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.

L.A.
Re.Play

MOBILE NETWORK
CULTURE IN
PLACEMAKING

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

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

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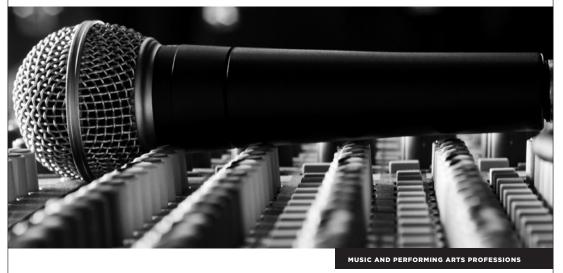acknowledges the kind support
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Meanderings and Reflections on Locative Art

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 smartphones) 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 "IndeterminateHikes+," 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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Narrative in Hybrid Mobile Environments

by

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A B S T R A C T

Personal digital technologies have become the tools of reproduction for personal narration and dissemination of broader cultural commentary. Mobile social media enables individuals to function as self-promoters and public commentators, with practices that offer a personal and often very explicit engagement between the self and technology. Narrative dissemination can also make a contribution to a larger collective memory or mood, speaking back to aspects of culture at large. Communications become entangled and imbued with social currency as they are referenced, added to, and disseminated on multiple channels. These hybrid activities suggest an important relational interaction that is attentive to participant's identities, to their presentation of themselves, and to where they are located in virtual and physical space. This collaborative effort between narrators and participants and their locales adds complexity to personal stories and ties them to places and communities of practice.

NARRATIVE IN HYBRID MOBILE ENVIRONMENTS

The permeable and fluctuating nature of human identity, assisted by the adoption of personal digital tools, provides compelling opportunities to reformulate, narrate and represent aspects of one's story to the world. Mobile social media tools enable individuals to function as self-promoters and public commentators, with practices that offer a personal and often very explicit engagement between the self and technology. Boundaries shift between the dis-seminator and the stories they distribute in the digital realm, and participants who may talk back, add to and redistribute, or indiscriminately receive them. What are the ramifications of such creative engagement, and widespread dissemination of personal digital nar-ratives? How can this process be enacted creatively and collaboratively as an artistic or creative practice? And how might these activities be tied intimately back to presence, and to a sense of place?

In personal experience, the narratable self is at once the transcendent subject and the elusive object of all autobiographical exercises, particularly in exercises of memory. These narrative relations can be small and intimate and intended for a close circle of companions, such as families and friends that use Instagram to share images of their holidays and pets and children growing up, and Facebook to relate their personal milestones. Narrative dissemination can also make a contribution to a larger collective memory or mood, speaking back to aspects of culture at large. Personal digital technologies have become the tools of repro-duction for personal narration, and dissemination of this broader cultural commentary. Communications become entangled and imbued with social currency as they are referenced, added to, and disseminated on diverse channels.

Personal narratives may expand and multiply into cultural productions involving multiple voices of narrators and participants. These narratives are usually created with, transmitted and received through any of a number of semi-ubiquitous mobile communication devices. Stories are often related to the practitioner's culture, community, place or home; these are tales in which the personal and particular becomes more universalized through its digital transmission. As is usual in personal experience, stories are grounded in place and occur over time; their retelling with the use of digital tools in a specific locale can also create responsive hybrid spaces. The most powerful take the real, embodied, personal experiences of the nar-rator alongside the interactions and responses of the audience (who may be present or virtual), to create a participatory opportunity. This can be an embodied

experience, as in the case of actual physical interaction with others in located space; it may be supported by the augmentation of mobile device-driven virtual layering of that space. Such hybridity charges the ephemeral space and timeline of the interaction. The scene of the narration, in which participants attend to and tell each other their stories, may also be transformed into a place of potential exhibition. These hybrid activities suggest an important relational interaction that is attentive to participant's identities, to their presentation of themselves, and to where they are located in physical and virtual space.

This exploratory reading of the place of narrative in a lineage of mobile media art and design works focuses on some exemplars of the history and philosophy of narrativity in mobile space. It cites a number of important formative projects that have shown the potential to address the creation of a narratable self, operationalized through hybridity and mobility. These narratives are relational, revealing, and expositive, while at the same time tied to place and to community. They support ambitions to create a space that is open, diverse and richly aware of the delightful intimacy of personal stories; and one that may also scaffold the larger aims of community narratives. The narrative creators have used strategies and methods of working in both located and virtual space that have exceeded conventional expectations, taking and reshaping their stories with the use of mobile technologies in unexpected ways. The trajectory of the projects I have discussed follows a chronological and contextual arc, from the highly personal through to the political, as the potential of locative media becomes better understood. Narrators and audiences have experimented and played with the media, manipulated, rehearsed and finally, strategized with its potential.

