binary District Journal 2019). Unsurprisingly corporations like IBM have seized on the business opportunities to make cities even 'smarter' thanks to new cognitive approaches, including advanced analytics for better city living. In the 'Smarter Cities' IBM web site we learn that 'this is the first era for the advanced use of IT, analytics and cognitive capabilities to make individual buildings and entire portfolios of buildings more intelligent'. It is in light of similar developments that I believe media theory, as suggested by Aiello (2016) can offer 'a distinctive understanding of the nature and potential of the urban as a human endeavour', also the media history focus evoked by McQuire has its merits because, by analyzing how different cases at different times have used 'new technologies' to shape our knowledge and vision of the city, we gain a better evaluation of the newness of contemporary new media cities and discover that cities have always been smart, for example in the way in which citizens interact and self-organize (Johnson 2002). The early history of video recording, for instance, might be useful to appreciate how technology became intertwined with post-war urban living. Programmes in the US used to show live broadcasts of other cities, focused on landmarks. This idea recurred in early video art, in which artists like Nam June Paik

celebrated the possibility of simultaneous transmissions via satellite. With the rise of videotape and portable video recorders in the 1960s and 1970s, video became a medium fully intertwined with the very idea of the urban condition and an instrument of surveillance. The same video technology however provided the medium to challenge dominant representations, which was precisely the aim of one of the earliest anti-surveillance groups, the *Surveillance Camera Players* (1996-2006), whose public performances have called attention to the all-pervasive video cameras in major cities, or the more recent *Guerrilla bubblewrap* (2009-2013).

At a time when AI-powered video technology is becoming ubiquitous, tracking our faces and bodies, once again (urban) activists and artists have devised ingenious ways to hide from such sophisticated video systems. Researchers from the Belgian university KU Leuven have shown how to hide from an AI video system with the aid of a simple color printout (Thys et al. 2019), while Polish designer Ewa Nowak has developed a mask ('face jewellery') that makes the wearer's face undetectable to facial recognition algorithms used in public surveillance cameras (Hitti 2019).

What projects like the above have in common, besides the activist stance, is a multi-sensorial relationship with the urban landscape, a 'sensescape'. David Howes (2005) speaks of a 'sensory turn' in anthropology, the humanities and related fields of cultural studies. He defines sensescape as 'the idea that the experience of the environment and of the other persons and things which inhabit the environment, is produced by a particular mode of distinguishing, valuing and combining the senses in the culture under study' (Howes 2005:143). It is also worth adding that the notion that memory and the imagination are linked to movement is not unique to the city; it was advanced during the eighteenth century, when motion became more clearly bound to e-motion. Bruno (2001) describes the sensory experience as 'driven by the haptic: strolling in the garden, a touching experience of feeling through the eye, was a means of activating the senses in a cumulative sequence of emotional responses. It is precisely on this haptic route that the garden that would become the picturesque met the emotional map' (219). As Hunt has convincingly demonstrated in his *The Picturesque Garden in Europe* (2004) the 'picturesque' garden popular in the Eighteenth century Europe reflected changing attitudes to nature, and its intended appeal was not only to the eyes but to the heart and mind. In this sense, garden theory and landscape design were privileged *loci* in this pursuit of emotive space. One of the legacies of the picturesque was to enable the imagination to form the habit of feeling through the eye. A similar ocularcentric perspective is evident in the experience of the Nineteenth century city, illustrated in Baudelaire's *flâneur* and, a century later, in the Surrealists' deambulations through Paris's run-down shopping arcades. In London, Thomas de Quincey's book *Confessions of an English Opium Eater* (1821), based on his laudanum-fuelled night-time wanderings told the story of how he discovered new 'terra incognitae,' thus showing how daydreaming had become 'a metropolitan pastime' (Dart in Beaumont and Dart 2010).

The city was a place of fantasy, reverie, daydream, ideas which later inspired the Situationists and their critique of the 'spectacle of urban consumption' (Notaro 2010). Writing in the early years of the Twentieth century on the mental life of the metropolitan walking figure, Georg Simmel (1903) discussed the impersonal, disorienting and overwhelming nature of urban living by arguing that urbanites experienced an excess of 'psychic stimulation', which caused them to respond by repressing their emotions. Thus, the 'blasé' attitude was the incapacity to react to new sensations with the appropriate energy. Benjamin, also interested in the mental life of the city-dweller, famously described the *flâneur* as someone who was 'going botanizing on the asphalt' (Benjamin 1973: 36). It

cannot escape our attention that all the *flâneurs* mentioned so far are males, echoing Raymond Williams understanding of human perceptions of new urban qualities as associated ‘from the beginning with a *man* walking in city’s streets’ (1973: 233, emphasis added). It would take a few more years for the *flâneuse* to emerge as an urban figure worthy of critical attention. Crucially, as Lauren Elkin put it:

the answer is not to attempt to make a woman fit a masculine concept, but to redefine the concept itself. It’s time to recognise a counter-tradition of the *flâneuse*, *flânerie* has always enabled women to reroute the paths they were expected to take, and disrupt the lives they were expected to live (Elkins 2016b).

