Current location technologies have become tools used by contemporary artists, theorists, designers and scientists to reformulate our understanding of social engagement within an enlarged concept of place. These new mobile networks have altered the way people exist in and relate to spaces where the real and virtual world blend, blurring the lines of traditional spatial definitions and frameworks. This special issue provides a variety of perspectives and practices on the meaning and interpretation of today's locative media.

SPECIAL ISSUE

L.A. Re.Play

MOBILE NETWORK CULTURE IN PLACEMAKING
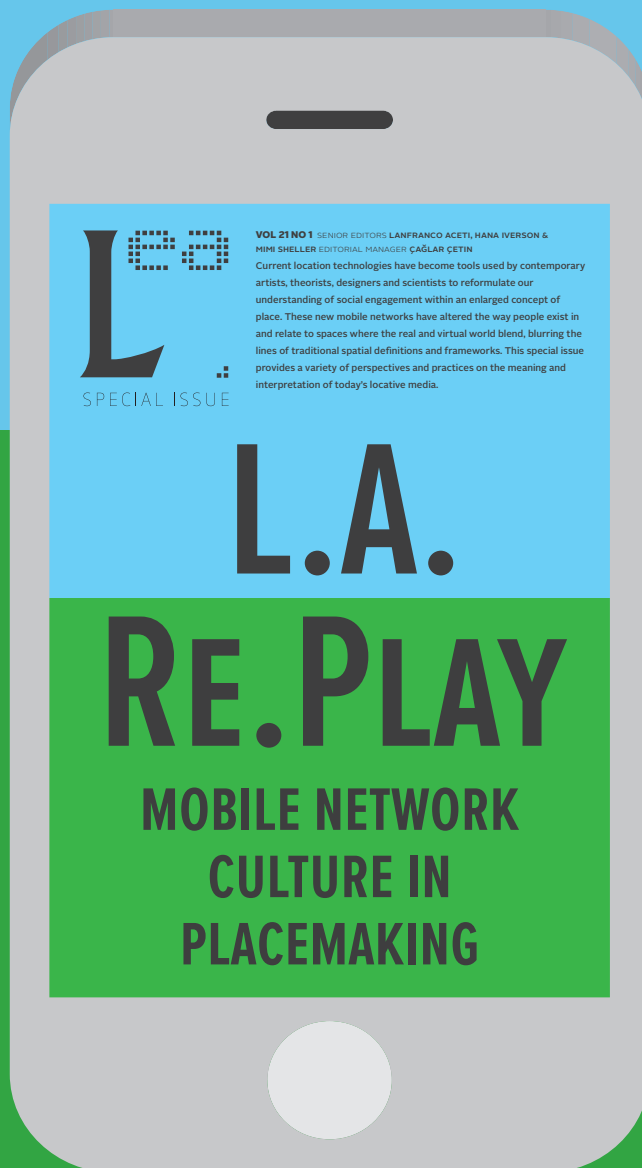
THE BODY IMAGE

Body Spatiality in Mobile Augmented Reality Projects

by

Sarah Drury

Film & Media Arts Department, Temple University

sdrury@temple.edu

http://sarahdrury.net

http://mechanicsofplace.net

http://tornexteriorsshow.blogspot.com/

Just as there is a zone of sensitivity concerning the body's openings and surfaces, so too there is a zone outside the body, occupying its surrounding space, which is incorporated into the body. Intrusion into this bodily space is considered as much a violation as penetration of the body itself. The size and form of this surrounding space of safety is individually, sexually, racially and culturally variable… Spatiality, the space surrounding and within the subject's body, is thus crucial for defining the limits and shape of the body image: the lived spatiality of endogenous sensations, the social space of interpersonal relations, and the "objective" or scientific" space of cultural (including scientific and artistic) representations all play their role.

