Shared Privacy and Public Intimacy: The Hybrid Spaces of Augmented Reality Art

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Abstract. Can we speak about a specific real-virtual spatiality in the contexts offered by the post-desktop technological philosophy and practice? Does Augmented Reality have the potential to produce a different type of space (essentially hybrid) in which private and public converge up to the point of their cross identification? More exactly, to create, what media theoretician Jenny Edbauer Rice names a "zone of public intimacy"[1]?

The goal of this essay is to explore the possible answers to these questions. At the core of my analysis is the idea that the hybrid character of Augmented Reality is effected by two conditions. On the one hand, by the process of converging real and virtual spaces into a single – although discontinuous – "multimedia" space-image and, on the other, by the tensions existent between private perception and public engagement (with the setting, with the information and with other users).

My conclusion is that by creating a hybrid convergent space of inclusions and exchanges, AR raises not only the prospect of a new sensorium (an expanded corporeality), but, what is more, it confirms the possibility of a distinct aesthetic paradigm as well as of a different way to articulate social relations.

Keywords: Augmented Reality, hybridity, public sphere, body, real world, virtuality

INTRODUCTION

Whether cliché or not, commentators and theorists of all sorts are right to observe – whatever the celebratory or deploring tone – the increasing technologization and mediation of our daily life, especially when one considers the ever increasing expansion of the mobile communication and visualization technologies. Since, indeed, in a sort of *horror vacui* logic, the spaces we inhabit and the actions we take are more and more impregnated, if not quite invaded by technology; from the smart-phone facilities and wireless connection, to public informational access platforms and GPS-driven navigation and world browsing.

Our experience as mobile devices users shows that there is a double sense in which we engage with these ubiquitous technologies in the urban realm: on one hand we act towards the creation of a public zone

of technological sociality (that is, of a contingent and socially-open form of informational process and interaction, in situ and online), and on the other, towards the articulation of 'privacy pockets' where we cultivate an intimate relationship with the machine and the information it conveys (but which, despite its personal dimension, establishes no less contingency with the surrounding milieu).

Therefore, a certain tension (and in fact a certain undoing of the conventional distinctions) between private and public, between intimate access and social use of technology, between internalized and publicly-surfaced information is always at work in these circumstances. Think for example about the weird situations in which our intimate conversations (spoken or texted over the privately-accessed virtual networkon the phone) and the associated bodily reactions are overheard and overseen by the "real" public around us, or, on the contrary, about how, when experiencing the social media, our autonomous (perhaps domestic) presence in the real world participates and intervenes directly in a public realm that is entirely virtual.

If what remains private and what goes public will always be a negotiable issue, perhaps equally flexible and relative can be the distinction between what we perceive as real and what we conceive as virtual. That is, between what we see as real setting and virtual images, between real body and its virtual projection into the informational fabric, between locality as a species of the real space and the rendering of computer data as a localization practice, between creative act as a live practice and the artistic endeavor as a mediated process. In these circumstances, perhaps even more evident than in other artistic or mediatic situations, the body of the user plays a crucial role: the body is not only the receptacle of a certain informational flux, but the active platform that conjugates apparently opposed realms, defined equally by privacy and publicity, and equally by reality and virtuality.

This is not the absent body that Virtual Reality (VR) experiments have engaged with (and theorized with angst as cyborg or as a posthuman entity), but the real body, the human, "all too human", presence. But, nevertheless an expanded body, a highly mediated and networked body. As art theorist Caroline A. Jones very aptly remarks:

"Far from an imagined bodiless existence once celebrated as 'virtual reality', [the contemporary technological art] explores the models by which sensing bodies (the rearguard 'meat machines' of 1980s cyberculture) can now become technological to

produce an amplified, connected, expanded but also disequilibrated corporeality – a new sensorium." (Jones, 2006: 2)

This is a new model of perception expanded in the media sphere, one that finds its most meaningful expression in the complex encounter between real and virtual spaces in Augmented Reality (AR) visualization systems. In what follows I will shortly define the term and explain how real and virtual converge in AR.