But what does 'sensing the city' exactly entail today? First of all, it is not just confined to the sights, sounds, smells, feel and taste of the city but is also concerned with the ways in which the urban landscape is managed to enhance or hinder our sensory experience. In light of the historical perspective evoked earlier, we should consider how mental maps of the city predate physical maps, or how their circulation has been regulated by signage, improvement acts, public health interventions through to the contemporary usage of QR codes, sat-navs and, lately, AI technology. We need to engage with the emotive, sensorial and affective turn in order to consider the emotional responses to the mediated experiences of place and how individuals and collectives react to a changing sensory environment. In moving betwix the technological and the spatial, we can appreciate the complex ways in which artistic and technological practices are both produced and shaped, and, in turn, support the reconfiguration of cityscapes and of the city as a medium. I believe that artists and architects speak the same language when they conceive of urban and artistic environments as places through which one travels not only physically but also imaginatively.

These sensory experiences are privately felt but publicly mediated. They inform ideas and decisions about the construction, use and symbolism of urban public space. This is the underlying question which many of the projects discussed below aim to address, starting with a pioneering work of locative narrative *34 North, 118 West: Mining the Urban Landscape* (2003), an historic fiction set in downtown LA. Depending on the GPS positioning of the walker, a different part of the story informs the participant of the historic events which took place in the city. A portable computer shows the location of the participator on a map, while the audio content is delivered through the headphones. In Lev Manovich’s words quoted on the project’s web site:

The project lets the user uncover samples of Los Angeles's hidden history as s/he navigates through the multi-layered depths of downtown's most poetic and surreal space. The result is a new kind of 'scripted space' [...] which is emotionally moving (Manovich 2003).

This is the kind of locative art that, as Hemment (2006) points out: ‘can come to be seen not as distanced from the world but as offering a potential for transformation and engagement, opening up other places, their contents circulating through location aware networks, producing a field of relations and affect’ (354).

Another ground-breaking art walk was *Invisible Ideas* (2003), in that it combined for the first time GPS, PDAs, and Flash to enhance participants' exploration around the Boston Common. Nine years later the *Cleveland Historical: Curating the City* (2012) project would describe its underpinning philosophy as follows:

The city has been our laboratory because place matters. [Recovering place](#) re-makes civic society; it creates sustainable [economies](#), environments, and [communities](#). In erasing boundaries between landscape & interpretation, mobile provides new ways of imagining place; it allows us to create dynamic performative public art--a dance between memory, space, and artefact.

The emergence of projects like the ones mentioned above and of many others which exploit the convergence of geographical and data space thanks to mobile computing, is important in that it reverses 'the trend toward the view of digital content as placeless, only encountered in the amorphous and other space of the Internet' (Hemment 2006: 349). When considering similar projects one is reminded of Michael de Certeau's (1984), definition of pedestrians as the users and animators of urban space, who create their own routes through a space geometrically defined by others. But one can also think of sociologist Erving Goffman (1959) and his account of social actions in terms of the performance of everyday life. Goffman thought that as 'performers' in society we choose our stage (social context) and our props (clothing, hobbies etc.) to give the performance. I would argue that the spread of technologies into city streets significantly enhances Goffman's social 'dramaturgy' by adding to our choice of 'props', which in turn helps turning such technology-mediated interactions into meaningful communicative acts of public performance.