 – Elizabeth Grosz, "Body Images: Neurophysiology and Corporeal Mappings," in *Volatile Bodies: Toward a Corporeal Feminism* [1]

INTRODUCTION

In the above passage, Grosz discusses spatiality in regard to the formation of the body image. This corporeal spatiality takes into account the inexact relationship between the anatomical body and subjective body experience. In other words, the body image takes shape in a space, a gap, a variable field of possibilities, where sensations may be disproportionate or displaced from the physical sense organs

A B S T R A C T

This paper takes Elizabeth Grosz's investigation of body spatiality as a point of departure for exploring several mobile augmented reality projects. Grosz looks at various psychoanalytic ideas of the body image as made up of an individual's sensory, psychic and emotional experience, and inflected by social and cultural projections and events. According to such psychoanalytic concepts, the body image is a spatial field, a "zone of sensitivity," that includes interior and exterior space, and that only loosely corresponds to the physical body. This paper parallels the zone of sensitivity with the mixed reality space of mobile augmented reality, looking specifically at this space as a visual intersection of media representation, kinesthetic experience and live image data. In mobile augmented reality works that engage body images or references, the body image takes shape in the zone of sensitivity where artist's projections are collaged onto real place. These mixed reality works offer a way to describe the spectrum between experience and image, a play between the embodied presence of a viewer and an augmented reality work that traces the erasure of bodies in a particular place. This zone of sensitivity is also a critical space, where self-images mingle with sensations and brandings, and contradictory meanings overlap. The works discussed are What if .. *by Kerem Ozcan,* Uncensored *by Petek Kizilelma and* x/y *by Hana Iverson and Christopher Manzione. This paper aims to articulate issues of virtuality and embodiment that emerge in these mobile augmented reality works.*

themselves, as with referred pain, where a pain has a specific physical cause and location, but may be felt elsewhere in the body. Grosz refers to psychoanalytic concepts about the displacement of the body image, in the work of Freud (the "body ego"), [2] Lacan (the "imaginary anatomy") [3] and Paul Schilder (the "body schema"), [4] to explore the spatial nature of the subjective body image. Schilder terms the spatiality of sense

organs as the "zone of sensitivity," the extended field of sensory experience that comprises its own sense-based anatomy, with different limits and shape than the physical anatomy. The zone of sensitivity accounts for the phenomenon of the phantom limb, where one continues to experience sensation after the amputation of a limb. It accounts for the disproportionate filling up of one's experience by pain or pleasure. It also accounts for extensions of the body and their incorporation into the body image – for example, the way the use of a handheld device becomes internalized as part of the body image. Grosz elaborates on Schilder's ideas about the zone of sensitivity with the concept of the "space of safety" as the internalization of the surrounding space into the zone of sensitivity. Grosz implies that the surrounding space of safety includes cultural images that may or may not actually be safe, with their potential to threaten or sustain, erase or reflect, limit or extend, distort or support the body's image. In considering the factor of safety, the body image can be seen to emerge in an internalized cultural space of conformity and difference, inclusion and exclusion, receptivity and disconnection. The corporeal spatiality that Grosz describes is the inside/outside space where the body's image takes shape both subjectively and in cultural context. This internal and internalized spatiality generates a body image that is constantly being produced through the negotiations of interior experience with the dynamics of social and cultural images.

This paper uses Grosz's discussion of the body image and corporeal spatiality to look at mobile Augmented Reality (mAR) art works in public spaces where some kind of physical erasure has taken place, and to explore how these works remediate that public space – how in some sense they "make it safe" for the viewer by restoring the image of an erased body to the location. Such images represent an "intrusion into the bodily space" of the viewer who is standing in the very location where violence or repression has erupted; these images bring out the issues of safety, taboos, past trauma, or current threatening events associated with that place. The viewer can bring such images into his/her own "zone of sensitivity" under cover of the intimate, private space of the handheld device. The particular vulnerabilities of his/her body, whether based on gender, race, ethnicity, religious identity, dis/ability, sexual identity, come into play in the spatial dynamics

between the subject's "zone of sensitivity" and the location's embedded meanings. The mAR works expose the intersection of the viewer's physical presence with the real site of past or potential violence – her own body is really there in that place, viewing images that situate the traumatic event there. Further, they work as a critical statement both revealing and intervening with the threatening dynamics of the place. The mAR viewer becomes a witness as invisible meanings are made visible and visceral, resonating with the exposure of her own body in that place. These invisible meanings are enacted as the play between virtual and physical meanings in the mAR image, visible only to those sharing this network of an alternative reality. This shared network of mAR viewers as witnesses to invisible meanings counters the isolating effect of erased trauma.

