Exploring Urban Screens

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Abstract

There is a tautological tendency in the widespread claims that urban space is ‘mediated’. Never before has the citizen, it is argued, been confronted with such an unprecedented array of signage. I depart from the rhetoric of ‘biggest-ever-saturation’ as not necessarily untrue, but as insufficient in exploring the diverse spatial operations of urban screens. I examine some contemporary cases of animated architectural surfaces, informational panels, and advertising billboards, with reference to much longer standing cultural practices of spatial management in modern cities, such as illumination, to suggest that the contemporary display media do not mediate the city anew but re-invent urban space as a field of ubiquitous mediation. From that standpoint I suggest exploring urban screens as a) both singular visual agents and indivisible items in plural structural assemblages, b) complementary forces of public illumination, and c) complex perceptual platforms in visual play of scale and distance.

Keywords: Urban screens, media, light, city, architecture.
Introduction

It has been commonplace in media studies to discuss contemporary media abundance, whereby display media in urban space have come to serve a handy proof that it is becoming harder and harder to escape the exposure to media. With every new study on the contemporary media landscape we hear, repeatedly, that “the old television set has morphed from a small-scale appliance – a material object primarily associated with domestic space – to become a large-scale screen; less a piece of furniture than an architectural surface resident not in the home but in the street outside” (McQuire 2008: 130). At the same time, the agreement about the fact that media messages are now everywhere is also where discussions related (even remotely) to urban screens terminate. It is time to turn the mere recognition of urban screens into a point of departure, rather than arrival, and to move forward by addressing possible pathways towards exploring particular communicational modes of urban screens. The occasional specialised studies in the technological advances in display electronics (e.g. Schoch 2007, Schoch 2008), perceptual effects (e.g. Offenhuber 2008), and potentials for the community belonging and socialisation (e.g. Struppek 2006) notwithstanding, the less obvious spatial practices associated with urban screens, such as their luminous activities, are rarely given detailed inspection. In this article I take a grounded view to offer some preliminary guidance in studying urban screens as spatial agents in the ubiquitous play of visibility and distance, which is as old as cities themselves.

Circulating the idea of a ‘media-saturated’ world (cf. Bird 2003; cf. also Newcomb 1988), especially in terms of audience research, media studies have made only passing, if any, specific reference to the urban display media (cf. Ang 1996; Moores 2000; Bird 2003; Livingstone 2005; Couldry 2005). Moores in his Media and Everyday Life in Modern Society, for instance, asks “what position have television, radio and other electronic media like telephones and computers come to occupy in people’s day-to-day lives and social relationships?” (2000: 1). Crucially, his important discussions thereof remain centrally anchored in the realm of home. Even a reference to “urban neighbourhood” indexes a broader social context for discussing media consumption in urban households (ibid.). To take another example, Gitlin’s media studies tour de force Media Unlimited addresses the increasingly mediated city more explicitly, but goes no further than ascertaining media abundance as a fact of (contemporary) life in the cities. He suggests that contemporary enquiries into everyday media usage, being particularly sensitive to the possible “contraband” in media consumption, risk overseeing its essence, which, for him, is “the immensity of the experience of media, … the devotions and rituals that absorb our time and resources” (2001: 4–5). If in one culture more than in another, never before has the citizen been confronted with such an unprecedented array of signage, whereby we are “bathing ourselves in images and sounds” in response to the media’s “promise of feeling” (ibid. 4, 6, 14). Accord-
ing to Gitlin, the “baffling media totality”, with its “shimmering multitude of images and sounds”, makes “[the] iconic plenitude … the contemporary condition” (ibid. 11, 14). However, the condition of “media saturation” (ibid. 9) in its seeming self-explanatory nature in effect finds itself trapped in a deterministic prism of continually hungry media users. The specific operations of urban screens in the public space of streets, squares and passages, side by side with myriad other sources of stimuli, remain under-explored.

If urban screens appear as formative substances to everyday scenographies in (post)modern cities (McCarthy 2001; McQuire 2008: 146, 25; Wilken 2006: 31), we can only explore the screens with a sound sensitivity to their principal context: the broader tension between the strive of the planners to create urban space according to coherent maps drawn from macro vantage points, and its lived realities taking place fragmentarily, at the mobile pedestrian vantage points (cf. de Certeau 1984). Media have been utilised in this tension on both ends of the micro – macro divide, so that one could almost read off the dynamic changes in urban space from the media-related activities: at first it was the photographs and the cinema that helped in making sense of urban pace and spatial growth, and now it is technologies such as geospatially responsive mobile phones and large scale urban screens. McQuire approached the initial complication of making sense of the myriad forms of mediations in the city in terms of media – city conjunction that “emerges through a complex process of co-constitution between architectural structures and urban territories, social practices and media feedback” (2008: vii). Fornäs, similarly, ascertains that “cities are from the start mediated as well as mediating machines, and media always already co-construct urban settings” (2006: 9). However, when confronted with the need for a closer inspection of particular cases, such as urban screens, these relevant theorisations inevitably sound tautological. The confirmation that the intertwining nature of city and media is fated by the fact that the two realms share an intrinsic structural logic of fostering communication within and across socially organised space is a helpful framework but an insufficient tool in scrutinising urban screens.

One important way out of the ‘saturation’ blind alleys is, as I seek to illustrate, in investigating the screens in terms of urban spatial dynamics that the screens are tied into, which lie behind the easily recognisable functional uses. For that purpose, we must approach the screens (as pedestrians often do), so to say, from a side street, being suspicious of their taken-for-granted positions and operations, rather than from the main road, from where the specialist literature ardently updates its taxonomic catalogues. Thereby the screens are public display media that either convey information (news and transport information overlays), allow exchange of information (street kiosks), advertise (billboards), or serve architectural design (media façades) or public art (installation screens), all in a number of forms (textual information, moving or still images), and in variable scale. Urban space is a field of ever-complex spatial relations between its designers and users.
in a continuous interplay of continuity and flux. In order to scrutinise its dynamic practices, we need a spatial epistemology with the grounded eye-level approach that investigates the screens as they appear across different scales and individual forms.

Conceptually, I would broaden Moores’s concern with the place of media-saturation in everyday life, Gitlin’s call to recognise saturation as “the contemporary condition”, and McQuire’s notion of the ubiquity of the “media city” with Couldry and McCarthy’s assertion that media saturation in fact means saturation with “images of other places and other (imagined or real) orders of space” (2004: 1, my emphasis). This is precisely the rationale that I propose for a study of urban screens, that is, their physical occupations of public space, image-based deliveries of various ‘elsewheres’, and territorial augmentation by the means of light. If we agree that “it is ever more difficult to tell a story of social space without also telling a story of media and vice versa” (ibid.), rather than ‘mediated’ anew in the spirit of the ‘everywhere-mediation’ from the beginning, the city is in terms of display media better seen as re-mediated along much older spatial vectors and practices.