Learning about the history of a street or a building is to experience an extra dimension. In his beautiful essay on the city as archive Michael Sheringham writes that a city is 'a memory machine' (in Beaumont and Dart 2010: 10), and a walk through its streets can open the files in this archive, setting free the ghosts of memory associated with the structures and spaces. Urban literature provides ample opportunities to set free the ghosts of memory and Sheringham aptly quotes W.G. Sebald for whom buildings are 'the materialisation of mental landscapes' (in Beaumont and Dart 2010: 8). On a similar note, in an article suitably titled 'We mustn't forget the emotional impact of the buildings around us,' Polish-American architect Daniel Libeskind also emphasises the emotional impact of buildings when he writes: 'As an architect, it's my responsibility to make a personal connection -- not just with the physical environment but how it triggers our memories and emotional responses' (Libeskind 2017).<sup>2</sup> As he concludes, 'In great cities, the *great buildings* tell you things you don't know and remember things which you've forgotten. It's a collective wisdom, an engine superior to your own intelligence. Architecture is the biggest unwritten document of history' (Libeskind 2017, emphasis added).

However, it is not just 'great buildings' which tell histories. Artists and urban activists often consider micro-histories connected to modest buildings, precisely the case of *Murmur* (2007-9), an interactive storytelling project that collected stories set in the area of Leith in Edinburgh as told by the residents themselves. First established in Toronto's Kensington Market in 2002, it is:

history from the ground up, told by the voices that are often overlooked when the stories of cities are told. We know about the skyscrapers, sports stadiums and landmarks, but [murmur] looks for the intimate, neighbourhood-level voices that tell the day-to-day stories that make up a city. The smallest, greyest or most nondescript building can be transformed by the stories that live in it. Once heard, these stories can change the way people think about that place and the city at large.

Our contemporary experience of walking through cities is increasingly mediated by digital devices, or ‘nomadic technologies’ (Souza e Silva: 2006), which have created hybrid urban spaces and consequently affected our sensory experience of the city. Numerous activist and artistic projects have been inspired by this blending of new sensory awareness and emerging technologies. I shall briefly dwell on a truly landmark exhibition, *Sensing Place. Mediatizing the Urban Landscape* which took place in Basel in 2012. The exhibition started from the premise that ‘Neighbourhoods are no longer experienced by foot, but are constructed through access via Smartphone or other new media technologies’ in order to ‘address this reconfiguration of the public space by means of an increasing overlap of the digital spheres of information and geographical reality.’<sup>3</sup> Of particular interest was Mark Shepard’s *The Sensient City survival kit* (2010). Inspired perhaps by Bolter and Grusin’s understanding of ubiquitous computing as turning ‘our whole world into a computer interface’ (2000: 213) Shepard facetiously produced a series of tools in order to navigate a city characterized by the ‘computerization of all things’. One is an app called ‘Serendipitor’ (clearly influenced by Situationist psychogeographic practices) that ‘helps the user to find something by looking for something else’. Another tool is labelled ‘Under(a)ware’ and described as ‘underwear designed to sense hidden Radio Frequency Identification (RFID) Tag readers’. The Tag readers ‘alert the wearer to their presence by activating small vibrators sewn into bras and boxer shorts in strategic locations’, lastly the ‘CCD-me-not Umbrella’ tool is presented as an ‘umbrella studded with infrared LEDs visible only to CCD surveillance camera designed to let you flirt with object tracking algorithms used in advanced surveillance systems.’

The eclectic duo of engineers, open source artists, hackers and philosophers Salvatore Iaconesi and Oriana Persico have also addressed what they define as ‘the conceptualisation, design and implementation of a tool for urban navigation, in which the emotional, narratives expressed by people while inhabiting and using urban places, spaces and objects become instantly and radically available, accessible and usable.’ The outcome of their research is the *Emotional Compass* (2013) [‘harvesting Geo-located Emotional States from User Generated Content on Social Networks and Using them to Create a Novel Experience of Cities’](#).

In the same year (2013) we are presented with one of the earliest attempts to capture the ‘city’s mood landscape’ by harvesting the emotional state of Twitter users in New York City. Unsurprisingly perhaps, the patterns showed that ‘people tended to be happiest near green areas such as Central Park and unhappiest around transportation hubs such as Penn Station and the entrance to the Midtown Tunnel’ (Bohannon 2013). A comprehensive understanding of the consequences of (self)tracking and metricizing every single aspect of our existence is a very timely research field (Lupton 2016). However, already in 2007, artist Christian Nold edited a collection of essays *Emotional Cartography: Technologies of the Self*, which aimed to ‘explore the political, social and cultural implications of visualizing people’s intimate biometric data and emotions using technology’. To achieve such purpose Nold created a ‘Bio Mapping’ device’, ‘a portable and wearable tool recording data from two technologies: a simple biometric sensor measuring Galvanic Skin Response and a Global Positioning System (GPS).’ In Nold’s intention the device was ‘a critical reaction towards the currently dominant concept of pervasive technology, which aims for computer “intelligence” to be integrated everywhere, including our everyday lives and even bodies’. It is somewhat ironic that in order to react to pervasive technology, Nold utilizes the same pervasive tools which track and measure our everyday life, although it must be acknowledged that, being a participatory project, users of the Bio Mapping seemed to have a higher degree of agency. However, when asked whether Bio Mapping was about controlling what participants did, Nold’s reply was unequivocal: ‘it’s a performance where I’m directing their life in a particular way’ (Bentkowska-Kafel 2006).