RELATIONAL NARRATIVES

Hannah Arendt elucidated the function of narrative enquiry in her conceptual construction of the 'narratable' self, in *The Human Condition*. As an epigraph to her chapter on Action, she quotes the author Karen Blixen: "All sorrows can be borne if you put them into a story or tell a story about them." [1] Arendt refers to Blixen's use of the narrative arts when she speaks of the ways that individuals may be realized as unique existants through the act of narration. Narrative allows grief to be assuaged by people telling one another their stories. Arendt insists these strategies are needed, because the 'who' that someone is remains inexpressible in philosophical terms; the uniqueness of an individual is a concept that philosophy fails to express. Philosophy, she maintains, is primarily concerned with the 'what', and modes of thinking and reasoning about larger questions of existence within the frameworks of culture and society. Philosophy does not deal in the stories of unique individuals and their relationships to one another; and yet 'who' someone is, although not uncovered philosophically, is not ineffable. Hannah Arendt sees the narration of life stories as an alternative to philosophical analysis, because narration both deals in uniqueness and illustrates the interactions between unique individuals. She formulates the theory of an existant's narrative, which can be revealed and made manifest through actions and speech, and continuous appropriation, through "words and deeds, which ex post facto, form the unique life-story of that person." [2] Arendt maintains that narrative reveals meaning in one's life that would otherwise be perceived as merely an intolerable sequence of events. [3] And she states that narrative is the tool that allows the individual to avoid this meaninglessness, so that "every individual life can eventually be told as a story with a beginning and an end." [4]

The Italian feminist theorist Adriana Cavarero focuses on the moments when the disjunction between discourse and life is suspended through personal memories and the act of narration. She states: "Every human being, without even wanting to know it, is aware of being a narratable self – immersed in the spontaneous auto-narration of memory." [5] In the most personal sense, the interior narrative enquiry becomes self-reflexive, revealing, and expositive. She also describes a relationship between one's life, and one's life story, in terms of the desire for that narration. Lives are disjointed and fragmentary and do not form an easily narrated story, or coalesce with an appearance of unity around events. A life does not follow the three-act play in a coherent beginning, middle and end, with instructive outcomes. It is the creation of a sense of unity or form or arc in the narration of one's life story that is desired by the narratable self. Cavarero states: "The self desires and is open to the tale of a life story that unfolds in his or her lifetime in a way that uniquely reveals who that person is." [6]

Alasdair McIntyre also refers to narration as a joint and collective struggle towards subjectivity, which makes clear the fragility of each unique individual. [7] When Cavarero speaks of the 'narratable self' she speaks to the formation of the story of a unique subject. Cavarero also suggests that the setting or context of subjective narration, echoing Arendt, is attentive to who rather than what we are, the "plural and interactive space of exhibition," making explicit a relational interaction and providing a place of exchange between narrator and audience. [8] Finally, by inserting its texture, place provides a location, a context, and a local reception that brings plurality and communality into the exchange.

I have adopted and extrapolated Cavarero's notions of the importance of context and the place of narrative exchange, into my own thinking about locative mobility and art making. Mobile art practices may allow individuals to experience stories and places differently and anew. Narrators may use these opportunities to access and re-narrate situations, and remediate surroundings. Some projects have attempted to address the uncovering and dissemination of personal and community narratives, with broad aims. These range from serendipitous discovery of the past, to more strategic support for collective community building and social exchange. In this way the personal narrative in mobile locative media builds relationship to the community or public narrative. Such practices allow for the collective process of sharing and co-constructing narratives in ways that annotate existing communities anew. They may also support the creation of new communities around playful forms of inhabiting shared physical and virtual space. [9]

Mobile art practices may engage communities and audiences in social practices and narratives that are personal, playful, often provocative, and ephemeral in their interactions with place. Locations and contexts are sometimes public, and audiences are almost always on the move. The participatory realm in mobile art and design creates speculative links between individuals and their narratives, in real places that then become virtually augmented environments. These mobile projects may mine an evocative local narrative, and in this way they create a compelling new medium for exploring the past, as well as the current life of a community. Locative storytelling lays alternate narratives over space and place, offering artists, designers, story-tellers, and participants new opportunities and locations for creative interactions. In this way, mobile art and design can sometimes be used as a force for community building, critique, and social change.