THE REAL AND THE VIRTUAL IN AUGMENTED REALITY

Although as an artistic manifestation AR appeared in the wake of other aesthetic attempts to combine real and fictional into the same visual entity, it also represents a quite particular paradigm since it permits a perceptual combination of the real scene perceived by the user with computer-generated information overlaid on that scene interactively and in real time. The experiential result of the AR process is what media theorist Lev Manovich names an "augmented space," a new species of space defined by him as "the physical space overlaid with dynamically changing information, multimedia in form and localized for each user." (Manovich, 2006: 2019) What is important to mention is that AR should be seen not as a strictly defined technology (and implicitly not exclusively digital), but rather as a model of visuality concerned with the intertwining of the real and virtual, and, more particularly, of the private and public. As Manovich writes:

"[T]he layering of dynamic and contextual data over physical space is a particular case of a general aesthetic paradigm: how to combine different spaces together. Of course, electronically augmented space is unique – since the information is personalized for every user, it can change dynamically over time, and it is delivered through an interactive multimedia interface, etc. Yet it is crucial to see this as a conceptual rather than just a technological issue – and therefore as something that in part has already been an element of other architectural and artistic paradigms." (Manovich, 2006, 226)

But, if AR is part of a wider artistic typology and of a larger post-desktop technological philosophy and practice, can we speak about a specific real-virtual spatiality in AR? One that would distinctively articulate the new "sensorium"? Does AR technology have the potential to produce a different type of space (essentially hybrid) in which private and public converge up to the point of their cross identification? More exactly, to

create, what media theorist Jenny Edbauer Rice names a "zone of public intimacy" (Rice, 2008: 95)?

The goal of this essay is to explore the possible answers to these questions. At the core of my analysis is the idea that the hybrid character of AR – once again, seen here as a general paradigm of visuality and not as a strictly defined technology – is effected by two conditions. On the one hand by the process of converging spaces (that is, a process that consolidates different – and differently situated – fragments of real and virtual spaces into a single – although hybrid and discontinuous – "multimedia" space-image), and on the other, by the tensions existent between private perception and public engagement (with the setting, with the information and with other users).

HYBRIDITY REVISTED: CONNECTING REAL AND VIRTUAL SPACES

As a way to anchor these claims in a concrete example, let me consider an emblematic mobile AR artwork: Julian Oliver's *Artvertiser* (2008-in development).[2] The project investigates the possibility of virtually replacing street advertising content with artworks created by different local artists. *Artvertiser* is based on a custom-built software that recognizes individual advertisements; their surface is treated as a sort of "virtual canvas" onto which static images or videos are superimposed when viewed through the hand-held device (either a binocular "Billboard Interception Prototype" or a smartphone). What is mainly at stake in this audacious work is the question regarding our right and ability to read and/or write our public space in the ways we treat an electronic file in our ordinary, private computer use. In this sense, the work explores the communicational and aesthetic potential of intervening in and expanding the real space into the media realm; and vice versa. It is actually AR's main preoccupation to profoundly rethink the relationship between user, real space and virtual image beyond the limits established by the common practices of other closely related technological activities within the areas of wearable computing or locative media. AR expresses this relationship as a contingent practice, as a way to (or rather as an attempt to) consistently connect live on-screen and off-screen content in a hybrid real-fictional time-space – a convergent space of interaction and perceptual (dis)continuity. The particle "dis" is necessary, however, since while it aspires to creating a smooth flow between real and virtual AR's perceptual effect is neither spatially homogenous, nor temporally

continuous. The very process of converging spaces functions within the logic of the event, that is, as art historian Christine Ross notes about the "event-ness of AR", "as a form of unpredictable and unanticipated change or discontinuity." (Ross, 2008: 334) As Ross explains, "some artistic explorations of AR proceed to delay the perception of real time within real time situations, not only as a mechanism of expansion of immediacy but also as a modality by which expansion might open to an unpredictable event." (Ross, 2008: 346) As the functioning of *Artvertiser* confirms, the AR perception is always open to the unexpectedness of the event since the expansion of immediacy maintains a certain gap between the "now" of the reality and what might be called the "delayed now" of the virtual. This is an elusive real-time delay, nevertheless, but one that makes AR only the more exciting.