The production of huge quantities of data by connected devices, like smartphones particularly concentrated in cities, are turning them into vast data factories. However, is data telling the full story of what cities are really about? This is the question that Leo Hollis pertinently asked in the *New Statesman's* piece 'Architecture: What does Big Data mean for our cities?' (2013). I share the caution which transpires from his answer: 'we need to be careful that this full-throttle embrace of data does not wash away the many other ways of looking at the city' because 'quantitative urbanism does not give us a complete picture of the modern city with all its elements'. In other words, not everything can end up in a Google data base!

Space constraints (the pun is intended in a short article on cities) do not allow to dwell further on the entanglement of bodies, sensorial experiences, digital technology and urban spaces (Shaw 2018). Hence, I wish to conclude by quoting the most influential of non-urbanists, Jane Jacobs who, several decades before Google appeared on the world cultural scene, stated that since cities were ecosystems of 'organised complexity', modern mathematical methods were ill equipped to systematize or optimize their interrelated components. The risk for Jacobs was to create the 'anti-city' (1961: 21), one where modernist order was asserted on what was essentially a messy metropolis. Similarly, the risk for the contemporary metropolis is to be reduced to an app or an algorithm,<sup>4</sup> to be optimized via sensors and data, deprived of diversity and creative disorder, that 'mess' which helps to bring into being adults who can respond to and deal with the challenges of life (Sennett 1970). It is exactly in such mess and creative disorder that artists, activists, architects and urban cultural studies scholars must locate their practice and tune their senses into the city's vibrations to become, in McLuhan's words, 'the antenna of the society' (McLuhan 1964: xi).



<sup>1</sup> Other definitions of the city include: the *Informational City* (Castells 1991), the *City of Bits Networked City* (Mitchell 1995) and as *Data Town* (Maas 1999), to name a few.

<sup>2</sup> On the emotional impact of architecture the reader might find this selection of Ted Talks of interest:

[https://www.ted.com/playlists/428/the\\_emotional\\_impact\\_of\\_archit?utm\\_campaign=social&utm\\_medium=referral&utm\\_source=facebook.com&utm\\_content=playlist&utm\\_term=art-design](https://www.ted.com/playlists/428/the_emotional_impact_of_archit?utm_campaign=social&utm_medium=referral&utm_source=facebook.com&utm_content=playlist&utm_term=art-design).

<sup>3</sup> I also wish to refer the reader to a previous exhibition entitled *Sense of the City*, (Canadian Center for Architecture 26 October 2005 - 10 September 2006), curated by Mirko Zardini, see <https://www.e-flux.com/announcements/41761/sense-of-the-city/>

<sup>4</sup> I am indebted to Ben Green's latest work for drawing my attention to the striking parallels between the modernist anti-city, criticised by Jacobs, and the contemporary smart city (2019: 153).