Over the last eighteen years, a growing swell of digital narrative works, enacted with the use of new mobile technologies and networks, provides ample evidence of individual and community concerns with storytelling in public space. There are mobile narrative practices, art and design works, and applications that have

set important precedents. The most innovative and groundbreaking of these projects and practices engage creators, audience participants, and often, whole communities in the participatory creation of personal-public narratives. I have chosen to highlight some of the projects that particularly address the challenges of realization, aesthetic implementation, and artistic installation of narrative in hybrid public spaces, as exemplars. These projects have exceeded all expectations in creating meaningful, technologically mediated interactions between narrators, participants, and audiences within specific contexts and locales.

LOCATIVE MEDIA ORIGINS

'Locative media' is a useful term that refers to mobile media works which attach themselves to real located places and communities and their geographical co-ordinates. The web-artist, mapper, and media activist Karlis Kalnins coined the phrase in 2003. Its catalytic premise was a growing civilian awareness and engagement with a construct that had precise military origins. Prior to this, mobile communication and media simply existed in the spaces defined by, and between, servers and handsets or receivers. Kalnins used the term as a radical test-category for new processes that could facilitate the annotation of physical space, by combining mobile data communications with GPS data and mobile computing hardware.

RIXC, an international media art collective and network of researchers working with mobile, context-aware computing devices and applications, held their first 'location-based' workshops, also in 2003. They were hosted at K@2, on the site of a former Soviet military naval base on the west coast of Latvia. [10] Rasa Smite and Raitis Smits, Latvian artists who were working with the Acoustic Space Lab project at the decommissioned Soviet RT:32 Radio Telescope at the

former base in Karosta, led a series of transcultural mapping workshops to further explore this new territory. [11] This newly defined group of 'locative' artists and researchers found themselves facing a profound inter-dimensionality in their experimental proposals. One such was the ability to simultaneously move through and address physical space and electronic space. Their work explicitly acknowledged the potential and the use of the Global Positioning System satellite-based navigation technology created by the US military. Their innovation was in adapting this technology for geographically and socially mediated artworks and investigations. With the introduction of GPS and mobile technology into the public realm, they saw new possibilities for social interaction, annotation, and a way to reclaim locative public space as a site for a new kind of shared experience.

But long before K@2, a number of pioneering artist investigators were working with combinations of location and mobile technology in innovative ways. In 1991, the Canadian artist Janet Cardiff created a portable audio walk, assisted with some of the first personal mobile audio technology, at the Banff Centre in Alberta. Her *Forest Walk* project guided participants with an audio cassette deck and headphones through the local pine forest, accompanied by walking directions and observations, interspersed with a dramatic audio dialogue. Cardiff admits that the instructions were difficult to follow and the sound quality wasn't great, but it changed her thinking about the potential for this new form, and became the prototype for her later mobile audio walks and artworks. [12] Three years later, in 1994, the pioneering Japanese new media artist Masaki Fujihata created an early GPS locative work using a car and a laptop computer equipped with a GPS device and a roof-mounted video camera. He employed this setup to drive around Mount Fuji and create a real-time locative image map. His resulting artwork *Impressing Velocity* offered the data map, the

GPS co-ordinates, and his video images available for viewers to explore interactively or in situ. [13]

The media artist and designer Teri Rueb created her beautiful memorial project *Trace* in 1996, extending ideas explored by Janet Cardiff in her original audio walks with computer hardware and software. *Trace* was composed of embedded narratives, poems, songs, music and conversation that respond to a participant's movement through a plotted path in the rugged landscape of Canada's Rocky Mountains. [14] *Trace* was one of the first geo-annotated mobile art projects, using GPS coordinates embedded in the landscape to access a database of collaboratively created artistic materials, which the participant literally navigated physically by walking in the environment. Rueb's interactive walk was a memorial environmental sound installation, created as a site-specific response to the network of hiking trails near the renowned Burgess Shale fossil beds in Yoho National Park, British Columbia. *Trace* created a kind of narrative soundscape that was at once personal and intimate, which became a networked experience when shared with other walkers. Each walker brought a sense of collaborative reflection to the piece; its particular weather, time of year, and time of day. And as with Cardiff's audio walks, the participant's interior monologue and exterior reactions to the landscape, and their interactions with the materials they listened to on their journey, were pivotal to the experience. Through the use of a compelling media-rich narrative, delivered via rudimentary mobile locative technology (a large, heavy custom knapsack equipped with a portable computer, headphones, and a GPS receiver), *Trace* experimented with relationships between shared experiences and place making, and foreshadowed many of the concerns that locative media artists would build on and refine in the years to come. [15]