Detouring episodically from historical accounts to contemporary cases, in this article I look for most helpful multifaceted junctions, seeking not a set of definite formulas but a specialised consideration of broader analogies through which the publicly displayed screens might be understood. My methodological rationale thus finds its most suitable expression in Morley’s (2006: 33) “multidimensional model” of theoretical synthesis, “which builds new insights on to the old, in a process of dialogue transformation which, if necessarily at points selective, is none the less synergetic and inclusive by inclination”. I adopt what Qvortrup calls “a pluralist ontology” (1997: 169) in exploring visual activities in the city as spatial activities (cf. Soja 2003). In the first part of the paper I make some preliminary points through contributions from extant literature on how urban and architectural design makes use of visual media in their arrangements of public space, and the pioneering attempt at deciphering the out-of-home television, Anna McCarthy’s “Ambient Television” project. In the second part, drawing on my current research, I discuss three key aspects of urban screens that I suggest for exploratory strategies of future studies. Firstly, I argue that urban screens can best be understood as both the singular display media and as indivisible properties of urban structures in complex local contexts. Secondly, I suggest that the vector persisting through epochs of urban change and everyday habituation, relevant for a study of urban screens, is that of illumination, not necessarily as leading, but as one important dimension of a continually (re)mediated city. By extension to understanding the urban screens as forces of artificial light, I finally consider how the illuminative effects of urban screens are configured in distancing the source of emanation from its output, that is, of separating the material background electricity from the resulting imagery.
Preliminary Points

Visual Dynamics of Urban Space

Visual media have played the key role in urban spatial ordering. The cities of antiquity, medieval and renaissance ages articulated “the hierarchy of social and political relationships … and collective memory” by achieving visual supremacy of religious or monarchic edifices, whilst fencing the town with walls or gates (McQuire 2008: 17). Thereby, the fluctuation of citizens was readily available by sight (ibid.). By the mid-18th century the rapid growth of cities required more sophisticated technological means in securing order. The system of ‘reflector lanterns’ (réverbères) made the lit zones of the city perceived easily as all there is of the city (cf. Schivelbusch 1995: 93, 95). The Parisian riots needed only to smash individual lanterns in order to ‘erase’ the lit territories (ibid. 98, 106-107, 142). With the proliferation of the public system of electric lighting by the end of the 19th century, the idea of “[artificial] light as a guarantor of public morals, safety and order” persisted (ibid. 134). Soon, photography lent a useful ‘mapping’ tool in rendering the city space as “available to perception, cognition and action” (McQuire 2008: ix). ‘Capturing’ the bodies in the streets with the image-based media heralded the public visual culture that will later take shape of surveillance systems and heated debates about privacy. Hence the visually apprehended urban terrain operates in a double logic of urban image circulation: that of collecting visual data and projecting images publicly. Acknowledging the paralleled ubiquity of the former, I attend to the latter by looking at a different set of important processes.

The swift development of industrial urban areas from the late 19th century onwards went hand in hand with the advent of a set of transport and communication technologies, such as trains, cars, electricity, telephones, elevators, radio, photography and film (cf. McQuire 2008: ix, 56-57). At the turn of the century “the urban-industrial life-world was transformed beyond recognition in little more than a generation” (ibid. 57). The contemporary “megalopolis” in the contexts of post-industrial society, globalisation and speed (ibid. 88), as Gitlin suggests, “sprouted communication technologies, cultivated discontinuities and interruptions, invited simultaneity, demanded an omnidirectional, all-purpose alertness” (2001: 84), which, if only briefly, takes us back to the starting point: the abundance of (predominantly visual) stimuli in the city. Following Nead (2007: 109), what is at stake in the current discussions about the experiential dimensions of urban life as sensational shocks is an uncritical generalisation of what Georg Simmel initially witnessed in the 1900s as “the rapid telescoping of changing images, pronounced differences within what is grasped at a single glance, and the unexpectedness of violent stimuli” (2002: 11). As Nead details, the difficulty is “when Simmel’s work is adopted literally”, particularly having “cinema … drawn into this narrative as … the form that most nearly expresses the pace and discontinuities of
modern life” (2007: 109). To take the case of London, the then largest city in the world, perhaps more caution would be advisable in making such generalisations. The city has been, since its earliest modern development, a place of diversity, particularly in terms of density of urban stimuli (ibid. 109–130). This is not to deny busy fluctuations of bodies and goods through the city traffic, but to acknowledge a paralleled “individual anecdote and character” (ibid. 110–111), or, in Massey’s current update, “a field of multiple actors, trajectories, stories with their own energies—which may mingle in harmony, collide, even annihilate each other” (2007: 22; cf. ibid. 29–52). The double logic of the urban image circulation thus homes a dynamic field not of constant movement nor stillness but their individually and institutionally motivated interchange. It is principally in this elementary context that the urban screens must be examined. The cultural analogies of mobility and change hand in hand with stasis and continuity have found their most articulated expression in singular architectural practices.

**Animated Surfaces**

As I indicated above, the modern terrain of the city is increasingly difficult to be conceived of in any other way “except in bits and pieces” (Harvey 1989: 66, 69), which owes much to the contemporary history of architecture. Towards the end of the 20th century, architecture pursued an epistemological distinction between, albeit not a final break with, the inheritance of modernist functional “planning”, as a solution for urban crisis (ibid. 66-69), and the postmodernist “design” of “singular objects of architecture” (cf. Baudrillard and Nouvel 2002) as, by intentions of the architects, a challenge to the macro planning strategies (cf. Hays 2003: 129, 130; Hays 1995: 42; Wilken 2006: 137). The latter tendency has in recent years been increasingly mobilised in implementing moving image screens in designing façades. The outer skin of a building is said to be animated by the means of display technology covering its entire surface, or even challenging the very notion of façade as a solid plane of construction with the notion of a node of information circulation.