The mobile device demonstrates the bi-directional dynamics of Grosz's concept of corporeal spatiality, as a sensing device that brings cultural commentary on embodiment into the intimate space of the body, and at the same time extends the body's reach by projecting images into a forbidden zone that may not be safe, but which is nevertheless protected by the intimate scope of the handheld device. In psychoanalytic terms, the phone works in these mAR projects to displace body images onto the landscape, as extensions and projections of the body – extending the body of the viewer and projecting the body images authored by mAR artists. The site is remediated in a very real way, drawing upon the spatiality of the viewer's body and its intersection with the surrounding space to reintroduce an erased body to a conflicted landscape.

In considering these ideas, I am focusing on two recent curatorial projects of mobile Augmented Reality works that deal with ideas of erasure in a specific location. The first, "Mechanics of Place," looks at cultural and political repression on a particular street in Istanbul. The second, "Torn Exteriors," looks at gentrification and redevelopment in a neighborhood in Brooklyn, New York. In each case, I am focusing on works that use mobile augmented reality as a blended reality that places virtual body images in real locations [5] as a means of questioning both the traumatic erasure of bodies in public space and a new corporeal spatiality that results from participation in such blended realities.

MECHANICS OF PLACE

I have collaborated with Hana Iverson and technologist Craig Kapp on the design of "Mechanics of Place," an on-going international mobile augmented reality framework, where local artists in a particular city are invited to create works that are situated in a certain street, addressing themes that engage the character and conflicts of that city and location. "Mechanics of Place" was first produced on Bogazkesen Street in the Tophane neighborhood of Istanbul, Turkey in September 2011. We chose Bogazkesen Street on the advice of Turkish friends, who identified it as emblematic of the location's dynamics ranging from the shifting economics and demographics of gentrification to past and current religious and ethnic conflicts among residents. We learned near the end of our stay in Istanbul that the translation of "Bogazkesen" is "cutthroat" – coincidental perhaps, but the street offered a palpable experience of extremes and contradictions. Our experience there was one of welcome and friendliness from local residents as they witnessed the installation of signage and the increase in smartphone-wielding visitors to the street. However the street had been the site of a violent attack during a gallery opening less than a year earlier, as local residents became angered by the open alcohol consumption and different standards of dress by those in attendance. For "Mechanics of Place," Turkish and American artists created a series of works

that became embedded in 20 locations at markers along the steep, winding, ancient street. I will focus on two projects that emerged from this experience to engage these ideas about body spatiality and erasure.

In What if.., an mAR work by Kerem Ozcan, a series of hypothetical neighborhood residents is proposed, each one the descendent of an ethnic minority that was "cleansed" from the neighborhood generations before. Each hypothetical resident is restored to the neighborhood, his or her fictitious presence acting as a placemarker for the violence that took place there, a witness to an absence. Framed as an image/text biography, each portrait of What If.. is a collage on the front of a different house on Bogazkesen Street, suggesting a current resident who might have been born there, might have grown up there, might have come to public prominence while living there – had his ethnic group not been brutally driven from the neighborhood in an earlier era.

As a critical presence, each biography speaks to the embodiment, the bodily safety, the endangered presence of "different" others in the neighborhood. This critical status is internalized by the mAR viewer as part of her surrounding "space of safety," as she can't help but identify with this restored resident – a conditional presence in the neighborhood like herself. Her own body image, her own sense of placement and safety

Figure 1. Documentation of a smart phone image from "Mechanics of Place," entitled *Remains* by Kerem Ozcan. ISEA 2011, Istanbul, Turkey. Photograph by Sarah Drury. © Sarah Drury, 2011. Used with permission of the artist.

within the cultural context of the neighborhood, extends to the image of "Dr. Avakian," and his presence as it becomes possible in the virtual/real space of the phone image. To the degree that the handheld phone extends the viewer's body image, the mAR viewer is actively tapping into the surrounding spatiality as a "space of safety" that extends between the "safe" bodies of the mAR work and the internalized "space of safety" that comprises her own body image. The viewer and her body are safe from the erasure of a traumatic past – not so much because the threat no longer exists, but because the erased body has been reintroduced.

