L.A. SPECIAL ISSUE

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.

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To Lorraine and Earle Iverson,
visible in the space of memory.

L.A. Re.Play: Mobile Network Culture in Placemaking

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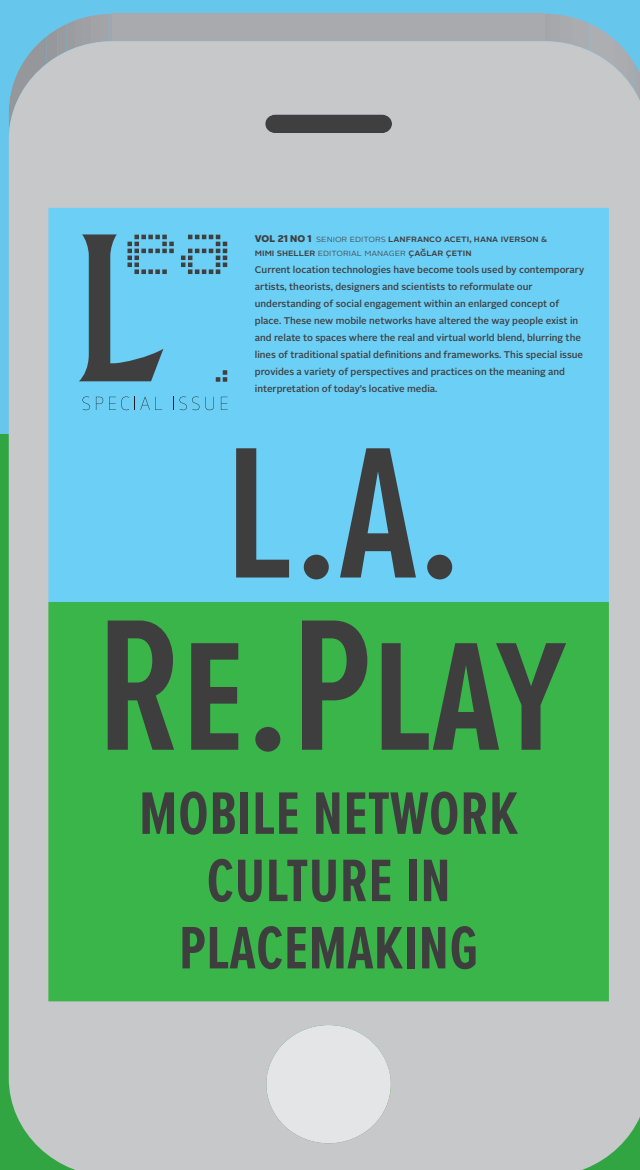
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Meanderings and Reflections on Locative Art

The word 'locative' is often accompanied by the word 'media' as if it were to seeking a legitimacy in its technologic features more than in the artistry of the production of content. Instead, I'd like to place the word 'art' at the forefront of the argument, and to consider the notion of locative art as art that is spatially contextualized, art that encompasses artistic practices that draw from movement (and/or the lack of it) and location, which is their source of inspiration, content, materiality, and context. This notion can be enlarged to encompass virtual, hybridized, and non-virtual worlds, since there is a notion of spatiality in all of them, although in some artworks this notion may be expressed as an abstraction. The desire is to move away from the word 'media,' and to take a stance that defines artworks on the basis of their aesthetic merit, rather than as being hindered by the accompaniment and masquerade of words such as media, which, far from clearing the field, create complex and unwieldy taxonomies of materials, processes, and aesthetics.

This special issue, which is based on the work done by Hana Iverson and Mimi Sheller, might appear similar to the *Leonardo Electronic Almanac* special issue, Volume 14, No. 3, which was entitled "LEA Locative Media Special Issue," and which hit the 'electronic waves' in 2006. There are several reasons why it was time to produce a new issue on Locative Art, and the most important of these was the new sense of sociopolitical consciousness that pioneers of digital technologies and contemporary artists are bringing

forward. Drew Hemment wrote in his introduction to the "LEA Locative Media Special Issue":

> Artists have long been concerned with place and location, but the combination of mobile devices with positioning technologies is opening up a manifold of different ways in which geographical space can be encountered and drawn, and presenting a frame through which a wide range of spatial practices may be looked at anew. [1]

It is instead a step forward in the analysis of what has been produced and what locative art has evolved into over the past 10 years, from a nascence of anxiety and hope for its evolution, to its present form as an artistic medium gaining recognition within the complex world of contemporary fine arts.

This special issue should be read as an analysis of these recent evolutions, and of how locative *media* have engaged the world and mapped their own domains in the process of becoming locative *art*, now embedding itself within the increasingly contested realms of public space and social activism.

The media of the 'locative' experience have become less and less of prominent features of the aesthetic process and now figure as a component, but not as *the* component of spatially located and contextualized works of art.

The aesthetic practices of the contributors to this special issue have defined and continue to redefine the

vision of what locative art should be, as well as in what context it should be 'located,' and – at the same time – have challenged traditional contextual and relational interpretations of the art object and its social and political functions.

The decision to stress the elements of spatially contextualized art resides in the increased importance that public as well as private space have gained following the technological developments that erode both spaces in favor of invasion of privacy, the blurring of public boundaries, and the control of locations, bodies, and identities. This erosion comes at the hands of corporate, state, and military regimes that, by parading ideas of democracy and social wellbeing, flaunt basic human rights while increasingly enacting dictatorial forms of control and surveillance.

The blurring of the boundaries between public and private is such that the idea of concealing one's location becomes an insurrectional act, particularly under oppressive regimes such as Turkey, where knowledge of the citizenry's location is necessary to enforce restrictions on freedom of speech. Movement, speech, media, bodies, and identity appear inextricably interconnected within contemporary societies, in which personal existence is no more, and the idea of switching off – disconnecting oneself from the systems of control and surveillance – is perceived as dangerous, insurrectional, and revolutionary.

The idea of spaces that are and must be contextualized becomes extremely important when bandying about definitions of 'armchair revolutionaries' and 'click activists.' In fact, while it may be possible to recognize and identify these armchair revolutionaries and click activists in the United States and the United Kingdom, applying the label proves more difficult in other contexts; namely, countries in which the erosion of democracy is more pronounced and readily visible. Tweeting is a

dangerous activity in places like Turkey, Iran, or China, where a tweet or a click may quickly lead to the police knocking on the door, ready to enforce restrictions on freedom of speech, or, more accurately, westernized perceptions of freedom of speech disseminated over the internet that do not necessarily correspond or apply to local realities.

The current furor over whether the President of Turkey, Recep Tayyip Erdoğan, looks like Gollum, [2] the fictional character in *The Lord of the Rings* by J. R. R. Tolkien, is but one of many forms of control and crackdown. In Turkey, as elsewhere, this has created a sense of panic among the population which, by self-limiting and self-restricting its freedom, has generated a sense that the state possess a kind of digital panopticon, leading to a wide-spreading malaise of self-censorship and obedience.

This continued crackdown follows the protests at Gezi Park in 2013, after which the Turkish government apparatus refined its methods of censorship. During the Gezi Park protests, people tweeting and retweeting the news were arrested and threatened in a sweeping attempt to demonstrate the government's ability to 'locate' individuals. People with roots in the country were identified, located, and expelled by the state apparatus which targeted individuals and families who did not fit within the new neo-Ottoman agenda.

In this conflict between freedom of speech and censorship, the issues of location, as well as those artworks that use location as an aesthetic element, rise to outmost importance. The ability to locate individuals is paramount in exacting retribution, and locative media become a kind of Trojan horse that facilitates the pinpointing and identification of protesters. At the same time, locative media and augmented reality offer the opportunity to flaunt governmental oppression by layering context over controversial spaces. [3]

"There is now a menace, which is called Twitter," Erdoğan said on Sunday. "The best examples of lies can be found there. To me, social media is the worst menace to society." [4]

Erdoğan's words are reflected in Amnesty International's report, which reveals the level of intimidation employed by the Turkish government to silence opposition from a variety of sectors within civic society.

"Social media users active during the protests have been prosecuted, while attempts have been made to block the sites that carried their words and videos." [5]

It is the progressively politicized nature of space and location, as well as the act of locating, that makes locative media art political, politicized, and politicizable. [6] Hence, locative media art must be placed in the context of the political stances and struggles, or lack thereof, that will define its aesthetic, or lack of aesthetic. Conor McGarrigle recalls the Situationist International in his construction of locative situations framed as a form of alternative construction and engaged relation with life, a relation that people can define and not just passively consume.

> To counter what they saw as the banality of everyday life, they proposed actively constructing situations rather than merely passively consuming or experiencing them. Rather than describing and interpreting situations, the situationists would seek to transform them. If, as they believed, human beings are 'moulded by the situations they go through' and 'defined by their situation', then they need the power to create situations worthy of their desires rather than be limited to passive consumers of the situations in which they find themselves. [7]

In sociopolitical and philosophical terms, this analysis provides the opportunity to perceive life as being

founded on the responsibility and sense of gravitas in human action – *faber est suae quisque fortunae* – which, by stressing the possibility of construction – the *artifex* as creator – reestablishes the Situationist International within a locative art practice that constructs and reshapes life in a social context that no longer appears to afford hope.

> This definition of the participant in the constructed situation as an autonomous agent within the structure of the work and not limited to enacting a predefined script is key. I will identify locative works which exhibit this tendency, which go beyond a model of the participant being defined by the application in favour of an open model, a set of procedures or a toolkit with which participants construct their own situation to be 'lived' independently of the artist. [8]

The definition McGarrigle proposes creates a dichotomy between the sociopolitical constructs and adopted behavioral models in new media versus the open procedures of engagement that enable the *artifex* to construct situations and therefore construct his/her own destiny.

It is this transformative potential emerging from the construction and/or reconstruction of space that, as editors, Hana Iverson and Mimi Sheller want to present and argue in favor of:

> By considering the practices of process-based, socially engaged, conceptual and performance art and their relationship to activism, design and mobile art, we are able to examine the conditions of how these projects may transform place, politics, and the realm of public art. [9]

This LEA special issue is a survey that explores and aims to understand the sociopolitical possibilities of

contemporary art, and that delves into the realm of location and its contexts.