## REFERENCES

- Aiello, G. (2016), 'Researching the Urban as Human Endeavour', *Mediapolis* <https://www.mediapolisjournal.com/2016/12/researching-urban-human-endeavour/>. Accessed 1 September 2019.
- Amin, A. and Thrift, N. (2002), *Cities: Reimagining the Urban*, Cambridge: Polity.
- Beaumont, M. and Dart, G. (2010), *Restless Cities*, London: Verso.
- Bentkowska-Kafel, A. (2006). 'Interview with Christian Nold'. *3DVisA Bulletin*, <http://www.biomapping.net/interview.htm>. Accessed 19 September 2019.
- Benjamin, W. (1973), *Walter Benjamin: Charles Baudelaire: A Lyric Poet in the Era of High Capitalism*, trans. Zohn, H. London & New York: Verso.
- Binary District Journal. (2019), 'Smart cities are an AI-powered dystopia that's already happening'. <https://thenextweb.com/syndication/2019/04/13/smart-cities-are-an-ai-powered-dystopia-thats-already-happening/>. Accessed 20 September 2019.
- Bohannon, J. (2013), 'The saddest spot in New York' <https://www.sciencemag.org/news/2013/08/scienceshot-saddest-spot-new-york>. Accessed 10 September 2019.
- Bolter, D. and Grusin, R. (2000), *Remediation*, Boston: MIT Press.
- Bondi, L. Davidson, J. and Smith, M. (eds), (2005), 'Introduction: Geography's Emotional Turn', *Emotional Geographies*, London: Ashgate, pp. 1-16.
- Bruno, G. (2001), *Atlas of Emotion: Journeys in Art, Architecture and Film*, New York: Verso.
- Castells, M. (1991), *The Informational City*, Oxford: Blackwell Publishers.
- Cleveland Historical: Curating the City. (2012), <http://mediacommons.org/imr/2012/05/17/cleveland-historical>. Accessed 10 September 2019.
- Clough Ticineto, P. and Halley, J. (eds), (2007), *The Affective Turn: Theorizing the Social*, Durham: Duke University Press.**
- De Certeau, M. (1984), *The Practice of Everyday Life*, Berkeley: University of California.
- Johnson, S. (2002), *Emergence: The Connected Lives of Ants, Brains, Cities, and Software*, New York: Scribner Book Company.**
- Elkins, L. (2016a), *Flâneuse: Women Walk the City*, London: Chatto & Windus.
- Elkins, L. (2016b), 'A tribute to female flâneurs: the women who reclaimed our city streets', *The Guardian*, 29 July, <https://www.theguardian.com/cities/2016/jul/29/female-flaneur-women-reclaim-streets>. Accessed 20 September 2019.
- Emotional Compass. (2013), <http://www.artisopensource.net/2013/12/15/an-emotional-compass-new-ideas-for-wayfinding-in-cities/>. Accessed 3 June 2019.**

- Goffman, E. (1959), *The Presentation of Self in Everyday Life*, London: Penguin.
- Green, B. (2019), *The Smart Enough City*, Boston: MIT Press.
- Guerrilla bubblewrap. (2009-2013), <https://culturalhacking.wordpress.com/?s=bubblewrap>. Accessed 1 September 2019.
- Hemment, D. (2006), 'Locative arts', *Leonardo*, 39: 4, pp. 348-355.
- Hitti, N. (2019), 'Ewa Nowak anti ai mask protects wearers from mass surveillance', <https://www.dezeen.com/2019/07/30/ewa-nowak-anti-ai-mask-protects-wearers-from-mass-surveillance/>. Accessed 19 September 2019.
- Hollis, L. (2013), 'Architecture: What does Big Data mean for our cities?', *New Statesman*, 19 July, <https://www.newstatesman.com/art-and-design/2013/07/architecture-what-does-big-data-mean-our-cities>. Accessed 30 September 2019.
- Howes, D. (2005), *Empire of the senses*, London: Bloomsbury Publishing.
- Hunt, Dixon J. (2004), *The Picturesque Garden in Europe*, London: Thames & Hudson.
- IBM. (2020), <https://www.ibm.com/blogs/services/>. Accessed 3 September 2019.
- Invisible Ideas. (2003), <http://www.invisibleideas.org/>. Accessed 1 September 2019.
- Lefebvre, H. (1974), *The Production of Space*, New York: Horizon Press.
- Libeskind, D. (2017), 'We mustn't forget the emotional impact of the buildings around us,' 20 July, <https://edition.cnn.com/style/article/daniel-libeskind-architecture-emotions/index.html>. Accessed 10 September 2019.
- Lupton, D. (2016), *The Quantified Self*, Cambridge: Polity.
- Maas, W. (ed.), (1999), *Metacity Datatown*, Rotterdam: 010 Publishers.
- Macnaghten, P. and Urry, J. (1998), *Contested Natures*, London: Sage.
- Mags, A. and Guy, S. (2007), 'Editorial: Senses and the City', *The Senses and Society*, 2: 2.
- Manovich, L. (2003), <http://34n118w.net/34N/>. Accessed 29 August 2019.
- McLuhan, M. (1964), *Understanding Media: The Extensions of Man*, New York: McGraw-Hill.
- McQuire, S. (2008), *The Media City: Media, Architecture and Urban Space*, London: Sage.
- Mitchell, W. J. (1995), *City of Bits: space, place and the Infobahn*, Cambridge, MA: The MIT Press.
- Myers, M. (2010), 'Walk with me, talk with me: The art of conversive wayfinding' *Visual Studies*, 25: 1, pp. 59-68.
- Murmur Toronto. (2002), <http://cfccreates.com/productions/76-murmur>. Accessed 3 June 2019.
- Murmur Edinburgh. (2007-9), <https://www.mediascot.org/drift/murmur>. Accessed 30 September 2019.
- Nold, C. (ed.), (2007), 'Emotional Cartography: Technologies of the Self', <http://emotionalcartography.net/>. Accessed 5 September 2019.
- Notaro A. (2010), 'The Spectacle of Urban Consumption, 14, Spring Issue, March, *CM: Communication Management Quarterly*, pp. 5-32. Also available at [https://www.academia.edu/14894436/The\\_Spectacle\\_of\\_Urban\\_Consumption\\_the\\_Role\\_of\\_Urban\\_Art\\_in\\_the\\_Reconfiguration\\_of\\_the\\_Public\\_Sphere](https://www.academia.edu/14894436/The_Spectacle_of_Urban_Consumption_the_Role_of_Urban_Art_in_the_Reconfiguration_of_the_Public_Sphere). Accessed 15 September 2019.
- Pallasmaa, J. (1996), *The Eyes of the Skin: Architecture and the Senses*, London: Academy Editions.
- Rykwert, J. (2002), *The Seduction of Place: The History and Future of Cities*, New York: Vintage.
- Rodaway, P. (1994), *Sensuous Geographies: Body, Sense, and Place*, Abingdon: Routledge.
- Sennett, R. (1970), *The Uses of Disorder*, New York: Knopf.
- Sennett, R. (1994), *Flesh and Stone*, London: Faber.
- Sensing Place. Mediatizing the Urban Landscape. (2012), <https://www.hek.ch/en/program/events-en/event/sensing-place-mediatizing-the-urban-landscape.html>. Accessed 9 July 2019.
- Shaw, D. B. (2018), *Posthuman Urbanism*, London: Rowman & Littlefield.
- Shepard, M. (2010), *The Sensient City survival kit* <http://survival.sentientcity.net/serendipitor.html>. Accessed 2 July 2019.