HERE AND NOW: THE PEDESTRIAN USER BETWEEN PRIVATE (INFORMATION) AND PUBLIC (INTERVENTION)

It is important to note that AR's insistence on immediacy and spatial convergence – problematic as it is – leads neither to a disembodied experience, nor to the annihilation of locality where the AR event takes place. In AR, the body is not reduced to an artificial avatar immersed in a synthetic space or to a vicarious presence online, but it functions as an actual – albeit expanded – corporeality situated between reality and virtuality. It is then evident (and surely essential for my argument here) that one of the fundamental accomplishments of AR is the rejection of any visual solution that segregates the viewer into a complete virtual environment, doesn't matter how credible that environment would be – as it is the case, for example, with immersive VR systems. Unlike the latter, AR is able to capacitate the viewer to act beyond the idiosyncrasies and constraints presupposed by a totally artificial environment, one that while offers a high degree of privacy, it actually obliterates most of the subject's public interactions. While still relying on virtuality as one of its essential performing features, AR opens the perceptual field also to the material occurrences of the physical reality, therefore situating the user under the incidence of the *here and now*. This means that with AR, real world is back in the picture and, together with it, the contextualized (read socialized, culturalized, politicized) user.

Certainly, contextualizing the user is not AR's privilege. As media scholar Christiane Paul has rightly pointed out, new media (art) practice is for the most part "inherently interactive, participatory, or even

collaborative and – in its networked manifestation – potentially open to exchanges with trans-local communities." (2006) However, while activating on the same philosophical and practical grounds, AR offers a particular (and surely amplified) engagement with the world. Opened "here and now" to both reality and virtual data flux, AR is able to redefine the distance we entertain with the world via technology and a specific type of visuality. In AR, reality and virtual information tend to occupy the same perceptual and interactive field: AR's pedestrian user 'inhabits' equally on and off screen in a haptic space which, as media philosopher Mark B.N. Hansen explains, "allows the body to confer reality on actual and virtual space alike." (Hansen, 2004: 121)

Of course, interface plays a crucial role in facilitating the convergence of spaces and temporalities. For, in AR, the screen aims to be not so much the dividing surface between reality and fiction, but rather the unifying platform between the two. Consider user's experience in *Artvertiser*: urban public space and virtual augmentation are melted live into the same space-image, and this is due greatly to the fact that the frame – i.e. the conventional border that separates what is perceived as reality and what is seen as fiction – is largely relativized (although not totally erased). In such conditions, the balance of normal distances we maintain between what is perceived as private (information) and what is seen as public (intervention) – in other words, the physical and communicational rapport of distances defined by anthropologist Edward T. Hall as proxemics – tends to be in its turn relativized (1966). AR's space, then, opens alternate modes of experience, a "public intimacy", a zone that capitalizes not only on the ambiguity between real and virtual, but also between "yours" and "ours": this is a convergent space that can be addressed as "(y)ours".

URBAN PUBLIC SPACE AS AUGMENTED REAL ESTATE

To be sure: the real world of the AR experience is by no means neutral in terms of locality. This is both a premise and a function of the augmentation process. The creation of a convergent space via AR experience means not a seizure of a certain place, but the confirmation of its specificity and of its possible existence as multiplicity. As Julian Oliver's work *Artvertiser* convincingly suggests, the public space of intervention is not an unequivocal and anonymous place, but a definite setting made available for subjective appropriations, this time in a critical

key – the idea of product *re*placement and of turning excessively commercialized public spaces into an active playground for artistic interventions. Take yet another example, less creative (in a strict artistic sense) but equally ingenious (mostly in a technological way): the recent applications for mobile AR, such as *Layar*, *Wikitude*, *Aurasma, Point and Find*, *MARA*. They are, GPS-based smart phone apps that are able to overlay informational content (such as photographic, historical, cultural or other practical data) on the phone's camera image of the very space the user is situated at that moment, according to user's orientation and physical features of the environment.[3]

Adding informational substance (as it is the case with these applications) or an artistic "flavour" (as *Artvertiser* proposes) to the urban milieu means not only expanding the city in the media sphere, but also provoking complex interactions among the site, architecture, the Web, time and the mobile body of the user. The city therefore becomes a transparent information platform, a place with diminished distances between private and public, a place of surveilled intimacies, of direct (artistic) interactions between data flux available online and the very physical reality of the user. But, importantly, this electronic urban milieu is not only about "architecture as an iconographic surface" (of the kind Robert Venturi dreamed about, 2004: 12), but it is the city as an open and mobile archive of contingent, interactive and viewer-specific data. This is the "live" architecture and urban information landscape (what I call here the "augmented real-estate") that the contemporary *flâneur* would encounter. Consequently, the nomadic user of the mobile AR applications identifies himself/herself with the city not as a passive and contemplative observer (like the Baudelairian wandering character who simply walks the city to experience it), but rather as an active, involved and networked participant who takes the city into possession by turning it into a hybrid, discursive and collaborative platform.