In architectural terms, the two key purposes essentially assumed for buildings, those of providing “shelter” and “symbol”, are in that process separated to the maximum, at the expense of “shelter” (Bouman 1998b: 62). The shelter/symbol conflation is not new: “baroque domes were symbols as well as spatial constructions, and they are bigger in scale and higher outside in order to dominate urban setting and communicate their symbolic message” (Venturi et al. 1977: 13). However, in the case of contemporary urban screens (either as add-ons or as entire front façades), the physical separation of the emanating surface from the surrounding carrying walls makes evident, creates two different regimes of signification, one primarily symbolic and the other formal. In that sense, buildings with urban screens are most helpfully recognised as “decorated sheds”, as Venturi et al. suggest for much of the mediated architecture in Las Vegas, and not merely as
“symbols” themselves (ibid. 87), as the current industry of media façades would have it (cf. Bouman 1998b). I return to the architectural cohabitation of the ‘virtual’ and the ‘real’ in the case of urban screens later. The afore-mentioned Bouman’s contention, which confirms Venturi et al.’s standpoint, is a practical way around otherwise lengthy debates about the status of the electronic signage in architectural outfit. The value-laden question of whether electronic signs are “inevitable and good” in otherwise historical architecture’s practice of enhancing the building’s appearance (Venturi et al. 1977), or whether they merely serve “escapist” architectures that have nothing to do with the “traditional task of cultural symbolization” (Harries 1988: 38), is not to be taken up here. I am more interested in looking at the formal play of the built environments, individual buildings and display technologies.

Architecture and urban design are commonly seen as disciplines “strongly focused on the intentional processes and practices of place-making” (Wilken 2006: 137), much of which is still yielded both to the modernist thrive towards efficiency and productivity as well as the postmodernist advocacy of excess. Amongst the architects of the 1970s who foresaw “the tail end of “paper architecture””, such as Koolhaas, De Portzamparc, Liebeskind and Tschumi, Elisabeth Diller and Ricardo Scofidio pioneered the usage of “electronically mediated presence as a creative working principle, a means of interrogating the contemporary built environment and the visual culture that surrounds us” (Goldberg 2003: 46, Dimendberg 2003: 67; cf. Betsky 2003: 24). Against the utopian modernist promise of technology as a guardian of controllable efficiency that discursively heralded a better future, Diller and Scofidio’s projects of moving images façades “us[e] technologies generatively rather than representing them formally” (Schafer 2003: 97), with, as Diller once explained, the aim of “interrogating spatial conventions of the everyday” (quoted in Park 1996: 92). For the artistic interventions in public space, be they on a large scale of façades or on a small scale of individual monitors, the usage of screens “is a matter of the right tool for the particular job” (ibid.), in critically displaying the contemporary ubiquity of display (cf. Betsky 2003: 23).

Culture Unbound, Volume 1, 2009


Whilst the industry works to perfect the display technologies to suit the customers’ needs in achieving satisfactory ‘brand recap rates’ in transient exposures to the screens, postmodernist philosophy pursues theoretical critique. It sees electronic representations of ‘elsewhere’ in built public space as totalising in their alleged blurring of the real and the simulated (Baudrillard 1994). Public places like airports or supermarkets, where the electronic screens proliferate, allegedly become uniformed “non-places” (Augé 1995). Centrally, the idea of the image-drenched quotidian has served as a staple for certain streams of Marxist critique of the capitalist society. Debord’s famous viewpoint, originating in the particular post-1968 critique of consumerist culture, understands the contemporary society as “society of spectacle”, whereby “all that once was directly lived has become mere representation” (1995: 12). However, the situation has gotten much more complicated than that. If “representation” is one obvious feature of the spread of digital technologies in the city, its ubiquity also, by a rule, reproduces the importance of physical place, which is, moreover, an “essential” category in “pervasive computing” (McCullough 2004: 98, 103). To take the example of “geodata”, as advanced contemporary forms of the classic spatial mapping, “information is taken from places to remote centers of compilation, architecture, and analysis, from which it is then sent back into the field to let people know about where they are” (ibid. 105). As McCullough put it,

There is no escaping the fact that the world around is being layered with digital systems. ... Whatever our desire for “sense of place”, we seem destined to get “places with sense”. ... Smart spaces recognize at least something about what is going on in them, and then they respond (ibid. 172).

Rather than merely assuming that, with modern capitalism, as Marx and Engels posited, “all that is solid melts into the air” (1848/2005), an enquiry in contemporary public cultures should not loose sight of the fact that “people still stretch for solid ground” (Gitlin 2001: 127), or, the variably “digital ground” (McCullough 2004), where social life continues. This is particularly so with the heterogeneous spatial agency of outdoor screens.

Ambient Screens

Anna McCarthy’s pioneering study “Ambient Television” investigated out-of-home placements of television across public places in North America and examined the medium in the light of its complex spatial operations (2001: 14). The
complexity here is essentially in the fact that ambient television as an object semantically fuses with its surrounding so that it is at times rather difficult to be readily distinguished from its surrounding, and operates as a distinctly suggestive interface between its images and the moving subjects. McCarthy is essentially confronted, as this study is, with the immense variability of forms and uses of television in public places, whose initial complication she embraces as the foremost characteristic of ambient television and offers a helpful short route in understanding the out-of-home screens as “site-specific” media.

McCarthy examines ambient television through a range of cases of ambient television’s ‘site-specificity’, such as the post-war masculine setting of the tavern, the feminine discourses of consumption in department stores, the subversive potentials of installation art, points-of-purchase and waiting rooms. The variety of spatial operations of the medium in particular cases can be drawn together between its institutional placements (next to the cues, in the waiting rooms, on the shelves), local appropriations (such as momentary escapist ‘travels’ to other sites) and standard television’s audio-visual grammars of expression (programme flow, pre-recorded material in loop, textual layout next to physical objects, etc.). To sum up,

Diverse site-specific practices of television convey the spatial complexity of the medium, its ability both to position people in physical locations and to render visible the entwined domains of contest, control, and consumption that define such places within broader cultural logics of space (ibid. 3).