My hope is that it may offer readers the opportunity to understand the complexity of materials, processes, and contexts – as well as the contemporary responsibilities – that art practices wield in their location and construction of media outside the limitations that Marshall McLuhan defined as "rear-view mirror" approaches.

... de meo ligurrire libidost. Gaius Valerius Catullus, fragments.

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L.A. Re.Play: Mobile Network Culture in Placemaking

INTRODUCTION

Artists, social scientists, and theorists have increasingly explored mobile locative media as a new kind of social and spatial interface that changes our relation to embodiment, movement, place and location. Indeed, many artists and theorists have claimed mobile locative art as a crucial form of social experimentation and speculative enactment. In the social sciences recent work especially draws attention to cultural adoption and everyday appropriation of mobile media, the re-emerging significance of place-making and locatability, and the infrastructures, regulatory regimes, and dynamics of power that shape contexts of use. [1] [2] [3] [4] This work has drawn attention to the intersection of place-making, movement, and political aesthetics. Rowan Wilken emphasizes ideas of "place as relational, as inherently connected to mobility, and as constantly worked out through mundane practice," [5] drawing on Tim Cresswell's studies of being "on the move," [6] Larissa Hjorth's work on "mobile intimacy," [7] Tim Ingold's idea of "ambulatory knowing," [8] and Ingrid Richardson's work on interactive media and forms of "visceral awareness," [9] amongst others. All of these contributions to theorizing mobile locative media are particularly relevant when it comes to interpreting recent works in mobile locative art.

In the arts and culture fields the debate on mobile media to date has focused on the creative potential of mobile locative media and ubiquitous computing, its cultural impact, and critical responses to mobile digital art. [10] [11] [12] Some of the most interesting questions concern how new mobile media can change relations between embodiment, place, and spatial awareness, echoing these debates in the social sciences. For example, media curator and theorist Christiane Paul highlights the importance of the digitally-enhanced body as a new kind of interface:

> [D]igital technologies have expanded the agency enabled by our embodied condition: our bodies can function as interfaces in navigating virtual environments; avatars can be understood as a virtual embodiment; wearable computing can establish a technologized connectivity between bodies; and mobile devices can function as technological extension of embodiment, connecting us to location-based information and enhancing awareness of our environment or "social body." [13]

Given the significance of artists in the debates about mobile locative media [14] [15] (see Southern in this issue), we believe it is a productive time to further explore how artworks using the new contexts afforded by mobile locative media are engaging new kinds of hybrid embodied/digital interactions with place, location, and movement.

How exactly do mobile digital technologies expand the agency of our embodied condition? In 2002, Australian media theorist Ross Gibson was asked what will be the artistry of the future; he replied that "artists will supply us with the beguiling processes of transformation … artists won't be fabricating objects so much as experiences – they will offer us intensely 'moving' immersion in (or perhaps beyond) the objective world. This immersion will be so *moving* that the 'objective world' will cease to be sensible in the ways we thought normal." [16] What will exist as art in this future vision? How does mobile art reconfigure objects, subjects, place, space and time? How does mobility extend the discussion around media art through a broader reconfiguration of cognition? As Claire Bishop asks, what does it mean "to think, see and filter affect through the digital"? [17] If the physical world is the ground for the affect produced by the digital, then how do the emerging art practices of mobile locative media immerse participants in site-specificity as well as distant networked places, and unfold local temporalities as well as deeper collective times and histories?

In this special issue we want to argue for the need to radically re-think the genealogy, purposes, and affects of mobile art, in an effort to enlarge the critical vocabulary for the discussion of "digital art," and the divides that it encounters. Arising out of a double session on *Mobile Art: The Aesthetics of Mobile Network Culture in Place Making,* and the associated mobile art exhibition *L.A. Re.Play*, co-organized and co-curated by Hana Iverson and Mimi Sheller, with assistance from Jeremy Hight – and held at UCLA, the Art Center College of Design, and the Los Angeles Convention Center as part of the College Art Association Centennial Conference (Los Angeles, February, 2012) – this project brought together some of the leading U.S. and international artists working with mobile and geo-locative media today. This concentrated series of events, along with this special issue of LEA, provides a platform and situation to reflect upon mobile media art today: where it has come from, how it is being practiced, and where it is heading.

We intend to move beyond a geo-locational or screen-based focus (that has attracted the attention of some artists due to the proliferation of smart-phones) to address a body of works that extend outward to collective experiences of place. Mobile media art is one of the key arenas in which emergent interactions with the embodied and sensory dimensions of place, movement and presence itself are being explored. Crucially, it can be understood as connected to wider histories of performance art, relational art, immersive theater, experimental video, sound art, and socially engaged public art. Mobile art includes a diverse set of practices that might involve sound walks, psychogeographic drifts, site-specific storytelling, public annotation, digital graffiti, collaborative cartography, or more complex "mixed-reality" interactions. It tends to engage the body, physical location, digital interface, and social relations both near and distant, sometimes in terms of what one contributor calls "relational architecture." Through its unique visual, sonic, haptic, social and spatial affordances, mobile art provides a sensory engagement with virtual and material surroundings, mediated through the participant's embodied sensations augmented by digital technology. Featured at international festivals such as the *International Symposium on Electronic Art* (ISEA), *FutureEverything*, *Conflux* and *Radiator,* it also offers an important locus for thinking about new kinds of social engagement with other people, collectives, or publics.

In introducing this special issue we will focus on three key themes that emerge out of this body of work: first, the ways in which mobile art is socially networked and participatory, often involving the creative collaboration between artists, participants and the broader public, and what the implications of this are; second, the crucial ways in which mobile art engages with location, augmented physical presence, and sensory perceptions of place, eliciting new experiences of "hybrid space" as both a bodily and more-than-bodily experience; and third, the political possibilities for mobile locative media to add new dimensionality to public space, and thereby push the boundaries of civic

engagement and politics in mobile network culture beyond its current limits. Interspersed throughout this introductory discussion we describe and locate the specific essays in the special issue, as well as noting some of the art works in the *L.A. Re.Play* exhibition. The issue itself includes a range of materials generated out of the CAA panels, the exhibition, and ongoing discussions amongst the participants, including artists' descriptions (and images) of their own work and reflection on their practice, more theoretical and historically informed analysis of aspects of mobile and networked art, interviews with artists and between co-participants in the project, and creative writing that emerged out of this year-long process.

SOCIALLY NETWORKED AND PARTICIPATORY MOBILE ART

The notion of participatory art has been trying in different ways to enlarge the consideration of art and aesthetics for more than thirty years. Mobile art, like other new media art, has a strong relationship to politically and socially engaged art in that both fields rely on "a highly critical and informed view of interaction, participation and collaboration." [18] The works we present will examine these conditions in more depth. Mobile art often happens outside the space of the gallery or museum, and without any intervening art object, as such, it may be "locative" yet hard to locate. It may appear on hand-held screens, or computer screens, often with the addition of speakers, headphones, or earbuds, but it might also extend far beyond these devices into a wider experiential realm; it may engage with the "virtual" realm, as well as mobilizing various kinds of narrative imagination and imaginaries of place; it may address the present embodied context, even as it interweaves it with histories or futures.

Emergent mobile art forms are able to take seemingly disparate elements and make sense of them to create a coherent yet unique experience for the viewer, listener, or participant. Many mobile art pieces are collaborative – engaging other artists or audiences in a shared vocabulary, and thereby incorporating their contribution into the whole. Umberto Eco, in his "The Poetics of Open Work" refers to open works "as those which are brought to conclusion by the performer at the same time he (or she) experiences them on an aesthetic plane." [19] These works are not open, in the sense of open to interpretation; they are open in the way in which they require participation in order to finish the act of the work itself. This is especially true of mobile artworks in which the relational ethics are a key part of the aesthetic.

The "relational turn" across many art activities and creative disciplines favors methodologies that are interactive, process-oriented rather than outcome-oriented, and open in Eco's terms. "Situated engagement," for example, is a theoretical frame for a participatory design approach that uses mobile technologies to focus on and design with micro-local neighborhoods, in living contexts that invite social participation and are often oriented toward social change and justice. Critic and curator Mimi Zeiger notes the link between "socially engaged art" and "tactical urbanism," which have also been embraced as more mobile and fleeting engagements with urban space:

[M]any activist designers have embraced "tactical urbanism" as the go-to descriptor (see the recently published and downloadable guidebook Tactical Urbanism 2: Short-Term Action, Long-Term Change. [20] [..] these projects are oppositional to the conventional operations – or strategies – of urban planners. Flexible and small scale, often temporary and with limited budgets, tactical projects take advantage of "chance offerings" – public spaces,

empty lots, municipal loopholes. They deploy the fleetness and mobility described in [Michel de Certeau's] The Practice of Everyday Life. [21]

Likewise, mobile art can be said to enter the urban realm in a tactical way, making use of existing spatial patterns and routes, handheld devices and forms of navigation, modes of watching and listening, yet bending these towards other purposes. It creates a new relation to place, drawing the participant into a playful and potentially awakened form of engagement; part serendipity, part chance collage, the accidents of mobilized perception form a newly mediated kind of "exquisite corpse" in a surreal game of adventure as artistic venture.

Many of the works in *L.A. Re.Play*, and those discussed in the essays in this special issue, create new modes of creative co-production and networked participation in the city, and require participation in order to be accessed. Each one depends upon its context in the public realm, and plays upon the interdependence of digital and physical experiences, which activates a renewed sense of place and flexible relationship to cartography. Various kinds of soundwalks, along with mobile Augmented Reality, distribute mobile art across a walkable terrain whereby a series of situated visual and sonic elements can be accessed and experienced by an ambulatory audience. Such works have their roots in both land art and sonic artwork, as explored further in the essay contributed by Ksenia Federova on the "sublime" potential of sound. Artist Teri Rueb, for example, whose work was presented in *L.A. Re.Play* and in an essay here, explores in her mobile auditory works "a thinking and doing landscape... to define a radically expanded field in which to consider embodied interaction and mobile media." Experiencing her work helps us "to think bodies, sensations, space and time together." [22] Several artists working with mobile media draw on the history of

psychogeography, originally set in motion as a surrealist experiment with the city through the "derive," a drifting serendipity of encounter, while others lean towards mobile gaming. [23]

The artists working with mobile psycho-geography create new ways to navigate choreographies of place, now augmented with mobile and locational technologies. For example, Leila Nadir and Cary Peppermint of *ecoarttech* present their piece "Indeterminate Hikes+," which "acts as both locative artwork and practice-based inquiry into the imagination of public place and the environment in the context of networked mobility and ubiquitous computing devices." Aesthetically, though, their work is not about the technology or the mobile experience itself, but takes inspiration from Guy Debord's psychogeography, Felix Guattari's lines of flight, John Cage's random yet structured processes, and Michel Foucault's radical ethics of the self. Likewise, Australian architect Ian Woodcock discusses his collaborative works "PastCityFuture" and "en route," which "uses locative technologies, psychogeographic techniques and urban choreography to create in participants a heightened awareness of presence and context, the here and now." So the movements generated in these pieces occur both outside as a transit through space, and inside as a transformative state of being in place.