More than a decade after Trace, Teri Rueb's project *Elsewhere: Anderswo* (2009) sought to engage

visitors in a kind of sonified experience of dislocation and play, this time in an outdoor urban space in Oldenburg, Germany. The work is based on the premise that while children readily create pastiches of place through make-believe, conversely, adults often seek out familiar qualities in unfamiliar surroundings. This may include 'reading' a landscape in relation to prior experience or knowledge. Rueb states, "Idiosyncrasy reigns in these 'vernacular landscapes,' patched together unconsciously as memory blurs fact and fiction, real and imaginary, actual and mediated experience." [16] With *Elsewhere: Anderswo*, Rueb explores an alternative aesthetic where the dislocations that occur in place-making as an outsider or 'ausslander' are fully embraced: "While the physical place itself still serves as the literal and conceptual ground for the work, the sound overlay may seem foreign and out of place, out of sync or registration, as if rendered in crude translation." [17] Interwoven with the narrative are fragments of sound that evoke highly specific landscapes, some of them familiar from television, film, and radio, all coming from other places. In these moments Rueb says that personal identity snaps back into hyper-sync with the site itself, interacting with personal memories and narratives that create familiarity in that otherwise unfamiliar place.

PROPRIOCEPTION AND NARRATIVE IN URBAN ENVIRONMENTS

The criteria of narrative experience are continuity, and interaction: a sense of experience as continuous is framed by tensions concerning temporality, people, place, and action. The British moral philosopher Alasdair MacIntyre describes the difficulties in enframing an adequate Telos, or climactic unity, within the narratives of individual lives. [18] He relates the ways that telling stories and hearing them told back affirms and makes sense of disjointed experience. Lives begin to

make sense through the framing device of the life story, fixed and situated as they are within time and place. MacIntyre describes narrative as a way to enable the narrator and the existant, (the one to whom the narrative is being related, whether they be its subject or its recipient), to enter a quest together. The quest is a shared education in self-knowledge and experience, a revelation of the character of both participants and the events, people and places that have shaped their lives. Narrating life stories in situ provides sense of place and is revealing because it also offers the possibility of a kind of proprioception, or experiential interaction with the environment, mediated through the senses. [19]

The desire to use new mobile technologies to imbue public space with subjective personal annotation, and to send participants on a quest to find these narratives, inspires others. The simple premise of these projects is to lay an invisible but easily accessible veil of community narrative over situated public space. Concurrently with the locative experiments at the K@2 workshops in Karosta, the *[murmur]* project was launched in Toronto. Story telling in situ, and the relationship between narrative and embodied experiences informs the *[murmur]* project, originally developed by Shawn Micallef, Gabe Sawhney and James Roussel, at the Canadian Film Centre Media Lab. The project uses a simple mobile phone-based locative process for urban annotation that has been extensively elaborated in all kinds of more recent applications. The project seeks to share stories in urban locations and sites, by embedding their co-ordinates in a physical sign, which is a both a call to action and a stand in for the virtual signposts that reside in that location.

The first iteration of the *[murmur]* project, located in the transitional and diasporic community of Toronto's Kensington Market, started an urban community