McCarthy’s micro-macro perspective on ambient television in semi-public and public places urges us to tune any exploration of urban screens to whatever situational contexts the screen embodies or occasions when displayed in the street, square or a passage. The field of city streets where many more agents compete for attention requires that McCarthy’s implication of centrality of the screens in public space, which assumes as well a central role of television in “shaping public and private space” (ibid. 117), is rethought. McCarthy’s interest is with the power interplays in “what the TV set does outside the home – what social acts it performs, or is roped into, … and which subjects it silences or alternatively gives a voice” (ibid. 1). While I find these questions important in investigating the contemporary television cultures, I am wary of seeing the screen simply as “an object around which a number of everyday human activities are focused: not only viewing but also eating, drinking, exercising, waiting, reading, and many other routine aspects of daily life besides” (ibid. 225). This proposition could reductively install the spectacles of technological determinism which can prevent us from recognising, quite simply, that many other routines in public space, especially walking, remain less directly related with the presence of a screen, or that they even, of course, are carried out regardless of it. Although the experiential sensorium of a passer-by is not the concern of this paper, it is, however provisionally, important to keep in mind how institutional organisation of public space might impinge on bodily fluctuation, especially through the example of space designed for waiting.
Despite the continuing mysteries of the consumer’s ‘black box’ (cf. Mattelart 1991: 169), advertising in public waiting space appeared as a problem-solving tool for the shortcomings of home spectatorship and its possibility to “zap” their messages with the remote controls or power switches (McCarthy 2001: 99). Ambient television gave advertisers reasons to imagine the final “captivity” of the audience enabled by a “lack of competitive separation” (quoted in McCarthy, ibid. 99) in the remote control-less zones of televisual viewing, whereby audiences are “immobilized by necessity within a particular place for a particular amount of time” (ibid. 100). This is perhaps why McCarthy had no other way of dealing with ‘ambient television’ but in terms of ‘site-specificity’ and to claim, in turn, that every place gives way to distinct institutional screen positionings and local appropriations. While this, as I am to illustrate, remains true in urban space, the assessment of urban screens in the city will have to account for many more agents that take part in the dynamic field of the street.

This is particularly evident in the case of JCDecaux’s LED display screen with 18m² of advertising surface on the Old Street roundabou in London, where the eight-second long still images of advertisements interchange with the Sky News headlines and weather (see Figure 1). As the executive from the company David Lambert told me, they chose the location based on the satisfactorily high traffic count, and decided to use quick still images in response to the perceived transitory nature of the site. The company rented the wall on the London Underground’s generator building to offer space for the advertisers who seek to address multiple audiences: the ones on the bicycles, the walkers, people on the buses, in the cars, the underground passengers, etc. The junction, where the commercial City borders the continuously regenerated East End, is a place of passage for many, and of temporary stopping for others. The large size of the screen and the its position above the heads of pedestrians require sufficient distance to be taken if the images are to be grasped clearly. The images interchange in a seamless flow that runs in parallel to the heterogeneous rhythms of passing subjects: some talking on their mobile phones, or with their friends, or carrying the groceries, others waiting on someone, or reading the free newspapers distributed nearby.
In the midst of other stimuli, such as traffic, nearby construction work and other printed posters, the screen in Old Street is also surrendered to the atmospheric conditions. In the afternoon, the setting sun hits the surface directly, which makes it hard to read off the messages projected (despite its strategically constructed black frame). In the early morning, the rising sun shines from behind the screen so brightly that it causes the passers-by to turn their heads away. The rain, on the other hand necessitates using umbrellas, which cover not only the atmospheric, but also luminous spillage from above the head. In the evening, the screen sheds light on the pavement so that it secures a well lit place which friends use to meet at nights out – one situational outcome of the fact that with the rented two-dimensional wall space urban screens occupy much larger, three-dimensional territories. Although its standard formula was pre-figured in response to the rhythms perceived at the site, the screen is kept on constantly, emanating indifferently at all times. However, despite the local spatial structurings such as passage design, fencing, etc., the site remains relatively open to the situational poetics of circumstance: looking at the screen to avoid eyesight of others, leaning on the fence whilst waiting on someone, etc. The combinations of myriad elements in the situations of public mediations are endless, however much their meanings are attempted to be closed, the urban screens being one agent therein.
In addition to illustrating the need to broaden McCarthy’s rationale of site-specificity to the contingency of public urban space, my brief spatial analysis of the screen in London’s Old Street also signalled a set of key aspects that a study of urban screens could account for – the plurality of local contextual elements, the clashing forces of light, and the dimensions of distance and size. These three key dimensions respectively form the premises that I propose for a study of urban screens and I shall now expand on them one by one, by asking:

On which premises can we most helpfully make sense of the individual panels with respect to the multiple contexts in which they operate?

Which possible underlying spatial dimension connects the screens in different places, forms, usages, and scales?

Which visual vectors allow the urban screens to perform the suggestive appeal towards winning incidental pedestrian attention?

**Exploratory Premises**

**Singular and Plural**

Although it might seem that researching urban screens means ‘reading’ them as singular objects of mediation, we must keep in mind that display media rarely appear as entities separate from other elements in environmental inventory. Urban screens can be found in what Bausinger called “media ensemble[s]”, whereby the everyday technologies are explored “conjuncturally” with other items (1984: 349, 346). Sadin’s more recent travelogues from a number of world megalopolises suggest, identically, that an urban screen “is rarely isolated and is almost always displayed inside a larger ensemble … according to an almost uninterrupted continuum” (2007: 68-70). Thus what is seen in the city is far from simple. Technologically, the screens proliferated into “daylight compatible LED billboards, plasma screens exposed in shop windows, beamboards, information displays in public transport systems, electronic city information terminals, holographic screen projections”, etc. (Struppek 2006). In response to the growing variability of their forms, sizes, and uses, I refer to urban screens in grounded spatial terms rather generatively, as the display media exhibited across urban surfaces. Urban screens are incorporated in the urban space through diverse practices such as architectural design or advertisement, but in grounded terms, I would argue, it remains more urgent to understand the ways in which the screens, whatever technological ‘type’ they may be identified with, compose broader structures with their surroundings. It is in this sense that we must consider an environmental character of urban screens.

On the face of it, such a viewpoint bears some agreement with McLuhan’s determinist orthodoxy, at the centre of which is the famous viewpoint that “new media are not bridges between man and nature: they are nature” (1969: 14). In other words, the media’s presence in the common milieu is, in its ubiquity, tantamount
to being imperceptible, which, according to Lister et al. (2003: 89), marks the “elevation of the media above the message”. From that point of view, Schivelbusch is right to notice in his social history of the industrialisation of electric light that “in light-based media, light does not simply illuminate existing scenes; it creates them” (1995: 220). McLuhan similarly has no doubt about the fact that “a light bulb creates an environment by its mere presence” (2001: 8). It is, in that respect, true that, as I will demonstrate later with the illustrations from London’s bus stops, “it is not till the electric light is used to spell out some brand name or message that it is noticed as a medium” (ibid. 9). However, behind McLuhan’s media-as-environment rationale there consistently lurks the tenacious idea of media as autonomous agents in the broader social “change”, which implies users as somehow devoid of agency. On that point I diverge from his famous technological determinist media-as-message motto, whereby the “social and cultural change” is causally linked with “the way media work as environments” (McLuhan and Fiore 1967: 26). Should we accept the micro mediations from the users of technologies such as mobile phones, urban kiosks, or laptops, which always individually complicate the macro urban lighting vistas (see Figure 7), we must position the media-as-environment premise side by side with the media-in-environment assumption.6

The singular-and-plural premise I propose nears us to the frame of analysis proposed by Debray to examine media in their “technology-culture interactions” as “intermediary procedures” that are “at once technological, cultural and social” (1996: 12, 17).7 From the vantage point offered by Debray, McLuhan’s idea of media-as-environments is released of its techno-determinist cargo and is supplemented with Debray’s urge to take into account the contents of communicated messages and systems of meanings, side by side with the domains of apparatuses and power relations (ibid. 18). However, it may potentially be unending to investigate all these aspects exhaustively by following Debray’s proposal to study “the mediasphere, or middle ground, setting or environment [milieu] of the transmission and carrying [transport] of messages and people” (ibid. 26, original emphases, original insertions). Ours is an interest in the visual operations of display media across this all-encompassing frame. But let us give the “middle ground” idea, proposed by Debray, some more attention, although with a different pair of spectacles.