Choreographies here intersect with cartographies, which emerge as a key terrain for exploration of the digital co-production of space. Once new, but now increasingly routine, digital technologies such as Geo-Positioned Satellite (GPS) navigation systems and popular applications such as Google Earth have transformed the experience of the map as an interactive, dynamic, and multi-scalar interface, as noted especially in the essay by Dutch artists Esther Polak and Ivar Van Bekkum, which describes their project of redeploying Google Earth as an artistic medium. Their

piece A Tom Tom Opera takes the viewer on a drive through a landscape accompanied by a satellite navigation-inspired choral soundtrack, which speeds past with "Doppler effect," culminating in the visual and sonic crescendo of a crash. They ask: "What happens when people move through public space, listening to an electronic voice which is controlled by an invisible network of information systems?" As a kind of opera situated on the highway, the "visualisation is based on a GPS-track and animated directly in Google Earth, using its digital cartography as a worldwide, spatial opera-stage." Maps, routes and cartographies are also explored by Robbins and Lambert, whose work "I-5 Passing" represents the atmosphere of a drive along Interstate 5, running between Los Angeles and San Francisco, as a representation of the mobile space of a particular kind of California culture. Both pieces explore the affects of digital cultures blended with cultures of automobility and the re-mixing of past and present temporalities.

Jeremy Hight also contributes to the issue with a meditation on the city of Los Angeles, reminding us of its many pasts, taking its measure, unfurling its maps. Encompassing the geological, the archaeological, the historical, and the creative, this journey through the L.A. of the imagination replays in our minds, transforming the familiar cityscape into a textured urban fabric that is "mutable, surreal, disruptive and often enchanting." [24] There are many ways of moving with and through "virtual" media that when coupled with narrative and stories seek to re-enchant the disenchanted landscape of the technologically-scripted non-place. Hight's creative writing piece reminds us that cartographies are also closely related to what Sawchuk and Thulin in their contribution refer to as "chorographies": "conceived of as a way to reconsider the temporal and affective dynamics of place through the practice of writing, reflection, and artistic practice."

They draw out the tension between this affective dynamics of meaningful place and the "representational fiction of the pinpoint *within* the mapping process and the implications of this fiction for locative media artists, designers and the publics we desire to engage." To pinpoint a location does not make it a "place" until it is enacted in relation to a temporal and social context, and a single location may be unstable, and part of many such intersecting contexts.

In effect the participatory, experiential realm of mobile, locative, situated engagement not only completes the circuit of the creative act, but also redefines the consciousness, experience and agency of the participant. The artists and theorists included in this special issue engage, subvert and recombine our perceptions of place, building on traditions of Social Practice Art and Relational Art, but also engaging forms of participatory theater, experimental cinema, and collective narrative. Mobile art in this sense incorporates audiences – calling attention to their very corporeality and social/spatial situatedness – often in challenging ways. Many of these works combine evocative digital imagery, sound walks, mobile narrative, and site specificity, yet they do not necessarily require a high-tech "sentient city" [25] to make them work. They also can be distinguished from more commercial or simply entertaining forms of mobile pervasive gaming although there can be a blurring of the two areas, as found in the series of immersive theater and mobile game works by the collective Blast Theory. [26]

In re-configuring contemporary "technoscapes" and "mediascapes" enacted through the relational embodied praxis of mobile art, such works re-set or re-play "modernity at large" in new ways. [27] Mobile locative art evokes stories and creates new affordances for people to turn public spaces into meaningful places, to turn designed environments into new kinds of public experience, and to turn software interaction into potentially

critical praxis. This leads to the next key element that we want to highlight: the radical mutation that mobile art can offer to our experience of space itself, through the production of a sense of immersion within digitally networked and "hybrid" place as we move through the physical world. [28]

HYBRID SPACE AND MOBILE AUGMENTED REALITIES

Mobile media artworks are at once definable and indefinable. They suspend performers and participants in a tension around co-presence and mediated interactions that defy formal modes of presentation. Many works engage, subvert and recombine our experience, perceptions, and interactions with place and location by drawing upon elements of communication and sense perception that are both immediately present and mediated by technology (sight, sound, narrative, affect, memory, history). In this issue, Jason Farman's analysis of Simon Faithfull's performance art piece, *0.00 Navigation*, for example, notes the relation between physical objects (such as fences, houses) and virtual objects (such as GPS coordinates, or the Prime Meridian) in a kind of oscillating experiential space. Mobile media artists challenge and equip us to activate new social practices and performances via "hybrid spaces" [29] that blur the distinction between physical and digital, bodily and virtual, artwork and everyday space, creator and audience. Practitioners take it as given that through everyday practices with wireless networks and mobile social media, people are creating new ways of interacting with others, with places, and with screens while moving, or pausing in movement. Emerging practices of "mobile mediality" – understood as a new form of flexible, digitally mediated spatiality [30] – are accomplished in motion, just as the artworks exloring it are not simply new apps, but are experiential happenings, performative interactional events. As such, they have implications for embodied perception.

Mobile arts practices that engage with our increasingly software-embedded and digitally augmented urbanism help to create a greater awareness of what some describe as "remediated" space, [31] "networked place," [32] or "hybrid space." [33] Media theorist Adriana de Souza e Silva, in her studies of mobile locative networks and mobile gaming, argues that "Hybrid space abrogates the distinction between the physical and the digital through the mix of social practices that occur simultaneously in digital and in physical spaces." [34] It is not one or the other, but both at once. Jay Bolter and Richard Grusin in their book *Remediation: Understanding New Media* draw a distinction between immediacy and hypermediacy. The idea of transparent immediacy, or media proposed as "interfaceless" and immersive, occurs in earlier imaginaries of Virtual Reality (VR), imagined as drawing the participant into another world. Hypermediacy, on the other hand, involves a mix or juxtaposition of elements, both digital and physical, being in this sense more like Augmented Reality (AR). [35]

In contrast to ideas of immersive media, therefore, the experience of hypermediated digital space is that it is rapidly dissolving into or permeating everyday life, especially through mobile devices. Elizabeth Grosz, in her book *Architecture from the Outside: Essays on Virtual and Real Space* argues that this dissolve takes place at the level of the perceptual, where there is a "change in our perceptions of materiality, space and information, which is bound directly to or indirectly to affect how we understand architecture, habitation and the built environment." [36] For artworks created within this hypermediated hybrid environment, the point is to create works that exist in this delimited realm both perceptually and actually. The issues of becoming remain continually processual. Such artworks have a kind of unstable or flickering presence, even while accessing multiple levels of "reality." They might involve what Paula Levine in her contribution refers

to as "elastic geographies," in which one cartography is displaced onto another to create a blurred experience of both at once, as in her work *Shadows from Another Place: San Franscico←>Baghdad* (2004). Or the materiality of digital media might involve adapting to weather, noise, and gestures within a kinaesthetic field, even as one follows an abstract GPS coordinate depicted as a blinking dot on a screen, as Sawchuk and Thulin explore in their analysis of works like *Lost Rivers* and *Montreal in/accessible*, and contributor Jen Southern explores in works such as *CoMob*.

The mobile media artists who interest us are precisely those who are exploring how to create or move within these hybrid spaces of amplified (hypermediated) reality via new modes of open (yet critically attuned) engagement with embodied experience, with urban and natural landscapes, and with digitally-mediated public space. Southern, in her contribution to this issue, delineates six elements of "locative awareness" that includes a heightened sensitivity to being situated, embodied, relational, networked, experimental, and multiple. These embodied and networked engagements with hybrid experiences transform the familiar cityscape (or, in some cases, non-urban landscape) through an intensified awareness of the urban fabric, its multiple architectures, streetscapes, and social flux, as strangely mutable, perhaps disruptive or uncanny, even enchanting. Ecoarttech's "Indeter-minateHikes+," for example, re-enchants the city by importing into it an experience of the natural:

This mobile app imports the rhetoric of wilderness into virtually any place accessible by Google Maps, creates hikes, and encourages its hiker-participants to treat the locales they encounter as spaces worthy of the attention accorded to sublime landscapes, such as canyons and gorges. Thus the ecological wonder usually associated with "natural" spaces, such as national parks, is re-appropriated

here to renew awareness of the often-disregarded spaces in our culture that also need attention, such as alleyways, highways, and garbage dumps. This project extends ecological awareness into mobile spaces, into the places humans actually live, democratizing conversations about environmental sustainability and ecological management that too often occur only in a scientific context.

Contributor Martha Ladly also considers how mobile technologies "are grounded in place, creating responsive hybrid spaces in which the real, embodied, personal experiences and stories of the artist and the audience may create a powerful, participatory opportunity." Mobile art thus addresses crucial theoretical questions about how and where participatory politics takes place, when the relation between physical space, networked space, and the growing experience of hybrid space involves the physical and the digital as co-synchronous sites of engagement, conversation, and responsive communication.

By provoking questions about the possibilities and limits of the new borders between the physical and the virtual, the real and the imaginary, the tactile and the tactical – many mobile artworks reinvent a relationship to aesthetic digital objects, interrogate public presence and memory, and deploy new strategies for intervention. Teri Rueb's soundwalking piece *Elsewhere : Anderswo* is a site-specific sound installation across two sites. Visitors carry small GPS-equipped computers and wear headphones. Sounds play automatically in response to their movements in the landscape. As they move through layer upon layer of responsive sound, [she writes] "little elsewheres" are grafted onto the landscape in the form of variously local and foreign, synchronous and asynchronous "soundtracks." Place is a verb. Place making and the meaning of place, "placings," unfold as a continuous dialogue between the physical and built environment and its inhabitants.