Petek Kizilelma's piece for "Mechanics of Place," *Uncensored*, projects graffiti onto the walls of Bogazkesen Street, bringing back into the public sphere 138 words that the Turkish government has banned from internet domain names. The words have been banned due to alleged sexual inferences in either English or Turkish, including coincidences resulting from translation between Turkish and English, such as "pic" (short for "picture"), which means "bastard" in Turkish and "get" because its past tense "got" means "butt" in Turkish. English words "escort," "hot," "nubile," "girl," "free," "gay" and "teen" are among the banned words, while Turkish words for "gay," "naked," "high school student," "breath," "animal," "sister-in-law," "skirt," "passionate," "blond," "hot," "overweight," "confidential," "adult" and the very word for "forbidden" are also banned. These words comprise a verbal image of the body irrationally and bluntly banned from the virtual sphere of the internet. Kizilelma's piece restores this forbidden body to the public sphere of the streets as mAR graffiti, adopting the free speech genre of graffiti to defy the ban and place the deleted body back on the walls. As a genre, graffiti openly flaunts laws of property and propriety, to place messages in places where they have the greatest public exposure in the architectural environment. Kizilelma's mAR graffiti pieces virtually

place their banned-word images in obvious public locations, where they appropriately download images from the internet both to reveal and yet hide these words in public. The heavy-handed governmental banning of words that have the least reference to the body, and particularly to the female body, sexualizes any reference to female embodiment in the public arena. The operation of this word ban is to place the image of the "banned body" in the "surrounding space of safety," i.e., in social space, where it becomes internalized in the "zone of sensitivity," i.e., in the public/private spatiality of the body image. Kizilelma's virtual mAR graffiti project reconstitutes this banned body of words in the "surrounding space of safety," restoring the banned body to the public space without exposing the physical body of the viewer to potential reprisal.

DÉCOLLAGE: TORN EXTERIORS

"Décollage: Torn Exteriors," a mobile AR show that opened in April 2011, invited local artists to make mAR works focusing on the Williamsburg section of Brooklyn, NY, a former industrial hub that has recently become a high-priced "bedroom community" for Manhattanites. Hana Iverson and Chris Manzione's project for the show, *x/y*, deals more ambiguously with the body placed in a conflicted landscape. *x/y* places itself in a neighborhood undergoing rapid gentrification, where the fabric of local communities and the ravages of an industrial past are both plowed under as developers cut into the neighborhood with disjunctive modern luxury architecture, amid the remains of working class streets and industrial buildings.

In Iverson and Manzione's piece, body fragments are strewn on the sidewalk, or haunt the doorway of a warehouse, their skin fused with the surfaces of buildings and trees. These fragments are not the result of a violent encounter but moving, changing instances

of embodiment, 3D snapshots of the body re-shaping and reappearing, taking whatever material is at hand as its substance. The bodies of *x/y* are not exactly witnesses to the co-optation of the neighborhood, but ongoing presences, virtual/physical assemblages of a body, shared parts, shared energies, recycled annexations of bodies, buildings, landscape. The mAR viewer comes upon these body fragments randomly, in roving locations. The pieces in "Décollage: Torn Exteriors" were built using Layar and GPS-based geo-tagging, rather than the marker-based framework used in "Mechanics of Place." Mobile AR projects using GPS as a location method often have a degree of instability built into the location of the works, particularly in large, congested cities with dense signal traffic. Consequently, Iverson and Manzione's body fragments move, appearing sometimes to hover against buildings, other times scattered among the trees in the park across the street. As body images, they suggest a diffuse spatiality where the figure emerges from the ground and suffuses back into the ground, comprised of the bricks and branches against which it takes shape. One of *x/y*'s fragments is a mix of a man's up-

per torso and a close-up image of part of a woman's face, a cinematic and sculptural collage drawing the viewer into an image space where real and virtual collapse into each other, both within the image fragments themselves and in the live camera view of the smartphone.