Simmel, G. (1903), 'The Metropolis and mental life',

[https://www.blackwellpublishing.com/content/bpl\\_images/content\\_store/sample\\_chapter/0631225137/bridge.pdf](https://www.blackwellpublishing.com/content/bpl_images/content_store/sample_chapter/0631225137/bridge.pdf). Accessed 5 September 2019.

Souza e Silva, A. (2004), 'From simulations to hybrid space: How nomadic technologies change the real', *Technoetic Arts: An International Journal of Speculative Research*, 1: 3, pp. 209-221.

Surveillance Camera Players (1996-2006), <http://www.notbored.org/the-scp.html>. Accessed 2 September 2019.

Thys, S. Van Ranst, W. Goedmé, T. (eds), (2019) 'Fooling automated surveillance cameras: adversarial patches to attack person detection' <https://arxiv.org/abs/1904.08653>. Accessed 15 September 2019.

Tuan, Y. F. (1977), *Space and Place: The Perspective of Experience*, Minneapolis: University of Minnesota Press.

## SUGGESTED CITATION

Notaro, A. (2020), 'Sensing the (Media) City', *Journal of Urban Cultural Studies*, [ ], pp.[. ], doi:

## CONTRIBUTOR DETAILS

Anna Notaro is Senior Lecturer in contemporary media theory at Duncan of Jordanstone College of Art & Design, University of Dundee (UK). She works across disciplinary boundaries combining an interest for literary analysis and critical theory with a broad Cultural Studies/Media Studies approach. Her research outputs reflect her intellectual eclecticism, she has published widely in the field of urban visual culture and digital culture tackling topics as diverse as: the blogosphere, authorship, cinema & new technology, digital celebrity, electronic textuality, the 'future of the book', the concept of nostalgia and, most recently, A.I. art. More about her research interests at: [www.notarofam.com/annawork](http://www.notarofam.com/annawork). She can often be found on Twitter: @DrAnnaNotaro

Contact: Duncan of Jordanstone College of Art & Design, University of Dundee, 13 Perth Road, DD1 4HT Dundee (UK).

E-mail: [a.z.notaro@dundee.ac.uk](mailto:a.z.notaro@dundee.ac.uk)

Anna Notaro has asserted her right under the Copyright, Designs and Patents Act, 1988, to be identified as the author of this work in the format that was submitted to Intellect Ltd.