Figure 1. [murmur] project sign in Toronto's Kensington Market, 2007. Photograph by Bryce McFarlane. © Bryce McFarlane, 2007. Used with permission.
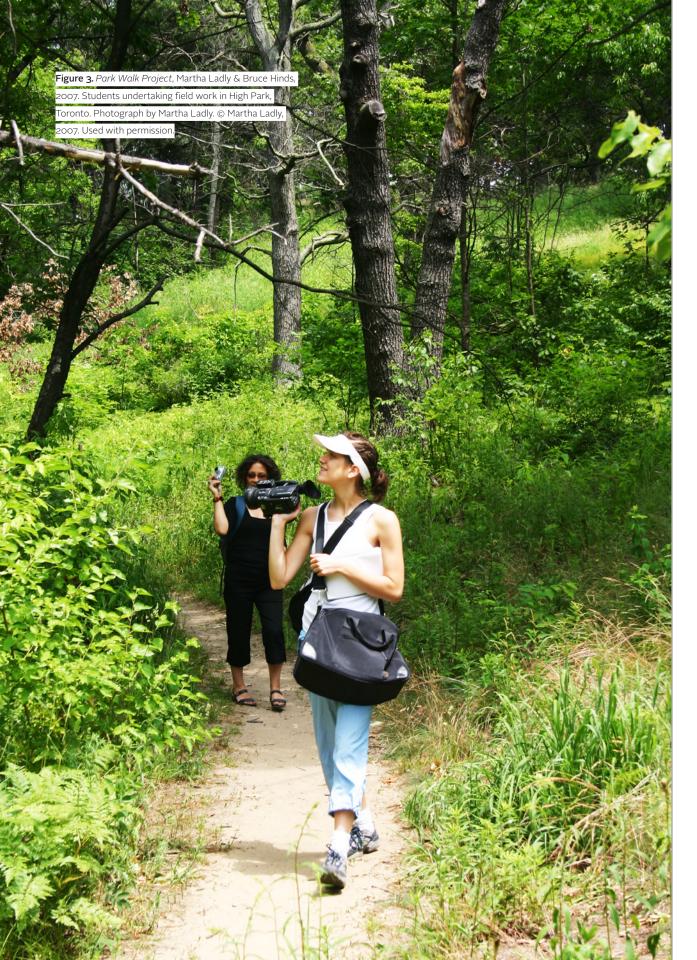
storytelling movement. Signs depicting a large green ear with a telephone number inscribed on it started appearing on lampposts in the market and adjacent neighbourhoods in 2003, where they remain to this day. Intrigued passersby can call the number on the sign with their cell phone, and hear a short personal story concerning someone's experience in the place where they stand. The storyteller is someone who had lived in the house, worked at the market stall, worshipped at the synagogue, escaped to the theatre or (now defunct) cinema, visited that restaurant or club for a memorable evening, or had witnessed dark deeds in this back alley the listener was now standing within. The stories are personal, and as diverse as the Kensington Market neighborhood and its denizens. The *[murmur]* project enables interaction with the 'murmur' of other voices, bringing the city to life through listening to its multi-layered narrative. The project continues, and green ear signs have been popping up in international locations as far away as Edinburgh and Dublin, São Paulo and San Jose, all

designating story-telling projects that have been co-developed with the *[murmur]* project creative team and local communities. [20]

Alasdair Macintyre's concept of quest also connects narration to purposeful movement through an environment and discovering its affordances, often in a search for self-knowledge. This idea of the quest informs other mobile locative media projects such as *Park Walk* (2008-2014), the *Tactical Sound Garden (TSG) Toolkit* (2007-10) and Blast Theory's *Rider Spoke* (2007-) and *You Get Me* (2008). These locative media projects call for direct location of oneself in a specific environment; they cannot be adequately

accessed or experienced remotely. [21] A number of technological advances collided to enable these concepts to be realized in locative art making practices. It is not surprising that so many artists, game designers, and creative mobile engineers came up with locative media projects through 2007-2008, at around the same time that GPS was beginning to become standard equipment in mobile phones; the impulse to experiment with this powerful technology at personal, portable, artistic, and design levels was irresistible. These new mobile art and information works and games became a force for community building, critique, and change, through the collaborative production of narrative and its insertion in public space.

Figure 2. *Rider Spoke*, Blast Theory, 2007. © Blast Theory, 2007. Used with permission.

Figure 3. *Park Walk Project*, Martha Ladly & Bruce Hinds, 2007. Students undertaking field work in High Park, Toronto. Photograph by Martha Ladly. © Martha Ladly, 2007. Used with permission.

The *Park Walk* project is a mobile public artwork developed with my collaborator Bruce Hinds and our research students at OCAD University in Toronto, in 2006-2007. The project was just one of many in the Mobile Digital Commons Network (MDCN), a consortium of Canadian universities and arts institutions interested in collaboration on the development of new mobile technologies, designs, and artistic practices. At that time there were no standards for compressing large data packets such as image streams, audio, and video tracks, or protocols for them to be stored on or delivered to rudimentary handsets. The response was to engineer and build a new technology, the Mobile Experience Engine (MEE), designed by engineer Tom Donaldson and his team of university student

hackers. [22] The MDCN projects were also created just prior to the standard embedding of GPS technologies in mobile phone devices, so artists and engineers hacked together Bluetooth GPS devices which could talk to the Bluetooth receptors in a variety of mobile handsets. Our researchers looked pretty unusual in the field, carrying GPS devices held aloft and taped onto long poles, sensing our GPS plotted co-ordinates, attempting to geo-locate and 'talk' through Bluetooth proximity to the primitive phone handsets.