These body fragments are undoubtedly dislocated, nomadic, unmoored in this transitional neighborhood. They have indeed been displaced by the upheavals of development and gentrification taking place there. Their photorealistic 3-dimensional image quality, surfaced with images from the surrounding environment, suggests a chameleon-like character: an organism taking on the attributes of its surrounding environment. In *Architecture from the Outside*, Elizabeth Grosz introduces another idea about the psychic space of the body: insect spatiality. Referencing the work of French thinker Roger Caillois and his study of mimicry in insects, Grosz writes, "Mimesis is particularly significant in outlining the ways in which the relations between an organism and its environment are blurred and confused, the way in which its environment is not

Figure 2. Documentation of a smart phone image from *Décollage: Torn Exteriors*, entitled *x/y* by Hana Iverson and Christopher Manzione. Brooklyn, NY, 2011. Screen capture by Sarah Drury. © Sarah Drury, 2011. Used with permission of the artists.
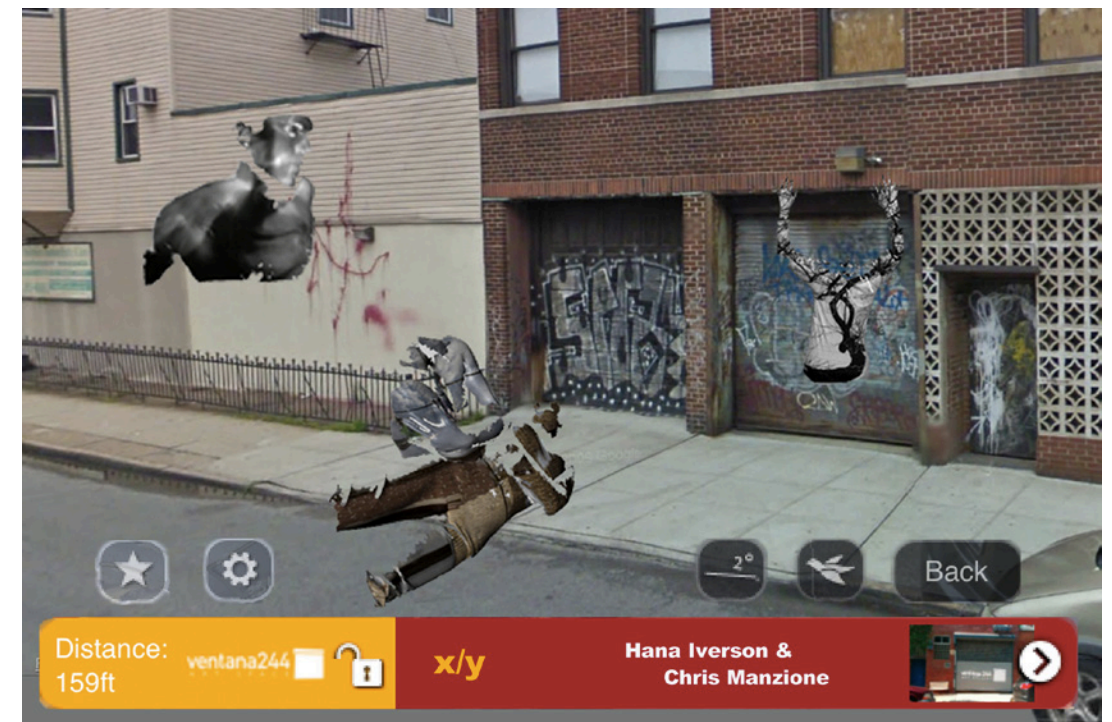
an external feature of the insect's life but is constitu-
tive of its 'identity.'" [6] Grosz further explores Caillois'
observations that mimicry in the insect world is in fact
not supportive of insect survival. Instead, insects that
have blended into the environment are often mistak-
enly destroyed, making mimicry in the insect world "a
dangerous luxury," and inexplicable in terms of survival.
Grosz points to Caillois' insect study as revealing a
kind of natural dysfunction or psychosis, in which the
insect fails to be able to locate itself in space, so it
locates itself instead according to a representation of
space, "the way space is perceived by an insect and
its predators." Iverson and Manzione's fragmented
figures take on the surfaces of their surroundings, not
so much as a way to restore the erased/displaced
body but as an expression of the play of the repre-
sentation of space that is taking place in a rapidly
gentrifying neighborhood, where the look and feel of
spatial values are being synthesized, grafted, shrunken
and inflated beyond any actual relationship to bodies
and the inhabitation of space. Rather than proposing
a direct critique of the changes taking place in the
neighborhood, *x/y* engages the disturbing dynamics of
representation at work there, where the body no lon-
ger can situate itself in space, literally, and therefore
cannot "identify" itself. Instead, body fragments take
on the look of the surroundings as a slippery imitation
of identity. The mAR viewer tracks down the body
fragments of *x/y* as an experience of engaging with
the body's status of dislocation in space, floating in a
field of spatial representations.