Landscape is a special kind of "placing." Yet her interventions she argues, are also "displacements," which introduce multiple sensory and perceptual layers into the temporalities and subjectivities of moving through a landscape.

Participants in soundwalks can experience an embodied engagement with place and, in some cases, a re-mediated performance of everyday actions that reorganize the experience of space and time. This type of work is situated in the embodied sensory experience of landscape, but also lends itself to collective sound-mapping and the production of new mixed-reality soundscapes and mobile acoustic ecologies. Ross Gibson notes that "The rhythms with which and within which a person can *perceive*: the time spans in which we sense our acuity, these time spans are becoming ever more elastic." [37] Mobile art becomes a way to perceive this elasticity of temporality, and reflect upon movement-space as we co-create it. And such elasticity of perception plays upon the "displacements" noted by Rueb and the "entanglements" alluded to by Southern, both of whom use GPS to subtly interfere with perceptions of place and awareness of various kinds of placement.

Locative media art has the capacity to bring together multiple rhythms of landscape that combine the live, temporal, and ephemeral aspects of a socially mapped place-ment. Picking up on Henri Lefebvre's (2004) [38] concept of rhythmanalysis, geographer Tim Edensor argues that "rhythmanalysis elucidates how places possess no essence but are ceaselessly (re) constituted out of their connections... Places are thus continually (re)produced through the mobile flows which course through and around them, bringing together ephemeral, contingent and relatively stable arrangements of people, energy and matter." [39] Through a kinaesthetic sense of bodily motion we apprehend time and space, but through the inter-

ventions of mobile art we also inhabit it differently. Through sensory perception and physical mass, we orient ourselves toward the world, and create both place and displacement through the frictions and rhythms of our mediated movement. Movements have different rhythms, and those rhythms of movement flow through cities and landscapes, shaping their feel, sculpting their textures, and making places. [40] For Lefebvre such intersecting trajectories and temporalities even included the polyrhythms of trees, flowers, birds, insects, and the movement of the earth, sun and soil down to the molecular and atomic levels.

So it is the coming and going of all of these mobile assemblages and interweaving rhythms that mobile artists are exploring as they experiment with the new "movement-space," [41] a dynamic digitally-mediated spatial awareness mediating between bodies, architectures, and natures. Social theorists argue that there are ambivalent and contested "affordances" that "stem from the reciprocity between the environment and the organism, deriving from how people are kinaesthetically active within their world." [42] "Motion and emotion" are "kinaesthetically intertwined and produced together through a conjunction of bodies, technologies, and cultural practices." [43] The chorographies and choreographies of mobile art become a way of conjoining the affective experience of place and the effects of hypermediated locatability. Highlighting temporality becomes a way of re-thinking location, while the acute awareness of matching a physical location with a virtual object while using mobile locative media assists in a re-thinking of temporality and place. In some cases this new orientation is connected to a politics of place, location, and embodiment. Our final concern is to ask what the political implications are of some of the recent entanglements of mobility, location, and public art.

POLITICAL ART IN NETWORKED PUBLIC SPACE

Mobile artists are exploring how to create hybrid spaces of amplified reality as new modes of open engagement with embodied experience and public space. Ultimately such projects may transform place, politics, social research, and art itself, its modes of practice and forms of dissemination and engagement. Simon Sheikh in his essay "In the Place of the Public Sphere? Or the world in Fragments" refers to "counter-publics" that "entail a reversal of existing practices into other spaces and identities and practices." [44] While the notion of counter-publics has a long history [45] there is a shifting sense of publics today, and a shifting understanding of what is public, due to a blurring of public and private as one enfolds into the other. [46] Like other critics of the Habermasian public sphere such as Iris Marion Young, Nancy Fraser, Lauren Berlant and Michael Warner, Sheikh goes on to call for this counter-public to be "relational, articulatory and communicatory." [47] As new hybrid spaces and networked places emerge from contemporary practice, they have the potential to transform modes of political engagement and participation in the public sphere and to generate transformative hybrid approaches to the natural-social-spatial-cultural matrix in which we move, dwell, and create the future. How does this new public become a platform for different and oppositional subjectivities, politics and economies, and thereby frame a new public art?

One crucial political intervention of mobile art concerns the ways in which it brings the virtual, the augmented, and the digital into conversation with the production of bodies, spaces, sensation and affect. Sarah Drury, in particular, explores in her essay the forms of "body spatiality" that emerge in mobile augmented reality artworks. She draws on Elizabeth Grosz's work to describe the "zone of sensitivity" that occur between an individual body and the spaces it inhabits. [48] Mobile AR works can intervene in such internalized body images by reconfiguring

the spaces with which they interact. As geographer Peter Merriman notes, "writings on mobility and non-representational theory" have begun to trace "the more-than-representational, performative, expressive improvisations of bodies-in-movement-in-spaces" by describing "the production of complex entwined performativities, materialities, mobilities and affects of *both* human embodied subjects *and* the spaces/places/landscapes/environments which are inhabited, traversed, and perceived." [49] Mobile augmented reality opens up our perception and bodily experience of the spaces through which we move, allowing the materialities and performativies of buildings, streets, surfaces, and other non-human elements of space to evoke a new kind of body spatiality – which has political implications for individual and collective agency and capacities to mobilize.

Some mobile artworks raise personal and political questions about what constitutes a public space, or a public sphere, while others address the more dystopian elements of surveillance, inclusion/exclusion, and (dis)connection in the digital era. When the group Manifest AR uses site-specific augmented reality digital imaging as an interventionist public art to infiltrate highly regulated public spaces such as Tianamen Square in China, or the US-Mexico border where immigrants are dying in the desert, or even the Museum of Modern Art in an illicit AR exhibit, it engages the overlaying quality of augmented reality to seed our political imagination with new possibilities. As they describe it:

The group sees this medium as a way of transforming public space and institutions by installing virtual objects, which respond to and overlay the configuration of located physical meaning. [..] Whereas the public square was once the quintessential place to air grievances, display solidarity, express difference, celebrate similarity, remember, mourn, and reinforce shared values of right and wrong, it is no

longer the only anchor for interactions in the public realm. That geography has been relocated to a novel terrain, one that encourages exploration of mobile location based public art. Moreover, public space is now truly open, as artworks can be placed anywhere in the world, without prior permission from government or private authorities – with profound implications for art in the public sphere and the discourse that surrounds it.

Other works present other kinds of opportunities to re.think, re.experience, and re.play an awareness of space, landscape and the city that spans the local and the global, the public and the intimate, calling into question the bases for such distinctions and their contemporary blurring. Artist Jenny Marketou, interviewed in this issue, uses "the city as a space and the electronic communication networks as platforms and creative tools for intervention and connection between exhibition space, public space and social interaction." Notably her work engages with the phenomena of drone-like surveillance cameras floating above public space, closed circuit television, and the mixture of these low-resolution moving image technologies with globally networked computers and social media platforms; all of which are enacted on participating viewers crossing through public spaces of the city. She is concerned with what the new architecture and protocols of wireless networks do in terms of public surveillance, data mapping, knowledge, information and communication, issues which have become central in the field of mobile media studies. [50] Locatability has become increasingly commoditized (as something apps and big data companies trade in) and politicized (placed under sous-veillance or resisted by masking location); thus mobile locative art can remind us of what is at stake in being un/locatable. [51]

Paula Levine's *The Wall - The World*, which was displayed as part of *L.A. Re.Play*, allows viewers to

transport the "security wall" that Israel built to control Palestinian territories on the West Bank, effecting an imaginary mobility through a transposed experience of the politics of place. Focusing on a small segment of the barrier, about a 15- mile area just east of Jerusalem extending between Abu Dis in the south and Qalandiya in the north, *The Wall - The World* lets the viewer envision this 15-mile segment of the West Bank wall transposed onto any city in the world in Google Earth. The wall appears on the left side of the screen in the West Bank, and on the right side of the screen, in the viewer's city of choice. Using Google Earth's navigation tools as a kind of imaginary mobility, viewers can explore the impact of the structure in both areas simultaneously. *The Wall - The World* is part of Shadows From Another Place, a series of work that maps the impact of distant events in local terms, on local ground. It produces an effect that Ricardo Dominguez of Electronic Disturbance Theater (EDT) calls "lobal," in which the global is processed through and tamed within the local, in contrast to either the predominance of the global or even the "glocal," in which the local is transformed by global networks. [52]

The Transborder Immigrant Tool by EDT/b.a.n.g. lab (Ricardo Dominguez, Brett Stalbaum, Amy Sara Carroll, Micha Cárdenas, Elle Mehrmand), which was also presented in *L.A. Re.Play*, is a project designed to repurpose inexpensive mobile phones that have GPS antennas to become a compass and digital divining rod of sorts. Through the addition of software that the team designed, it can help to guide dehydrated migrants lost in the deserts of the US-Mexico border to water caches established by activists. It provides poetic nourishment as well, in the form of text messages conveying advice and inspiration. As an actual hand-held device, it serves as a practical and aesthetic intervention in the border, humanizing the harsh politics of the exclusionary international boundary; but it is also a disruption of the political space of the border *and of the*

aesthetics of the border, generating intense debate and critical thought as much as material intervention. It is a clear example of the potential for critical design and its ability to make you think. As Fernanda Duarte has noted in her interpretation of the *Transborder Immigrant Tool* as a kind of tactical media, it "constitutes a model of micropolitics in practice because their subversive and critical poetics invents alternative lines of flight, and proposes temporary and nomadic constructions without making claims for a revolutionary transformation of reality or utopian designs." 53 In this issue, Electronic Disturbance Theater (EDT) have composed another kind of creative tactical intervention in what they name the "trans [ ] border." They offer the original piece "Faust y Furioso" as a play that plays with genres, boundaries, borders and crossings. Their work is further contextualized by an interview with Ricardo Dominguez, conducted by *L.A. Re.Play* participant Leila Nadir.