If we agree that a medium connotes “something that is intermediate between two qualities or degrees” (Nead 2007: 1), or, if we, more rigorously, posit media as “spaces of action for constructed attempts to connect what is separated” (Zielinski 2006: 7), we might be able to examine urban screens without denying their environmental embedded-ness. Recalling Gitlin’s recognition that the display screens shine “bright, brighter than ordinary reality” (2001: 20), we may find useful Schivelbusch’s historical account on the industrialisation of electric light, whereby the inventors counted on the fact that “the more brightly a picture is lit and the darker the position from which it is observed, the more distinct it appears”
It was upon this principle, that the 19th century theatre saw the opportunity of having the viewers focus on the stage more than the auditorium and to transform the theatre from “a social place … into a mystical one” (ibid. 206, 210). The logic behind darkening the auditorium before the brightly lit stage was in the fact that “the power of artificial light to create its own reality only reveals itself in darkness” (ibid. 221). Accordingly, the electronic displays as spatial agents may preserve high potential in attracting the incidental spectatorship when positioned in darkened surroundings. Thereby, the display is discerned as an object in relation to its background, of which it simultaneously forms a part. Although assuming the dichotomy light—darkness, that is, artificial light—natural darkness, this principle does not exclude the fact that, as Venturi et al. (1977: 52) remind us, an electronic sign may be effective during the day as well:

[It] works as a polychrome sculpture in the sun and as black silhouette against the sun; at night it becomes the source of light. It revolves by day and becomes a play of lights at night.

Before I consider the “play of lights” (ibid.) more closely in the next section, I want to give more attention to the atmospheric and other environmental conditions in which the designers situate the screens. Increasingly, the creation of a single urban screen in close concert with the surrounding assemblages of signification and stimuli, is becoming a professional prerequisite for success. Most commonly couched in terms of "contexts", the specialist circles increasingly show awareness of the complexity of "culture, climate, background, audience and built pattern" on the ground (Schoch 2007: 576). As Offenhuber summons, design strategies take on board both the planned imagery (that the local population is assumed to be "familiar" with) and the screen as a material object,8 which may “imitate” other physical objects in close surrounding, such as a bus schedule (2008), or a concrete façade.

Ag4 bureau, for instance, outlines to its potential customers their system of media façade as a) interactive, b) autoactive, and c) reactive, all three qualities designating the manageability of projected contents in relation to the changing environmental conditions (see Figure 7). ‘Interactivity’ signposts the possibility to constantly update the imagery with news feeds and hence facilitate interaction with the passers-by in terms of immediacy, ‘autoactivity’ points to the possibility of automated image generation that reduces the need of live controllers, whilst ‘reactivity’ allows generating images that “mirror” the conditions in the surrounding area, such as weather or traffic conditions, recorded by sensors (ag4 2006: 20, 70, 108). In that sense, urban screens in form of responsive media façades are practically integrated in the plural surroundings by being highly responsive to their “contexts”. On the other hand, their seamless mediation can render them insufficiently distinguishable on the eye-level of the potential pedestrian audiences. In effect, the need to blend the screen with the immediate environment by the means of changing images, appears as self-defeating. Facing the risk of ca-
cophony that communication specialists would refer to as the “cocktail party problem”, that is, “the ability to listen to, and follow, one speaker in the presence of others” (Cherry 1957: 278), the designers must ensure that their display stands out from the environment as well. The designer’s intent is, then, not only in establishing close relations with the surrounding environment, as Offenhuber suggests (2008), but, at the same time, in making the screens as objects distinguishable and their visual operations evident. Thus just as the moving image panel becomes a strategic material in designing the façade, the contextual urban flux remains its principal environment. The imagery, as it were, is not inserted merely in a building’s surface but in the local environment of which it forms part. The moving images fuse with the exchange of a series of movement and stasis in the street traffic. But in order to achieve that, the displays, as I suggested, must mark their presence in their own distinct modus operandi, by which they occupy a location in urban scenographies, as well as a place in individual sensory microenvironments. Thus ranging from the macro scale of the heterogeneous contexts to the micro scale of individual urban screens requires a consideration of their possible communicational modus operandi.

In response to McCarthy’s (2001) call to explore what the screens ‘do’ to invite attention of the moving subjects, we could try to locate urban screens in the "cultural circuit" (cf. du Gay et al. 1997) of “producers, consumers and the communicative forms”. Thereby “broadcasting” is commonly considered “an institutionalised feature of cultural consumption” (Moores 2000: 12, my emphasis; cf. Ang 1996: 21-26). The sheer circumstantiality of communication in the city space, constituted by a multiplicity of actors and forms, resonates with the standard of the cultural circuit only remotely. McCarthy instructs us to explore “the physical position [that the screen] occupies within a space”, because it suggests “the spectator positions” that the ones found “within eye- and earshot of a particular screen … are encouraged to occupy” (2001: 118, 119). But how to relate broadcasting in terms of consumption, which counts on intentional usage with transience that essentially characterises individual encounters with screens in series of hardly avoidable distractions coming from, say, other people’s mobile phone conversations, other printed posters, traffic, etc.? For the same reasons, it would be, on the other hand, incorrect to identify the screens merely as part of “infrastructural requirements” of the street, such as electricity, water and gas supply, whereby “the kinds of behaviour expected of inhabitants or users of a premises on the street” are standardly pre-calculated in bureaucratic procedures (Fuller 2005: 90). Preliminarily, I suggest following Fuller’s idea that “all objects have a poetics” in that “they make the world and take part in it” (ibid. 2). Fuller underlies that “objects [of media ecologies] have explicitly become informational as much as physical but without losing any of their fundamental materiality” (ibid. 2). Let us take this idea further and recognise that whilst occupying physical space in urban infrastructures, urban screens shed light onto environment and invest the immediate
surroundings with meanings that are best understood through the anthropology of illumination. The artificial light is thus best seen as urban screens’ spatial force *sine qua non*, by which their producers make additional territorial claims of public space. Such concoction of materiality and virtuality is the next exploratory premise, to which I shall now turn more closely.