The first version of *Park Walk* was a social and environmental mapping project, originally envisioned for Toronto's High Park, an urban wilderness where extensive documentation and fieldwork with GPS

Figure 4. *Park Walk Project*, Martha Ladly & Bruce Hinds, 2007. Grange Park with OCAD University and downtown Toronto in the background. Photograph by Martha Ladly. © Martha Ladly 2007. Used with permission.

and mobile devices was undertaken. In the end, poor reception for these devices in the forests of High Park convinced our research team to move the project to downtown's gritty Grange Park, an historic former estate adjacent to the Art Gallery of Ontario and OCAD University, which is bordered by some of the oldest buildings in Toronto. Grange House with its formal park, a playground and skateboard arena, as well as the ruins of St. George the Martyr Anglican Church, are all found here. Destroyed by fire, the tower is all that remains of Toronto's largest neo-gothic church. Architectural treasures and layers of urban history are hidden away in relative obscurity in Grange Park, which, until recently, was bereft of all signage or information about its significance. The *Park Walk* project in Grange Park sought to remedy this situation by offering historical and cultural narratives, and user-generated stories contributed by the local community.

The project engaged aspects of urban orientation and nature identification, local cultural activities, historical insight, and bioregional mapping. Over time, with the addition of community members and visitor's own experiences of chosen sites in the park, in conjunction with a website offering uploads and downloads of user-generated narrative layers, the project built on community associations with the historic site.

The latest versions of the *Park Walk* project in 2013-14 were both instigated in urban cemeteries where incredible monuments and storied lives abound, at the vast and famous La Recoleta in Buenos Aires, Argentina, and at the more intimate cemetery in the Convent of San Domenico, in Fiesole, Italy. The *Park Walk* project continues to lay veils of storytelling and participant narratives and images over familiar urban places, creating a rich and eloquent layering of shared public space. **23**

Figure 6. *You Get Me*, Blast Theory, 2008. © Blast Theory, 2008. Used with permission.

Mark Shepard's *Tactical Sound Garden (TSG) Toolkit* (2007) also shares a desire to overlay public space with user-generated enquiry and importantly, sound. TSG is an open source software platform for cultivating 'sound gardens' in urban public space. Shepard describes the Toolkit as a parasitic technology, feeding on the propagation of Wi-Fi access points in dense urban environments, which constitute free, ready-made, locative infrastructures. TSG enables anyone living within a wireless 'hot zone' to install a sound garden for public use, by creating and planting sounds which are mapped onto the coordinates of the city with a 3D audio engine commonly used in gaming environments. Based on the idea of the participant-gardener working within their chosen physical location, sounds are 'planted' in the garden 'on-the-fly' within the surrounding three-dimensional space. Where the presence of 802.11 wireless access nodes is minimal, gardens may simply consist of plantings along a sidewalk. Where a local density of nodes exist, gardens can potentially take on the scale of a neighborhood; and in cities where wireless networks are ubiquitous, gardens can potentially extend throughout the entire city. The project draws on the culture of community gardening to create a participatory environment, allowing participants to drift though virtual sound gardens as they move around the city. In 2007, collaborative sound gardens were planted in Belo Horizonte in Brazil, in San Diego, and in Zurich. In 2010, a new sound garden was planted in São Paulo, and in 2012, in Belgrade, Serbia. TSG allows participants to serendipitously discover urban sound gardens, to plant their own, and to contribute to other's sound gardens, in a delightful geo-located rendition of guerilla gardening. [24]