We hope this set of sessions, art exhibition, and this special issue of LEA will begin to lay the groundwork for a more sophisticated critical evaluation of mobile art that is fully situated in its historical context, its contemporary practice and its future potential. By considering the practices of process-based, socially engaged, conceptual and performance art and their relationship to activism, design and mobile art, we are able to examine the conditions of how these projects may transform place, politics, and the realm of public art. Visualizing internal emotional processes and relating them to route or wayfinding; constructing narratives in a virtual and spatial locality that reveal attachments and connections; positioning oneself imaginatively and actually along a continuum of nature and technology; and exploring the ephemeral quality of technologically mediated art work all assume heightened resonance when they are located in place. 54 Mobile locative media engages strategies that work against the assumptions and stabilities of site and lo-

cation and are articulated through the interdisciplinary engagement of what has become a new entanglement of art with the social, technological, cartographic, and political implications of mobility.

ACKNOWLEDGEMENTS

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VISITING GOOGLE EARTH

GPS Art and Subjective Cartography

by

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INTRODUCTION

We were really pioneers when we began working with GPS in 2002. We had to develop the software ourselves in order to visualize the data, or we relied on unusual methods of visualization, such as a wheeled, digitally controlled robot that traced GPS tracks by dropping a trail of sand. Out of the corner of our eye we noted that the popular Google Earth also offered increasing possibilities for visualizing GPS and other location data. About six years ago we began to work with it seriously. For us, the most fascinating thing about Google Earth is that it is a copy of the real world. The space in Google Earth is not abstract; every point refers one-to-one to a real point in the real world. As an extension of that, with its unique qualities Google Earth provides a stage where realism and objectivity can be mixed in a unique way with fiction and stories, or where the two can even flow into one another. For that reason we experience working in Google Earth as something like art in public space, or outdoor theater, or actually, and as a better comparison, as like filming in public space.

We have tried asking ourselves why Google Earth really exists, but that is not an easy question to answer.

A B S T R A C T

Esther Polak and Ivar van Bekkum have been working with GPS data as artists since 2002. With this background, the program Google Earth, made available by Google without charge since 2005, is of interest to them. In this text the artists explore the visual and spatial characteristics and specific qualities of this medium. They particularly focus on the unique quality of the space that Google Earth represents and on the duality in Google Earth which arises from this: on the one hand it is a classic, objective cartographic medium, on the other a medium in which the presentation and development of very subjective stories is possible. The work that the artists make is oriented to the possibilities that Google Earth presents as a spatial platform and as a subjective "theater" in which narratives may be unfolded which have a unique relation to realty. Their works take the form of animations which can be seen as an investigation of the cinematographic possibilities of Google Earth. In this context the artists describe a number of experiments of this nature they have already done and list future work they hope to be able to carry out.

MEDIA THEORY

Why did a firm like Google, which has grown to its present status with its search engine, one day decide to buy a small software company which had developed a basic application for visual cartography, [1] to use that as the foundation for developing a virtual globe? We have asked ourselves still more questions about Google Earth which surfaced as we were working with the medium. These are the questions which we will discuss here – sometimes reaching an answer, and sometimes not.

In classic media theory as propounded by Marshall McLuhan (*The Medium is the Message*), [2] the old medium is always the content of a new medium. Thus, the content of a book is spoken language, the content of television is film, and the content of film was in turn theater. If you apply this to Google Earth, the content of Earth is the printed atlas or the three-dimensional globe. Recently there have been still more digital cartographic media created that you can argue are successors to the atlas, or to the globe. We are thinking of, for instance, the TomTom systems or smartphone

applications likes Everytrail, with which you can record your own achievements at sports and share them with others.

What is striking about Google Earth, if you compare it with these other digital cartographic tools, is that GE really has no unambiguous function for its users, other than coupling existing satellite images to one another and pasting them together into a virtual globe that precisely represents the existing world. Even if you re-move the satellite images entirely – and that can easily be done by covering the earth with a uniform, image-filling color or bizarre pattern, every place on the earth remains accessible, and can be uniquely identified via the system of coordinates. Thus, even on the abstract sphere which this would create, every place continues to be related to a place in the real world, and by using the "time line" function one can even still couple it to an exact moment in time, or timespan. [3]

VISUAL OR SPATIAL MEDIUM

The conclusion that we draw from this is that GE is not essentially a visual, but actually a spatial medium, because the unique properties of GE are primarily spatial. It is our contention that the crucial quality

of GE is that all the places that exist virtually in the program refer unambiguously to locations in the real world in their actual linear relationships – thus to real locations that exist but once at any moment. That distinguishes it from previous cartographies, but also, for instance, from 3D programs and/or mathematical spatial constructions that exist in abstract space, since in those the whole existence of real space and time, whether or not at one particular moment, are simply irrelevant.

GE is spatially interactive because it has no fixed scale; the users can themselves freely zoom in and out within the same cartography. The zoom factor is the height from which you look. Thus it is not the enlarge-ment or reduction of the image; it is taking a certain position in space. This position is specified by the user, and not by the medium itself. In addition, through its 3D construction on a sphere Google Earth has no problems with the distortions that exist in a projection, something that has always caused a radical difference between the map and the real terrain in flat, paper cartography, and made the map a visual construct. [4] The paper map is thus a reproduction, in contrast to Google Earth, which is rather a sort of coordinated virtual space.

Figure 1. Still from the Google Earth animation *BigBalloons,* Esther Polak and Ivar van Bekkum, 2011. © PolakVanBekkum, 2011. Used with permission. All animations can be found on http://www.polakvanbekkum.com/?p=729.
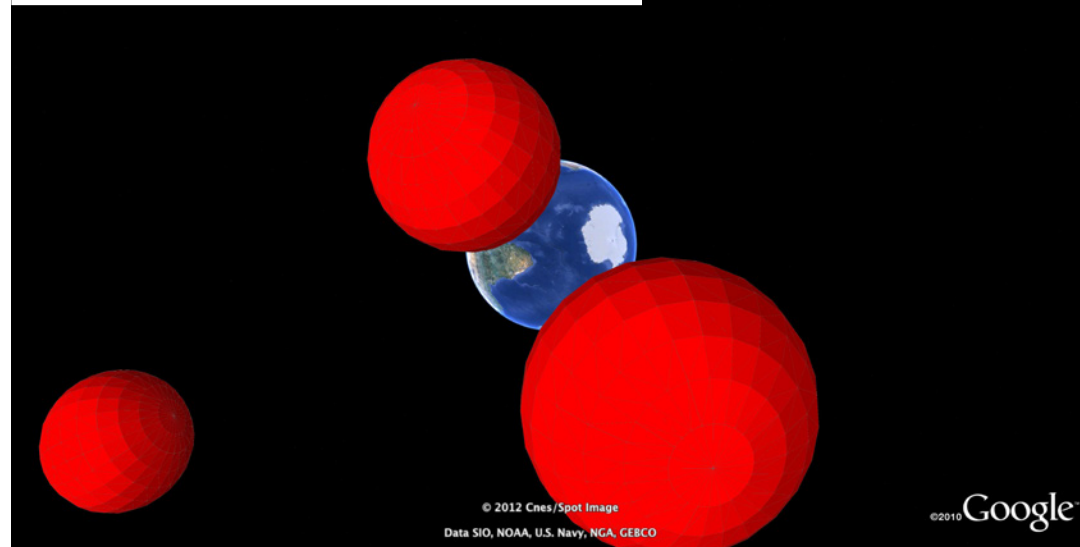
With this, the cartography of GE introduced a new relation between reality and the map, one that has somewhat the nature of a theater, where one can play out any story. The world, in this context, is an empty field on which qualities can be placed or created. On the one hand GE reflects the classic cartographic stance of apparent objective neutrality, which repre-sents an absolute, almost divine power. On the other hand GE in fact offers room for the extremely subjec-tive and extremely personal, in a way that that person-al can always be turned on and off at will. The users of GE can allow themselves to be carried along by the personal (their own, or of others), but if it all becomes too much, or simply if boredom sets in, can also just switch it off and return to the bald neutrality of the basic functionality of Google Earth. In Google Earth there is a button for the personal, the networked and the subjective.

Fundamentally, Google Earth remains a sphere tiled with satellite images from various sources. Anything more, even that which is available through Earth itself, can be turned on and off by using the "sidebar," with boxes that you can tick. It then creates a new layer, ac-tive or not, on which new information again becomes visible. That, in itself, is not the most user-friendly de-sign. It cost us a good deal of effort to arrive at an un-derstanding of precisely what could be turned on and off – but it can be done. We wonder if that failure to be user-friendly was deliberate, or whether construct-ing digital cartography as a medium is so new even for Google itself, that it was simply difficult to find the most logical solution. After all, the classic atlas (or globe), the medium that is most often considered to be the predecessor of Google Earth, did not develop in all its logic in just ten years.

SUBJECTIVE CONTENT

The tension between the objective and subjective experience in viewing the terrain has continued to fas-cinate us as we have worked more with Google Earth. For instance, if you activate the "3D buildings" layer in the program, there are multiple versions of three-dimensional constructions of existing buildings. These are precisely in the right places as they are made by people - volunteers from all over the world - who en-

joy doing this in their free time. [5] When you think your efforts are successful enough, and if you have not sur-reptitiously added something weird (in other words, if you have conformed to the pattern of proper objectiv-ity) Google approves your building, and places it in this layer for everybody to see. But if you want to build an extremely strange building, you can do that too. And you can also place that building in Google Earth, but only in your own copy, on your own hard disk. You can share that with other people via websites and blogs and such, but not in Google Earth itself.

For example, we once made a number of extra worlds, spheres that are just as large as the earth, and posi-tioned them around it (*Big Balloons*, PolakVanBek-kum, 2010) that gave us a pleasant feeling of power. But Google never accepted these spheres as existing buildings or artworks. So we can only enjoy them ourselves, or show the work in exhibitions, or sell the code that generates these spheres to you as an art-work.