**Displaying Illumination**

When almost four decades ago American architects Venturi *et al.* set off to explore the symbolic architectures of Las Vegas, they faced the problem of mapping the intensely mediated territories faithfully. The old architectural representation techniques in relation to the mediated space of Las Vegas suddenly appeared “static where it is dynamic, contained where it is open, two-dimensional where it is three-dimensional. … Architectural techniques are suitable for large, broad objects in space, like buildings, but not for thin, intense objects, like signs” (1977: 75-76). What the researchers required was a way of charting “intensity”, a category that appeared to them so strongly relevant that they suggested introducing “twin phenomena”, with “archetypal … rather than specific buildings” (ibid.). My usage of the term ‘urban screens’ as a generic designation for the display media in the city similarly privileges recognising patterns in the sea of variability. However, the dimension of space of mediated communication is in Venturi *et al.*’s account unfairly dismissed. Signs flood the space of Las Vegas, which means that “communication dominates space”, but for Venturi *et al.* this means that such architecture is *antispatial* (ibid. 8, my emphasis). I would rather, conversely, assume that all architecture is *spatial*, but in a double sense: in terms of space that the signs acquire physically, as built instalments, and space they occupy visually, as a consequence of their luminous ‘spillage’ on the environment. In this way, we can chart what I would tentatively term *screen territories*, by tracing the light from the screen-source to the surface of reflection.

From the Platonic standpoint that “nothing is self-evident, including truth”, light which fundamentally “is only visible when reflected by objects”, has been regarded in many parts of the world as a metaphor of “transcendence, the good, truth, and power” (Hillis 1999: 34; cf. Smith 2003: 121). Since “it is not of the matter it reveals … like space, light articulates relations between this and that, here and there” (ibid., original emphasis). By tracing in our exploration of urban screens not *lux*, “our psychological experience of light”, but *lumen*, the “radiance passing through and illuminating space” (ibid. 36), we can study spatial relationships, which in their immaterial nature enclose much of the otherwise inaccessible power dynamics. Consider the following.

The shining reflection on the silver iron panel that dominates the right half of the photograph (Fig. 1) cannot be giving trace of the daylight coming from the exit seen on the left half, because it is, obviously, located on the opposite side of the source of the outer sunlight.
Two distinct sources of light add up to the visibility of the entire space of the London Underground foyer, covering its corners with light. The source of the phantom light is a set of advertisement screens (Fig. 3 and 4) placed opposite the silver board, emanating their messages with such excessive light that the board on the opposite becomes itself a reflector screen.

Thus before they ‘inform’ or ’advertise’ – urban screens ‘glow’, shedding light on the surrounding built surfaces, by consequence of being electronically ‘fu-elled’. I suggest that the proliferation of urban screens can then be explored within broader developments in the management of space by the means of light.¹⁰

As Bouman reminds us, “in the past, architecture also needed sunlight in order to be seen. As soon as darkness fell it … vanished, cloaked in shadows” (1998a: 63). Pawley takes the case of gothic church stained windows in a more rigorous examination to suggest that the structures of the walls of the churches were built in order to support the tall wide coloured windows (1990: 115).¹¹ “Windows ceased to be simple penetrations designed to admit light, but became instead complex translucent coloured-image screens built from mosaics of stained glass” (ibid. 115).
In that way, the Bible had been, as Pawley suggests, narrativised, and the churches served as “public information buildings” of their own (ibid. 119), long before the contemporary displays have been heralded for their historic innovations or critiqued for their polluting effects on public space.

Different contexts and times offer different ways to think of the same kind of practice; once it was solely the management of natural, and later, in addition, of artificial light. As Tanizaki documents in his classic critique of the competing usage of artificial and natural light in post-war Japan, ancient Japanese nobility and religious authorities used to cover the entry surfaces of the buildings and the statues of Buddha with gold. The material was chosen “not [for] mere extravagance”, but for its spectacular reflective, screening effects (2001: 36). In such cases “the gold leaf of a sliding door or screen will pick up a distant glimmer from the garden … [and] light the darkness of the room” (ibid. 35-36). In another case, deliberately chosen as very different, the journal Building Services publishes in 1979 a set of recommendations for “Working With the Small Screen”. Alleging that there are “special needs [that should be acknowledged] where small screens are introduced into existing premises”, the article takes up the idea of light as the key currency in negotiating work space’s “comfort and efficiency” (Wood-Robinson 1979: 45). Considering the brightness of display screens in work places as opposed to the reflective surfaces of surrounding walls, the daylight coming through the windows and even the reflective clothing of the workers, the workplace becomes a sort of a light battleground. The article recommended that, for instance, screens and windows should not be facing each other and the displayed figures on the screens should be given a dark background (ibid.). These apparently minute characteristics – as such easily overseen in current debates – say much about the potentially high relevance of detail in understanding proportionally larger structures. In my case, the management of reflective surfaces gains important consistency in discussing light as the key matter in negotiating of visibility. Re-
turning to the question of the display screens in the city, the attention is on what amounts to the visibility of a street, a square, or a passage.

By extracting for this purpose not the piece of display technology or its textual message, but the sub-textual medium of light that carries the projected text, we are able to attend the broader forces of signification that penetrate space on three-dimensional, rather than two-dimensional plane of pure textual messages. Since the urban screens encroach upon space both physically and visually, what can we learn about their operations by tracing the side-effect of spilt light? Further enquiries could ask which surfaces deliver light, which accidentally reflect it (and along the way fortify original source, especially in the case of advertiser’s rental of physical space solely to put up the screen), and which remain darkened, thus hidden (cf. Fig. 6). Before the advent of artificial light, the screening surfaces were used to reflect and point the light in desired direction, whereas with the electronic technologies the light is launched in environment, and is, in that respect more easily manageable as force.