The British art collective Blast Theory do not attempt to classify the new form that they have created. Their signature mash-up of mobile, online and other narrow and broadcast technologies is combined with strategic, embodied calls to action, often for multiple participants and players, within urban cityscapes which formulate the 'sets' in which their interventions take place. Creating urban games, interactive art, immersive theatre performances, and research projects, they have pioneered new locative media forms. [25] *Rider Spoke* (2007-) is one such, a mobile game for urban cyclists. The *Rider Spoke* project combines theatrical narrative with cycling and mobile game play, situated

in its first iteration in the Barbican district of London. Participants arrived at an announced time to play, equipped with their bikes. Cycling through the London streets at night, with a mobile device attached to the handlebars, they searched for and found a hiding place to record a short message in response to a question posed, and then continued searching for the hiding places of other participants' messages. The game builds a tactical and networked narrative construction, which goes beyond the more neutral annotation of place that *Park Walk* and *Tactical Sound Garden* proposed. *Rider Spoke* involves a kind of mobile locative game play, in which the interaction hinges on narrative process, leading to different outcomes, depending on the participants' interactions with their environment and their responses to the narrative presented. Players' interactions become intimately place-specific and personal, depending on the locale and the players' desires. *Rider Spoke* games have been developed and played in London, Brighton, Athens, Budapest, Sydney, and Adelaide. [26]

Sociologist and mobile researcher Mimi Sheller notes that many of Blast Theory's works "...uptake embodied and mediated encounters between familiars and strangers, and between familiar and 'strange' modes of interaction, challenging boundaries of comfort and raising issues about trust." [27] In the 2008 Blast Theory played a pervasive game with participants at the Royal Opera House in London's Covent Garden. *You Get Me* stretched narrative communication across both geographic and social strata, in just such an attempt to test barriers and issues of trust, between London's elite and its urban youth.

Visitors to the Royal Opera House entered a kiosk in which they were greeted virtually by one of the young protagonists of the game, a group of teenagers located across town in Mile End Park in London's East End. Kids waiting in the park responded to operagoers with a text greeting: "Welcome to You Get Me. This is a game where you decide how far to go, now, at this moment. Each one of us has a question we want you to answer..." and then the unsuspecting Covent Gardeners were dropped into the virtual/real game world. As visitors to the East End park they were allowed to choose one of the teenagers, known as runners, as a potential partner in the game. Their choices were

Figure 7. *I'd Hide You*, Blast Theory, 2012. © Blast Theory, 2012. Used with permission.

based on photos and on questions the runners posed. For instance, runner Rachel Scurry asked a participant, "What is your line between flirting and cheating?" [28] Runner Hussain Ali was wrestling with leaving home and asked for some tips. And runner Jack Abrahams wanted to know, "Would you employ me?" [29] Jack then told his story about a drunken evening jumping the barriers at Southend railway station and pissing in a cup on the back of the rail replacement bus. Given this information, the response from an opera-lover at Covent Garden would probably be "highly unlikely," but Jack asked his potential partner to persevere. These were tough questions, and they were being directed at people who were of a different generation and very different social milieu.

By navigating their way through the virtual Mile End Park the Covent Garden visitors then located their chosen runner. The goal was to listen to the personal stories of the chosen runner over a walkie-talkie stream as they navigated the park with their peers; gradually as the participant learned more about the runner, and vice versa, a conversation developed. Individual participants and runners continued their

conversation via text message. Runners could make demands, and they could also invite participants for a private chat. If personal contact was achieved and both agreed, an image would slowly materialise to reveal the runner to their interlocutor, creating a subtle shift in the dynamic. Runners were clearly invested with asking hard questions and telling their risky personal stories; a similar investment was required by the participants to listen and respond. From the establishing text message to the intimacy of a mobile phone call with a stranger, this was a conversation and an experience in which the runner and the visitor would never have otherwise engaged.

The last contact might be a final text message from the runner; "This is Hussain. I'm near the canal with the Pallant Estate behind me and I'm taking a photo for you. You get me." [30] As the participant left the Royal Opera House a photo arrived on their phone. Story and personal memento sent – and received. This one to one exchange allowed youth to ask for and receive direct input into their adolescent quandaries, at the same time challenging members of a privileged élite. *You Get Me* rends the curtain between public

and private, asking questions and setting up challenging uncertainties between narrators and participants.