There are also, however, layers in Google Earth itself that have content of considerable subjectivity supplied by users. The most notable of these is the YouTube layer. The video upload function in YouTube is owned by Google making an amalgamation of data in GE obvious enough. We are not yet entirely certain of this, but at first glance this layer does not appear to be censored. It seems to be more like a random selection of videos that have been given a location in YouTube (i.e., are geotagged) by the user, and are also available to be seen in the Google Earth layer. For instance, you can find a short clip of an anti-military demonstration held on the highest mountain on Mallorca, which, as a military zone, is not accessible for hikers. There are two different layers with GPS routes provided by indi-vidual users: Everytrail and Wikiloc. For example, you can use these to find hiking trails on the same island of Mallorca that do not appear on printed maps or in hikers' guides, but which have simply been made by those who use them, by repeatedly walking them.

With these tools anyone can make a route that he or she has recorded with a smartphone or GPS ap-paratus available for everyone else, doing so through Google Earth's own servers. In 2008 Google's blog proudly reported their collaboration with Wikiloc, a
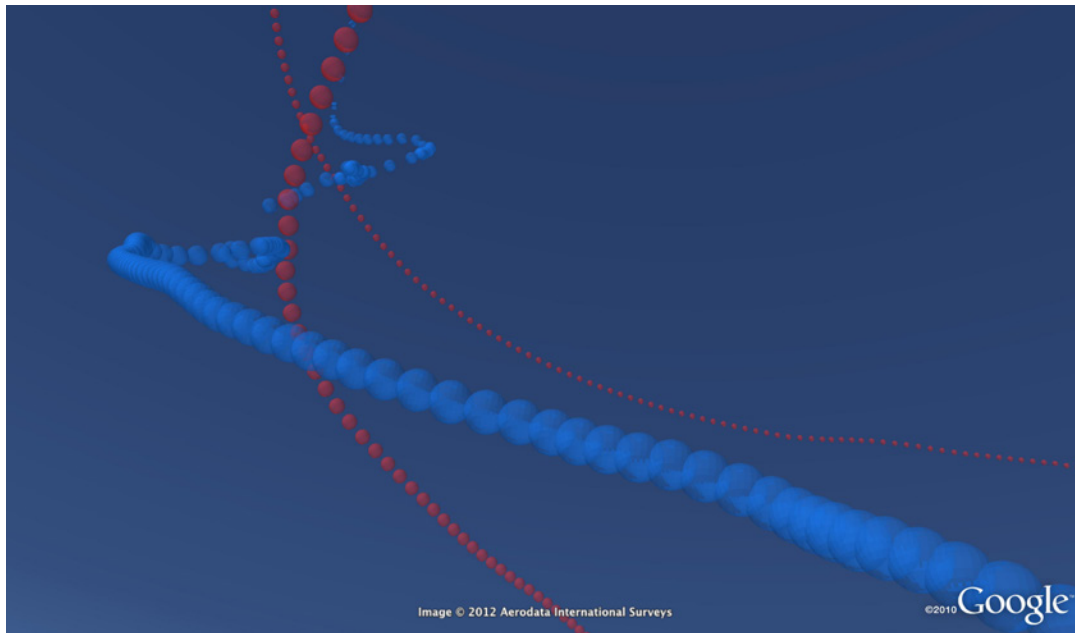
Figure 2. Still from the Google Earth animation **"***Airborne" Corinne van Egeraat,* Esther Polak and Ivar van Bekkum, 2011. © PolakVanBekkum, 2011. Used with permission.

small Spanish firm. [6] The corporate philosophy lying behind Google Earth's efforts to keep this tension between the objective and subjective elements in the Earth cartography in balance is not clear to us. Perhaps that is precisely the reason why Google Earth is a place for us to want to work: something is happening with this tension that we find extremely interesting. We ask ourselves whether Google Earth, after the World Wide Web itself, is not also an illusion of, or a real public space. After all, half of the Dutch population has GE installed on their computers, and almost no one really knows how it works and what you can do with it, and why and when – and *that* is artistically interesting.

As we have said, Google fosters (apparently deliberately) the notion of cartographic neutrality as a basis for Earth. The classic fundamental cartographic mentality (if you can call it that) of a sort of super-neutral rendering, an eye of God, albeit a God without opinions who simply reproduces the truth, seems to be honored by Google Earth. Subjective truths can have their place within Earth, so long as they can be switched off or restricted to the hard disks of users.

CONTEXT

What you can do in Earth, what you can visualize there, what you can build and how you can visualize that, is still subject to chance. Since we began our experiments we have steadily discovered new things. [7] In 2010 we made a first experiment with the re-editing of routes in time. We had a number of jogging routes that one of us had run on successive days start simultaneously, so that the jogger was retroactively running a race against himself. [8]

This was a first step toward creating a directed experience of suspense through the manipulation of cartographic data.

In a following step we began to experiment with the combination of animated GPS routes with sound. We have made an animated cartography of the GPS data from a flock of sheep in Scotland and that of the sheepdog that drove these sheep from one pasture to another, and provided it with an audio track recorded on the spot. This created a new narrative with an excitement curve. In still another following step we have investigated the potential of Google Earth for the 3D visualization of GPS data, for example in the work

"Airborne," which tells the story of someone making a parachute jump for the first time. [9]

In these examples the curve of tension in the narrative was borne by the feeling of suspense. In the work *What is done cannot be undone* we abandoned this. Here, on the contrary, we opted for a dreamy, meditative narrative structure, in which the development of a park in Amsterdam unfolds like poetic choreography. The narrative element is here supported by a cinematic soundtrack, done by the composer Huba de Graaff. [10] [11]

In all new work, new approaches arise step by step. We try very deliberately to take only one step in any work, so that the cinematographic possibilities are laid down like tiles that form a new path. In our present and future work we are not seeking to convince the viewers of the realism of the cartography or of GPS recordings, nor do we wish to immerse them in the cinematographic experience that we create. We merely want to use the medium to permit the objective cartographic quality of Google Earth as a space, and the narrative quality of Google Earth as a theater to flow into each other. What presently fascinates us the most is that in Google Earth we can tell stories that have a whole new relationship with reality. What we are doing is looking to see where the reality stops and the fiction begins. That is not a boundary, it is a border zone. We operate in that border zone, to explore its scope and to see whether viewers get carried along by the sense of reality, or whether the fiction gets the upper hand. ■

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3. Although it has a whole range of implications of its own, in this article we will not be devoting any attention to the search function in Gooogle Earth.

4. *Wikipedia*, s.v. "Map Projection," last modified February 5, 2015, http://en.wikipedia.org/wiki/Map_projection.

5. Making use of a special set of photographs of the buildings and the sketch-up program produced by Google.

6. This week we've added another layer to the Gallery in Google Earth. Spain-based Wikiloc aggregates thousands of GPS tracks for various outdoor activities provided by its growing user community.

7. See the official website of Elasticmapping (2009), http://www.elasticmapping.net/ (accessed May 6, 2013). This small website is dedicated to Esther Polak's idea of developing an editing software for GPS data.

8. See the website of Simon Faithfull, http://www.simon-faithfull.org/MobileResearch1/blog/category/1/estherpolak (accessed May 6, 2013).

9. PolakVanBekkum, "Airborne," Vimeo video, 4:38, 2013, http://vimeo.com/polakvanbekkum/airborne.

10. PolakVanBekkum, "What Is Done Cannot Be Undone," Vimeo video, 6:16, 2013, http://vimeo.com/polakvanbekkum/what-is-done-cannot-be-undone.

11. Update per 2015: This year PolakVanBekkum completed a new exploration of Google Earth in Philadelphia. See the official website of 250 Miles Crossing Philadephia, http://www.250miles.net.

I-5 PASSING …
2002–2007

by

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To go nowhere,
even to ride around in a deserted quarter or in a
crowded freeway,
now seems natural [1]

I-5 Passing, an experimental cross-disciplinary digital media project, examines the ways in which speed alters one's experience of space, time and environment. The title references vehicular motion and locative technologies that interrogate notions of mobility, its induction of mind travel and the yearnings of an overexposed telematic imaginary. Our databanks of memory, themselves transport devices, destabilize and reposition notions of linear time and fixed identities. The earlier phases of *I-5 Passing* (2002-2005) spoke of a hybrid digital media and locative project utilizing the intersections and commonalities of physical and virtual spaces created along Interstate 5, known as I-5, in California. In 2005-2007 (a pre-smartphone App world) we developed a proprietary software program offering a live sensor-based tracking of increasing levels of air and water pollution along the four-hundred mile stretch of I-5. It depicted an evolution of hyper-urbanism through rethinking
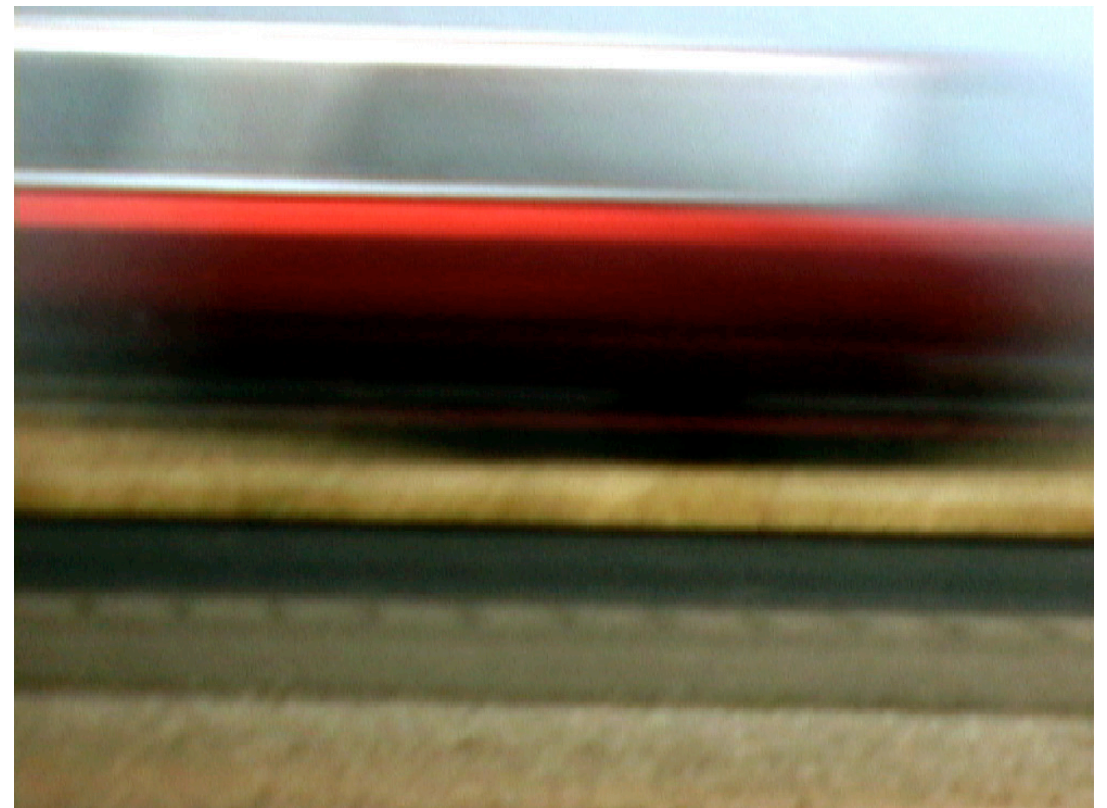

Figure 1. *107° Series*, Christiane Robbins, 2002-2003. Video still. © Christiane Robbins, Jetztzeit, 2002-2003. Used with permission.