EXPANDED COLLABORATION IN THE PUBLIC SPHERE

So, in these circumstances, the question that still had to be considered is to what extent AR is able (if any at all) to transform urban environment into a functional private-public convergent space of interaction, one that goes beyond other types of connectivity and collaboration – that is, equally beyond de desktop-based secluded networking, simple wireless access in-situ, or direct public encounters in the agora. Indeed, by

perturbing clear differences between real and virtual (in the mobile mode), AR attempts to fuse all these possibilities and, as a consequence, it provokes a certain slippage between private and public access and communication. But what governs AR's strategy is by no means the creation of an ambiguous zone of control, of an unstable situation in which "private" should always become a species of the "public". Instead, AR aspires to create – at least in the examples discussed here – an informational and behavioral environment of expanded collaboration, a corporeal-technological convergent space that functions very much as a *mise-en-scène* in the sense Mieke Bal describes the term as a "meeting between (aesthetic) art(ifice) and (social) reality." (Bal, 2002: 97) Indeed, mobile AR resituates the artifice (the virtual) not only into an autonomous (that is, a strictly personal or aesthetically discrete) reality, but – what is more important – into a *social* reality, given that the content of all mobile AR applications mentioned above is developed by the users and is experienced in a socially-aware network. As the communication scholar Isabel Pederesen observes, "[AR] wearables are unique not only for their extraordinary capabilities but also because they undergo social scrutiny during their state of emergence into a new medium of communication." (Pederesen, 2008: 166) That means that the "extraordinary" real-virtual encounters in the mobile AR mode are capable of creating specific conditions in which public space can turn into a "public sphere," a place in which, as Jürgen Habermas has stated, "something approaching public opinion can be formed." (Habermas, 1974: 49) This is what the above mentioned examples reveal: the apps can accommodate equally user-defined content and social networking in a Web 2.0 mashup of integrative collaborationboth in situ and online; or, see *Artvertiser*'s community formation potential: the project is a tripartite cooperation between the author, local artists' community (where the work is presented) and the users, a collaboration that relates equally the local environment with all its contingent specificities and some worldwide concerns.

CONCLUSIONS

Surely, the possibility of creating public spheres, and the degree of involvement in these unstable structures will differ from (artistic) application to application and from user to user. However, the important challenge for AR users and implicitly for any theoretical discourse

surrounding their experience is to identify the aesthetic as well as the largely cultural or social and political potential of such encounters in the AR spatiality. Creating a hybrid convergent space of inclusions and exchanges, AR raises not only the prospect of a new sensorium (an expanded corporeality), but, what is more, it confirms the possibility of a distinct aesthetic paradigm as well as of a different way to articulate social relations. AR can be seen therefore as a particular (and more spectacular) scenario in what is already a general trend: to transform the public space – that is, both the agora and the media sphere – into a "zone of public intimacy" in which presenting and accessing information (or an artistic discourse) between real and virtual can equally be a personal process and a public contribution.

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Notes

[1] Jenny Edbauer Rice, "Overhearing: The Intimate Life of Cell Phones," *Small Tech. The Culture of Digital Tools*, Eds. Byron Hawk, David M. Rieder and Ollie Oviedo. Minneapolis: University of Minnesota Press. 2008, 95.
[2] The work was developed in collaboration with Clara Boj and Diego Diaz. See: julianoliver.com
[3] Although different in terms of technical standards and design, these apps work practically on the same principles and towards the same goals: the user points the phone's camera at various locations and, instantly, layers of information are superimposed on the image of the respective location. See among others: http://www.layar.com ; http://www.wikitude.org ; https://www.aurasma.com/ ; http://europe.nokia.com.

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