Fig. 6: Urban Visibilities

Artificial light has been used to convey spatial relationships since the early practices electric lights as “light-based media” from the late 19th century onwards (Schivelbusch 1995: 220) played with “three-dimensional effects in the game of light and shadow” (Thomsen 1996a: 104-105; Ackerman 2006). With the grand demonstrations at World Fairs, electric light gained the strength of a new medium of expression, utilised across architectural avant-gardist projects, artistic experiments by the futurists, vorticists and expressionists, as well as commercial and urban practices, enhancing such forms as "floodlights", "outline lighting", "kinetic light", "light houses", etc. (Ackerman 2006: 12-13; cf. Ackermann and Neumann 2006). The messages of commercial entrepreneurs intertwined with the otherwise noisy space of the cities since the earliest stages in modern urban development. Soon after the new electric lighting technology was introduced, “in the marketplace, the electric sign, the spotlight and even the streetlight became economic weapons” (Nye 1994: 175; cf. McQuire 2005). With the increasing usage of electric light and experimentation with its suggestive power,
What emerge[d] in the electropolis … was a hybrid environment belonging to nei-
ther architecture nor sculpture as traditionally understood. Instead, the electric city
[was] … characterized by the interpenetration of material and immaterial spatial re-
gimes (McQuire 2008: 122).

More contemporary cases continue on that tradition in pop culture and, say, live
concerts, whereby “light defines, cuts out, creates spaces with immaterial walls”
(Thomsen 1996b: 115). However, all these occasions for urban visual spectacles
appear to be resting on a much older principle that counts on a particular degree of
bodily proximity with a display panel. The involvement with the urban displays
assumes incidental attention, and necessitates, paradoxically, securing enough
distance between the passing viewer and the viewed object.

**Proximity with Distance**

As Gitlin alleges, a display screen “delivers light, gleams with availability” re-
gardless of its changing situational contexts. “Unless we click an off button or
smash the screen, the images stream on, … They collect our attention but do not
reciprocate” (2001: 20-21). Gitlin’s Kafkaesque observation, should it succeed in
disguising the seamless image-ubiquity of the mediated urban space, bypasses its
fundamental operational currency – space. The "stream" and "attention" occur in
and take space, and however blind and deaf, the communicators in Gitlin's story
are related. In the context of mediated urban space, their relation is necessarily
spatial. Therein, critical proximity collides with necessary distance. This is the
third exploratory premise I want to consider here.

With the rise of modernist relativity of individual time-space senses that are in-
trinsically "dependent upon the observer’s frame of reference”, as McQuire
reminds us, “spacing … always implies relation” (ibid. 21, 22; cf. MacPhee
2002). Arbitrary spatial relations are always implied in design, yet again variously
enacted by its users on the ground. Even more recently, “the “medialization” of a
façade” is said to allow buildings to ‘move’ and facilitate “an emotional connec-
tion between the audience and the architecture” (multimediafacade.com 2008).
German “mediatecture” company “ag4” advertises, as they claim, their own in-
vention of “transparent media façade” (Müller 2006: 4), based on the LED system
that orchestrates miniature bulbs on a steel net stretched across the outer skin of a
building. The innovation, they explain, was a commercial response to “a rising
demand for the number of projects requiring façades to act as communication in-
terfaces” (ibid. 4). Essentially, the constructors rely on the power of scale and the
potential of changeability inherent in moving images in facilitating the attention
of the passers-by (see Figure 7).
The “media façades” are advertised as exceptionally effective in incorporating moving images into the skin of the building in relation to the traditionally narrativised video clips (Kronhagel 2006: 166). The company explains that the continuous flow of images “is not limited in time by a beginning and an end but recreates a new [sic] each and every second” (ag4 2006: 108). In addition, the media façade does not employ a black frame to separate the projected images from the surroundings. This all gives us reason to think of the virtual and the physical domains of built space as constituent parts of urban space. In turn, moving images on a large scale complement the heterogeneous rhythms in public terrain. The passing pedestrians and vehicles interchange. Although the images move as well, their source, the building, remains static.

If we attempt to understand what enables a façade to be perceived as a display screen and how that may be helpful in understanding the broader media-saturated world, we must isolate, once again, the “contextual” features and focus on the screen’s visual operation. The media façade is constructed upon the LED technology and consists of an iron net of tiny bulbs, which blink in various colours (fig. 8). When looked at from a certain distance, the pre-programmed system of lighting gives the illusion of moving images (fig. 9).
What is easily overlooked (particularly in much of the determinist appraisals of the new projection technologies that allegedly make the buildings ‘move’) is that the logic of communication seems to be based on a much older principle. An example can be found in medieval stone art. Particular assemblages of small pieces of coloured stones constructed images. A view from a distance made the fragmented nature of the lines and shapes seem less obvious (fig.10).

Could it be said that the contemporary media façades operate in a similar logic? The mode is different: the stones are exchanged for bulbs. The pieces of mosaic are, as it were, electrified, and thus, made visually manageable. But in both cases there is an assemblage of small pieces of visual text that create the impression of an image when ‘read’ from sufficient distance. This confirms the famous Bolter and Grusin’s (2000) “remediations” theorem, whereby the enhancement of immediacy, that is, of the illusion of unapparent mediation, motivates particular improvements of media technologies. In our case the early electric floodlights matured to the more recent electronic display panels (notwithstanding the contemporary co-existence of both forms).
There is yet another kind of perceptual manipulation resting on the play of distanciation that allows the electric light source to be not merely visible but viewable. If we zoom into the very appearance of the display, we can notice that what distinguishes the billboard displays on Figure 11 is clearly an absence of cover that works as a separation of the backstage 'raw' light and the front stage visual spectacle.

This takes us, if only briefly, back to the history of the industrialisation of electric light. It is because, as Schivelbusch alleges, “the technical qualities of gas lighting and its impact on perceptions can be summed up in a single word: distance” (Schivelbusch 1995: 44). What was a problem of light insufficiency before gas was introduced became an excess of light when the open gas flames and electric lights lit up the spaces. The flames were so strong that they had to be covered, but in a way that the intensity of light was maintained. In turn, lampshades were invented, starting a new era in light perception. “From [then] on, it was not the flame that glowed, but the lamp shade, which allowed an amorphous, diffuse light to filter through” (ibid. 44). Mere light gained the meaning of “raw material that had to be refined by the lampshade before it could be admitted into the drawing-room” (ibid. 174). As the light surface took the role of the light source, the perceptions of light changed as well and the light was seen as more close, even and tender (ibid. 174, 54, 181). The sense of space changed accordingly. Because the bright electric light was perceived as so strong that it allowed no shadows in the rooms in which it was turned on, “a whole new culture … developed, based on indirect, reflected and focused light” (ibid. 180). “The monotony of electric light” needed animation through irregular shapes and various colours of glass (ibid. 182). As the “the uninterrupted, transparently sparkling surface” of glass was made technically available, the mirroring effects of glass and reflectors were exploited extensively in shop windows to attract the curious eyes of the passers-by (ibid. 146). The shop owners were perfecting the system all until there was enough light so that “the source of light itself [could] disappear from the view” (ibid. 148). Even daylight at once seemed “aggressive” and too direct, which, in

![Figure 11: Raw Light and Covered Light](image-url)
turn, gave rise to “a renaissance of medieval glass painting” on home windows (ibid. 182-183). In the case of urban mediations, one other contemporary example suggests that the premise distance-and-cover has to be thought in a wide range of options, including the converse: minimising distance.