(and representing) our relationship to the swarming dynamics of (auto)mobilized psychogeographies. The strategies inherent in *I-5 Passing* (re)imagined a public realm of passing-through culture(s), a kind of passing productive of frictions and fictions. This project summoned perspectives of mobility via a cross-disciplinary platform. Its underpinnings lie with cinematic practices, photographic imaging, digital media and locative technologies. Mobility, itself, serves as a sectional sequence transgressing the boundaries of cultural practices, urbanism and the psychogeography of the state of California itself.

Interstate 5 is the central artery running through central California – the connective tissue linking Los Angeles and the San Francisco Bay Area. A six-hour drive along this freeway offers an opportunity to rethink our presumed mobility and our movements; and in so doing to take a drive through the recent past and the near future. We ventured into food marts, foreclosures, parking lots, feedlots… scanning the ever-present Aqueduct system that bisects the state, as well as earth-toned Big Box distribution centers and outposts of Google, Apple, and Oracle – all amidst the cul-de-sacs of time and space.

It has been said that our 21st century global existence is one of perpetual motion. Certainly that notion mirrors our own lives in California today. The ability to be mobile – to possess the mobility, if you will, of people, commodities, information, and services – confronts, permeates, saturates, and defines our daily existence. The degree of our mobility is the measure by which we value our place in contemporary society. Mobility is thus an indicator of the quality of life and links with broader concepts of social theory and environmental practices. [2]

Our prosthetic capacities to relocate 'wherever,' 'whatever,' 'whenever,' 'whomever,' suggest that mobility forms a doppelgänger of contemporary society. For many in California, mobility remains more than a privileged vista – a 'buena- vista point' alongside the freeway. The all-pervasiveness of contemporary mobility is one that is perched on a crescendo of Western impetus and sited within the mythic poetic narratives

Figure 2. *Pacheco*, Christiane Robbins, 2005. Digital image, 48" × 60". © Christiane Robbins, Jetztzeit, 2005.

Figure 3. *Last West|Kern Co., Calif – Lettuce Strike*, Dorothea Lange, 1938. Silver print, 8" × 10". © The Dorothea Lange Collection, Oakland Museum of California, City of Oakland; gift of Paul S. Taylor. Used with permission.

that have embellished the 20th century. As such, in *I-5 Passing*, the contemporary is realized as only intelligible when viewed from the conditions and praxis of mobility. Within this context, one must keep in mind that to roam is to travel over or through a broad space. However, to commute is to travel within a vortex of an externally compressed and urgent interiorized bandwidth of time and space. [3]

Arguably, more than any other form of transportation, the automobile is the modus operandi that has shaped the modern city. 'Central casting' has provided us with the penultimate sampling of Los Angeles, universally recognized as the city of asphalt: the surface area of its street network surpasses that of its actual city area. Its landscape is one of intersections, guardrails, bypasses, commuter lanes, toll-roads and overpasses – it is an artificial, continually cultivated and reconfigured topography.

The dialectic space between pressing environmental concerns and cultural practices is constantly invoked,

riffed and (re)created within the presence of this project. With a nod toward artist Dorothea Lange's *US 99*, an iconic photographic series of California's Central Valley during the 1930's and Ed Ruscha's *Twenty-six Gasoline Stations*, [4] this project re-imagines cultural, urban and environmental concerns. These are envisioned via specific legacies of experimental narrative and documentary media practice associated with art-

Figure 4. *Bonsai America*, Christiane Robbins, 2005. Digital image, 48" × 60". © Christiane Robbins, Jetztzeit, 2005. Used with permission.

Figure 6. *Westley*, Christiane Robbins, 2004. Digital Image, 48"× 60". © Christiane Robbins, Jetztzeit, 2004.

ists such as Robert Frank's *America* and Sophie Calle's *No Sex Last Night*.

I-5 Passing embraces issues endemic to historical land-use and its representations; contemporary land remediation, nomadic conditions and the market/exchange values of commuting. These are positioned in direct, and at times contradictory, relation to personal narratives and subjectivities unfolding through the real-time experiences of travel and commuting.

There have been numerous cultural legacies invoked in the creation of *I-5 Passing*, primarily Ed Ruscha, Mike Davis and Reyner Banham. The 52 Food Marts segment comprises a proprietary software program, digital images series and video installation. This title, which riffs and doubles back on Ruscha's *26 Gas Stations* (1963), addresses the deteriorating 20th century myth and promise of the great American road trip which has now been supplanted by the quotidian nature of the round trip and the commute/commuter.

Figure 5. From *Twenty-six Gas Stations*, Ed Ruscha, 1963. Texaco, Vega, Texas. © Ed Ruscha. Courtesy of the artist and Gagosian Gallery. Used with permission.

To this day, the residents along I-5 remain overlooked and undervalued – existing within an ever increasingly arid landscape that inexplicably reveals a beguiling presence.

As Ruscha did with Rt. 66, we mapped the route along the I-5 with a series of photographs documenting the Food Marts sited along the freeway, thereby creating an alternative portrait of the highway, titled *52 Food Marts*.

Perhaps known to many from his 1971 text, British Architectural theorist Reyner Banham famously accepted a challenge posed to him by architectural iconoclast Cedric Price to write a treatise on Los Angeles. Within this text, *Los Angeles: The Architecture of Four Ecologies*, Banham schematizes Los Angeles as a field generated by the superimposition of transportation networks, electronic infrastructure, and landscape. [5]

An underpinning of Banham's reading of Los Angeles,

Figure 7. Reynar Banham Loves Los Angeles, 1972, BBC, Video still.

Heading South On Interstate 5

Don't try this at home, I'm a trained professional! There is no trick photography involved here. This has not been photoshopped. I really am sitting in the middle of Interstate 5, somewhere in the San Joaquin Valley. I'm not sure of the exact location but I believe it is somewhere between Kettleman City and Los Baños. The year was 1971 and Interstate 5 was under construction. There were 20 or 30 mile stretches like this that were open to the public but they would suddenly end in the middle of nowhere. Because the freeway wasn't completed all the way, hardly anyone drove on it. This photo demonstrates how little used it was. Photo by *Homer From Springfield*. [film, possibly a Kodak Instamatic]

Figure 8. *Somewhere Between*, Christiane Robbins, 2005. Digital composite image, 11" × 14". © Christiane Robbins, Jetztzeit + Homer From Springfield, 2005. Used with permission.

a key point that distinguishes his interpretation of that city from a metropolis such as New York City, is the principle that mobility takes precedence over monumentality. Banham quipped that as earlier generations of English thinkers had become fluent in Italian in order to read Dante, he now learned to drive in order to read Los Angeles. Taking his cue, driving is also the means by which *I-5 Passing* reveals the same convergence of mobility, networks and vehicular prosthetics that were of interest to Banham.

There is an inverse effect of the predominance of mobility in California that is an over-abundance of negative space. By definition a void is an absence. The most concrete example of absence in Los Angeles – in much of urbanized California, for that matter – would be the omnipresent, stereotypic proliferation of parking lots and pervasive freeway infrastructure. Many of the digital images of the I-5 Project concisely encapsulate this rather frictionless spatiality. These images feature the freeway, the stops, and little else. The protagonists in this project are the freeway, the food marts, the vast consumable inventories embed-

Figure 9. *Bobby in Lost Hills*, Christiane Robbins, 2005. Digital Image, 24" × 30". © Christiane Robbins, Jetztzeit, 2005. Used with permission.

ded in permanent transit, the off-ramps, the exit and brand-scape signage are the only operational fictions and navigational gestures represented, save empty static fields that serve as nostalgic alibis for this convergence.