CONCLUSION

Mobile Augmented Reality as a medium brings into
play the individual's subjective, embodied experi-
ence of media in public space, by using the viewer's
location and perspective to blend virtual images with
real space and place. Essential to the experience is

the viewer's embodied presence in a given physical
location. mAR offers the possibility of connecting the
viewer to real place, to "here," through the medium,
in contrast to being transported "elsewhere" by the
media experience. If the body image is formed as
a bi-directional process of projection and internal
identification with external representations, then the
spatiality of the viewer's own body image in a given
place becomes the context for virtual media images
of the body, set on a continuum between virtual and
physical bodies, and incorporating the amenities and
dangers of surrounding cultural space. In light of this
understanding of spatiality in the production of the
body image, mAR offers a conceptual framework for
an embodied interface between real and virtual space,
between situated experience and cultural images
of self, as the very "space of safety" where the body
meets culture, mediating the processes of significa-
tion of that space. ∎

REFERENCES AND NOTES

1. Elizabeth Grosz, *Volatile Bodies: Toward a Corporeal Feminism* (Bloomington, Indiana: Indiana University Press, 1994) 79-80.
2. Sigmund Freud, *The Ego and the Id: The Complete Psychological Works of Sigmund Freud*, vol. 19 (London: The Hogarth Press and the Institute of Psychoanalysis, 1923-1925): "The ego is ultimately derived from bodily sensations, chiefly from those springing from the surface of the body. It may thus be regarded as a mental projection of the surface of the body, besides, as we have seen above, representing the superficies of the mental apparatus."
3. Jacques Lacan, "Some Reflections on the Ego," *International Journal of Psychoanalysis* 34 (1953): "To call these symptoms functional is but to profess our ignorance, for they follow a pattern of a certain imaginary Anatomy which has typical forms of its own. In other words, the extraordinary somatic compliance which is the outward sign of this imaginary anatomy is only shown within certain limits. I would emphasize that the imaginary anatomy referred to here varies with the ideas (clear or confused) about bodily functions which are prevalent in a given culture. It all happens as if the body-image had an autonomous existence of its own, and by autonomous I mean here independent of objective structure."
4. Paul Schilder, *The Image and Appearance of the Human Body: Studies in the Constructive Energies of the Psyche* (New York: International Universities Press, 1978): "The image of the human body means the picture of our own body which we form in our mind, that is to say, the way in which the body appears to ourselves. There are sensations given to us. We see parts of the body-surface. We have tactile, thermal, pain impressions… Beyond that there is the immediate experience that there is a unity of the body… We call it a schema of our body or a bodily schema, or, following Head…the postural model of the body… There is a self-appearance of the body. It indicates… that, although it comes through the senses, it is not a mere perception. There are mental pictures and representations involved in it…"
5. Martin Rieser, "-empyre-: soft-skinned space," http://www.subtle.net/empyre (accessed July 6, 2012): "I think we have to look at the new technologies of augmentation differently and try to understand what this collapse of the virtual into the 'real' might begin to mean."
6. Elizabeth Grosz, *Architecture from the Inside* (Cambridge, MA: MIT Press, 2001) 37-38.

THE SOCIAL

4ᵀᴴ INTERNATIONAL ASSOCIATION FOR VISUAL CULTURE BIENNIAL CONFERENCE

29/09 – 01/10/2016
BOSTON UNIVERSITY

WWW.OCRADST.ORG/VISUALCULTURE2016/

BOSTON
UNIVERSITY

OCR
**Operational &
Curatorial Research**

IAVC
The International Association for Visual Culture

MoCC
Museum of
Contemporary
Cuts