At a highly frequented site, the end point of the promenade, unlike in any other Mediterranean town with a strong evening stroll culture, the city council inserted the 22-meter wide moving image screen (fig. 12), as the then mayor told me, in order to foster socialisation and rehabilitate the long neglected site. The screen consists of 300 glass plates under which the LED lighting system works with the integrated converters of the sun's energy. A rather abstract (discothèque-like) play of lines and shapes invites the visitors to walk, jump, dance, or simply stand gazing closely at the innumerable patterns of moving colours.

Contrary to the afore-mentioned cases of urban screens, this surface is designed to suggest immersion, which is possible only by minimal distance and in the activity of walking over or lying on the images. This is, more generally, supported by where the screen is located. It covers the surface of the dock, which the constructor literally added by widening the previously much narrower quay, in order to incorporate the screen. In that sense, the installation is a screen-place, where all the other elements (such as the signs for the surveillance cameras, the benches for sitting) underline the fact of the screen’s presence, rather than screen-object normally found in a busy urban place, alongside many other elements that would compete for attention.

As I sought to illustrate, the designers of the display billboards in the city draw on the ancient principle of the separation of the lit surface and the light source as well as distance from the onlookers to achieve the suggestive appeal of their images. I would tentatively call it a front-back display paradox: in order to be perceivable, the textual display must be joined with an electric support, but in order to be readable the electric manufacture of the display must be covered and distanced. Future research can mobilise this premise by investigating how the subtle
positioning and design strategies suggest seamless mediation that works towards achieving the designer's communicative goals. In Zadar, the intention of the designer was to foster playful engagements with the screen, by working with distance on large scale. To wrap up, urban screens operate as individual sources of ‘raw’ light and ‘textual’ spectacles alike. Theirs is a sensational appearance immanent to the specific technological incorporation in the urban fabric.

Concluding Remarks

The growing presence of urban screens in world cities calls for closer inspection of the outdoor display media, especially in the context of their progressive changes in forms and usages. In response to a lack of scholarly engagement with urban screens, this article drew together the different texts in media and cultural studies to offer some recommendations for further explorations. Seeking the ways beyond the dominant assertions that media are now everywhere, and that media and city are inherently representative of each other’s communicative forces, I suggested a spatially informed epistemology sensitive to the ground details and overarching logics of structural conditions in which the urban screens operate, such as singularity and plurality of technologies and contexts, and the management of visibilities and distances. Practically, I suggested scrutinising the relations between distance, scale and size amongst the objects that compose the research site; the relations between the spatial claims of display media as material objects and illuminative forces; and the relations between passers-by, screens, and environments, that is, the observable ways in which the bodily movements relate with the built structures.

The three exploratory premises I suggested mutually overlap and should ideally be mobilised intertwiningly. This is even more important if the urban screenings are to be explored three-dimensionally, that is, not merely as texts being projected before us, but as moments of polymorphous spatial compositions registered from above, on the side, and right in front. Although the changeable appearances might present urban screens as sporadic immaterial discontinuities in the built assemblages (cf. Struppek 2006), from the vantage point of a spatially informed epistemology, the urban screens are better seen as physical occupants of space that exhibit changing representations of various ‘elsewheres’. As the screens continue to develop, and their producers continue to surprise us with new inventive forms and images, the exploratory premises I suggested should not be taken as final routes, but as options to be further considered in future research. To return to the beginning of the paper, “in our age of technological saturation, response to place becomes the most practical adaptation strategy of all” (McCullough 2004: 213). If the sole idea of an unprecedented saturation in making sense of the contemporary media environments in urban space cannot suffice, the (re)mediated city is better understood as a domain of perpetual continuity and change. Screens communicate
to passers-by, regardless of their immediate sensorial preferences. Images of ‘virtual’ places shine from metal surfaces designed with a strong sense of the ‘real’ place that homes them. In a study of urban screens, we are after what is in between.

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Please note that all illustrations are the authors unless otherwise stated.

**Notes**

1. I simplify this otherwise much more complicated architectural distinction for the purpose of illustrating the argument. See, for instance, Venturi et al. (1977) for a fascinating discussion about symbolism inherent in the forms of the modernist architectural programme.
2. Myriad public art projects make use of visual display media to interrogate the mediated quotidian, most notably in the works of Nam June Paik, Jenny Holzer, Krysztof Vodiezko, and Rafael Lozano-Hemmer.
3. See, in that respect, Raynsford’s (1996) study about the construction of New York’s Grand Terminal on the turn of the centuries as a reinforcement of a long standing rationalist desire to orchestrate the fluctuation of individual passengers as crowds ‘manageable’ by “mechanised rationality”.
5. See also McCarthy (2001: 119-121), Bouman (1998a: 55), and Bullivant (2002).
6. See Introna and Ilharco (2006) for a specialised phenomenological perspective on the essences of ‘screenness’ that, in the Heideggerian tradition, orient one towards display panels as “something that calls for or grabs our attention” (2006: 64) in a pre-existing ‘referential whole’. My preference of the luminous rather than textual activity of the screens is in agreement with this view of a "grounding intentional orientation" of screens, which might be said to signpost their "ontological significance beyond the mere content of their surfaces" (ibid. 58, 70).
7. See Vandenberghe (2007) for a broader consideration of Debray’s complicated ethos.
8. This viewpoint shares much with Silverstone’s classic postulate of the double logic of home television, whereby “the consumption of both, the technology and its content, define the significance of television as an object of consumption” (1994: 123).
9 I borrow this notion from A. Williams’s spatial currency of “the smallest spatial field[s] of human interactions and performances” (1980: 76-77, cf. ibid. 237).
10 Compare with Bille and Sørensen (2007).
11 I am grateful to prof. Bernard Sharratt for consultancy about this aspect.
12 In Tanizaki’s account should by no means be mistaken for an appraisal of visibility; in his critique the “hidden magic” of shadows is positioned against the “the evils of excessive illumination” that obliterate the particular beauty of a “visible darkness”, where always something seemed to be flickering or shimmering” (ibid. 46, 53, 55, original emphasis).
13 See Parkes and Ångeslevä (2007) for an account which views LED urban screens as "a hole in space" with "dismembered" material. The authors experiment with "breaking the frame (of the standard screen) with seamless content" of "embedded" screens that, for instance, form part of coloured windows with "thermochromic pigment" technology.

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