Each signifier enables the reader a rather idiosyncratic focal point upon which to construct a body of individuated and collective pertinent references of urban, cinematic and mobile spatialities. This hybrid indexing results in a dynamic collision of data-driven particles representing speed, visual kinetics and narrative fictions situated within the passage of locative and augmented realities. Accordingly, I-5 offers discrete narrative spaces; an archive of California's fleeting realities. Considering the homogenous nature of the built environment in much of California, these freeways could be any freeway, anywhere. These images are constructed within a binary frame – an almost oppositional elucidation of mapping – articulating the vacuum-like, vampiric, unrelenting character of Southern California's infamous 'noir' space.
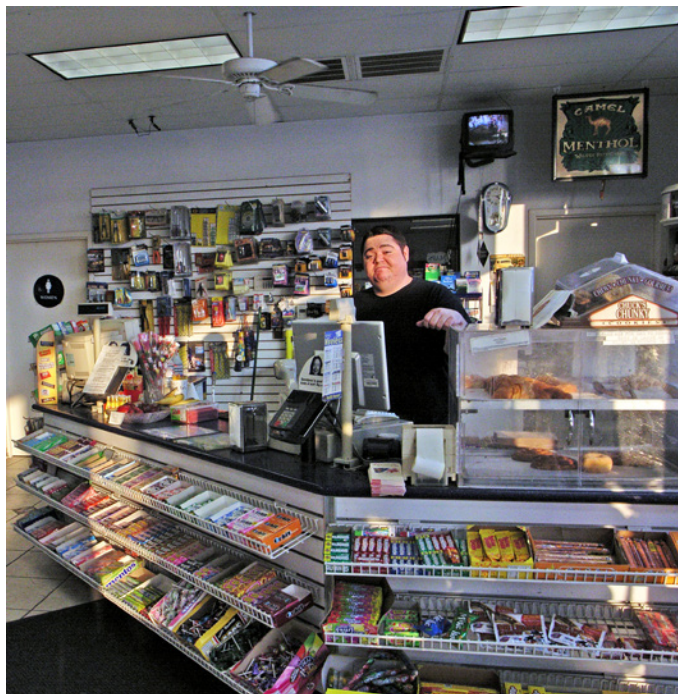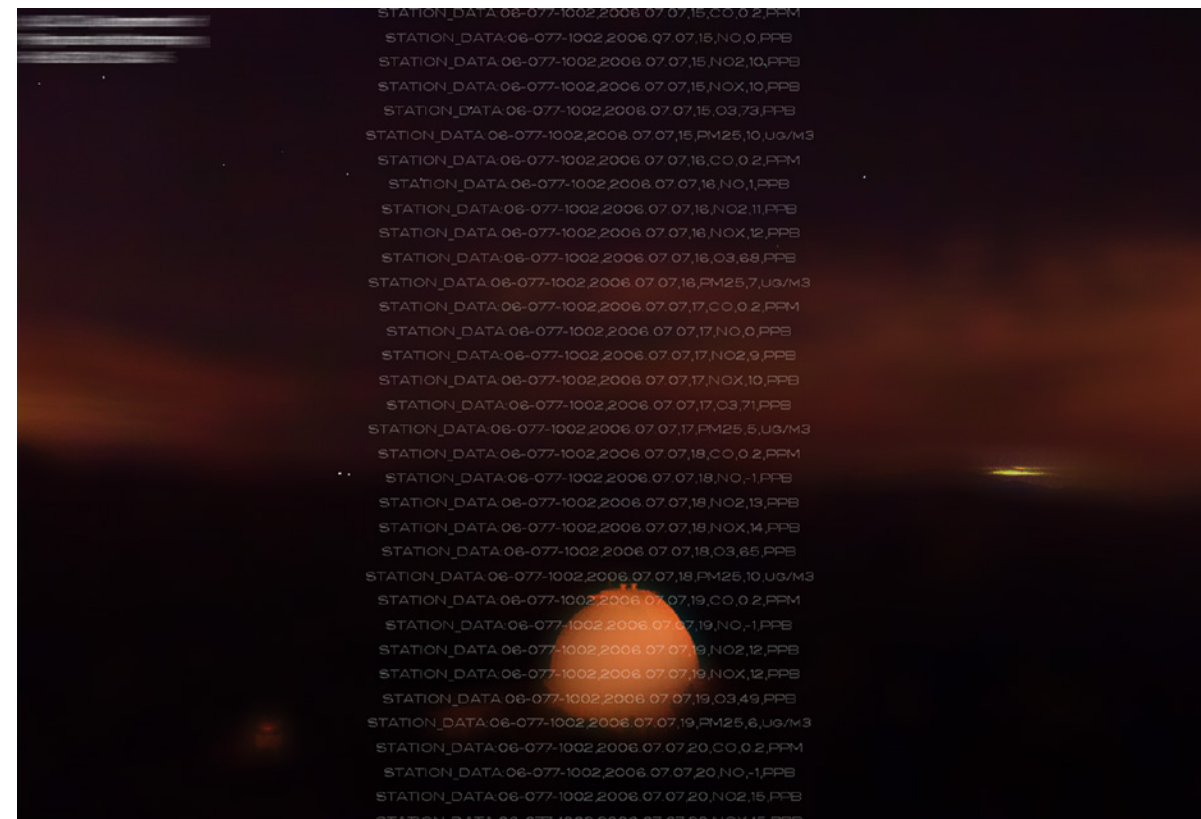

Figure 10. *I-5 Passing*, Christiane Robbins and Katherina Lambert, 2007. Media installation, within the exhibition *Edge Conditions*, San Jose Museum of Art, 2007. © Christiane Robbins, Katherina Lambert, 2007. Used with permission.

Topographical space has been truncated to that of a reductive landscape with no real landmarks and no real frame of reference, save the freeway. I-5 exploits the contestations resulting from our own intimacy with, and alienation from, these shared locative spaces and re-positions them as variables informing a media analysis of locative, mobile and temporal space in 21st century California.

It is worth noting here that the lynchpin of Californians' very existence rests upon an uneasy and often contested alliance between urban and natural systems. Urban centers were built in the midst of desert terrain, over geological formations prone to seismic activity and that are solely reliant on a water supply redirected from the Owens Valley or buried in the now privatized, corporatized aquifers, deep underground. Much to its dismay, Southern California has found itself incapable of suppressing the natural. The infinite horizon is often depicted as the signifier of California's manifest destiny. As represented in Julius Shulman's iconic mid-20th century portrait of LA, it is just as illusionary as

Figure 11. *107° Series*, Christiane Robbins, 2002-2003. Video still. © Christiane Robbins, Jetztzeit, 2002-2003. Used with permission.
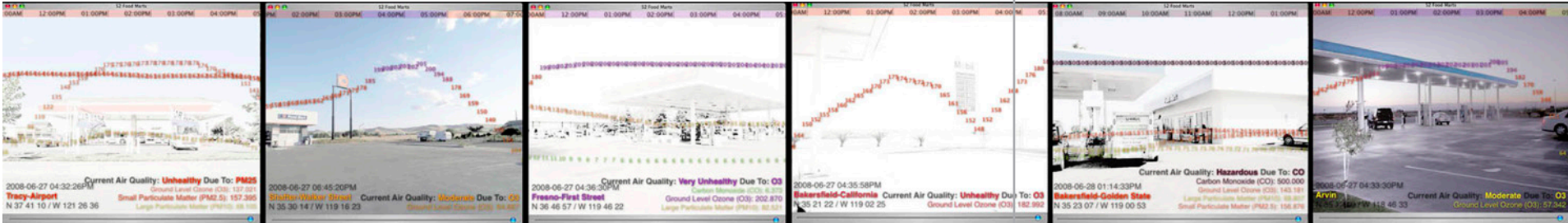
is the suggestion that Los Angeles is a complete total-ized urban system.

Conversely, the northern boundary of *I-5 Passing* is the San Francisco Bay Area. The Bay Area is a 19th century nostalgic nod toward European neo-traditional, Victo-rian architecture and city planning; one that gave birth to a rather twisted late 20th century Walden-Pond-on-LSD populated by libertarian, deadhead hackers who cultivate capital and logarithmically re-inscribe the financial vortex of the West Coast. Ironically, the Bay Area has also long been considered the laboratory from which the future – at least the digital future – has been launched ... and re-launched ... and re-launched once again.

Driving along I-5 (as do thousands of commuters) it is not immediately obvious that the car has been re-placed by another machine as the instrument and icon-ic presence of notions of progress. But the evidence is there if you only look, or hear the once familiar "Can you hear me now?" branded by Verizon Wireless in 2002. It is possible to drive south along this, if you will, "information highway," and be tethered to the space of the "digital," a continuous virtual interior (and inte-riority), a micro-world of flexible work times and user friendly sociability (you have the whole network behind you ...). A whole host of pseudo freedoms converge in the scenario of satiated commuters driving 2-3 hour one-way commutes, attached to wireless networks, hurriedly consuming ethnically diverse prefabricated happy meals at the ubiquitous 24-Hour Food Marts and espresso drive-thru's – all in the interest of total integration into today's "CA lifestyle." It becomes read-ily apparent to this new generation of migrant workers that there is no outside to this lifestyle, only a range of pre-determined choices within it. One may easily draw analogies to the virtual realm of online interaction.

As a technology of space, cities galvanize both human and non-human metabolisms, channeling them, amplifying them, concentrating them into centers, domesticating them into suburbs. The question that would animate much of Virilio's subsequent work is:
how have these core functions of the city been as-sumed by other dromological media? [6]

What we have come to find is that a new kind of (edge) city is being incubated within this scattering, and is projected back into the two hubs: the metropolis of the Bay Area and the Los Angeles Basin, accelerating their tendency towards entropy while also multiplying their density.

A familiar strangeness and a dense emptiness are their greatest assets. It is not that ex-urban sprawl and to-day's lifestyle are that alienating; it is simply that they are not alienating enough. To manage their disloca-tions, both actively seek out integration into the great-er whole of what has been called a village – suburban or global – in the interest of maximum performance and output with a minimum of dissent.

In California we find ourselves now living in a "flat-space" where 20th century notions of living have taken on wholly different and contested meanings. Whereas "flat space" once evinced a topographical description of the Central Valley, it now references an intensified agglomeration of big box stores, high-way infrastructure and parking lots in which space is corporate, a Tyvek wrapped sophistic self-image of hyper-efficiency. It is a space now teeming with power centers, car-cooning, dashboard dining and fast-food clusters, which vainly impersonate the edges of quaint 20th century towns and clusters along Highway 99.

The question soon becomes, "Where does one find oneself amidst the multi-channel, hermetically sealed, and wired living fueled by such an existence?" This "Main Street of California " [7] finds itself in a cultural moment hinged on the precipice of an unprecedented and dramatic, almost carnivalistic, upheaval. One could easily state that it is a moment which may become unrecognizable in the next; a future that houses resi-dents alien to themselves; a moment from which the future has been launched; and a future that remains strangely familiar, almost as if it had been scripted for our consumption. Hovering in the cloud is a promise of a counter-future to that which has been projected by the values of consumer confidence and technological progress.com. As we pass through miles of over-fed Tyvek Home-wrapped structures amidst pastoral fields of cotton, almonds, oranges and grapevines, we've seen flashes of a new form of urbanity that gazes back on the modern metropolis – the city of strang-ers – with a fond respect, all the while looking toward this strangely familiar future that remains a work-in-progress. It has been one hundred years since the archetypal subject of that metropolis was discovered: "the Stranger," cousin of the aimless streetwalker, the Flaneur. Now, with the eclipse of the modern period and attendant to these changes, a dialectical tension has arisen between modernism and early 21st century critical practices. It is possible that the archetypal sub-ject of the new post-metropolis is the Resident Alien, a subject on the run but stuck in traffic, going nowhere in particular, but not quite standing still. ■

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