Blast Theory mounted a new locative game *I'd Hide You* at the *FutureEverything Festival* in Manchester, in May 2012, using the concept of runners again, and the mediation between virtual and real players in urban space. With this new game there are further elements of risk for the runners, if not for the participants. The narrative is in the moment and then dispersed; players are on the move and trying not to get caught. Here is the announcement and call to action for the game:

> I'd Hide You *is a game of stealth, cunning and adventure online and on the streets. Jump onboard with a team of illuminated runners live from the streets as they roam the city trying to film each other. See the world through their eyes as they stream video: ducking and diving, chatting to passersby, taking you down the back alleys to their secret hiding places. And play against your friends online at the same time. Use your wits to choose which runner to ride with. Get a snap of another runner onscreen without getting snapped and you score a point. Get snapped by someone else and you lose a life. Play online or spot the runners in the city and tweet it to @hideyou.* [31]

Less a narrative project than a live strategy game, *I'd Hide You* employs a rudimentary rule set: the objective is to try to 'catch' other players by capturing them on video without getting caught on video themselves. The designers found that this simple strategy supplied "...a surprising set of emergent properties. The game was concise and simple. But the pleasures invoked and the strategies required to play were rich and subtle." [32] This was especially relevant as, like most of Blast Theory's output, the game is complexly doubled, with two games nested within each other. Multiple online players choose which player to ride with by hop-

ping from one video stream to another. They score and interact with the runners at points in the game by capturing a photo whenever they see another player in their screen shot. In this way, participants are mediating various dependencies between their own online presence and the real and virtual players. The use of Twitter adds a further mobile twist to the real and 'in-game' virtual worlds. *I'd Hide You* takes the genres of strategy games, and so-called 'big games' played in urban space, with live-action and video gaming, and mixes them with surveillance, strategy, and adrenalin, to create a complex and multi-layered locative media experience.

FIRST, SECOND AND THIRD PERSON NARRATIVES IN MOBILE ART PRACTICES

Adriana Cavarero states that human beings are constitutively exposed to each other through the bodily senses. She claims that it is through the act of narration that a constitutive exhibition occurs, in which the self comes to desire their life story, as told through the mouth and voice of another. [33] In this way, individuals become selves who are narratable, to and by others; and people depend upon others for the narration of their own life stories. [34] The important function of retelling stories to one another is unique to second person and third person narratives. Second person narratives are addressed to the 'you' whom 'I' address. They are common in families, when parents, custodians and friends tell children stories of the events of their childhood, which the children may not recall themselves. These second person narratives bond children to their families and communities, and harken back to the impulses for creating shared narratives in many of the earlier projects described.

A number of mobile locative art and news projects have taken up the first person narrative address, while

Figure 8. *Re-Tweet (RT) Driller Application*, Martha Ladly, Greg Van Alstyne, Geneviève Maltais, Jonathan Resnick and Britt Wray, 2011. © Martha Ladly, 2011. Used with permission.

setting up a doubling with participants in distant geo-graphical and geopolitical situations. Sheller suggests that there are "…instances in which 'I' may inhabit another, and there is a kind of displacement of the subject, or a stereoscopic doubling." [35] She notes that this plays into the potential for self-invention and the ability to play with doubled 'real' and 'virtual' selves, within hybrid mobile environments. While participants may find themselves in richly complex doubled posi-tions, the contextual environment of the narrative may also be doubled. This phenomenon occurs in Alyssa Wright's *CherryBlossoms* project (2008), and another of my projects entitled the *Re-Tweet Driller* (2011). Both projects speak to shared narratives where the personal has become larger than the individual, reaching into the political sphere. Both projects use news reports to show the impacts of live geo-political events on real people, and both also employ psycho-geographic mapping with closely bound narrative processes.

CherryBlossoms was a GPS-activated mobile art proj-ect, developed by Alyssa Wright when she was a PhD student at the MIT Media Lab in Boston. Her project aimed to build a visceral sense of empathy for the victims of the Iraq war. The project took data from the locations of bombings in Baghdad, and mapped them on an overlay of GPS hotspots, to the streets of Boston, Massachusetts. Participants donned a backpack outfitted with a small microcontroller and a GPS unit attached. Recent news feeds related to bombings in Iraq were downloaded to the unit nightly, and locations relative to the center of the city were superimposed via GPS coordination on the streets of Boston; walks through the city were staged on these days. As the backpack wearer walked through a GPS co-ordinate in Boston that correlated to the GPS location of a recent bombing in Baghdad, the backpack automatically detonated. Instead of shrap-nel, a compressed air cloud of scraps of paper was

released. Each scrap of paper was inscribed with the name of a civilian who died in the attack, detailing the circumstances of their death. Looking like a mixture of smoke and the falling white blossoms of a cherry tree, the mini explosions often completely threw, and then engulfed, participants and onlookers. Alyssa Wright's *CherryBlossoms* resonated in the streets of America, far beyond the boundaries of the conflict. [36]

The *Re-Tweet Driller* application (2011), a project undertaken through the GRAND National Centre of Excellence research network, visualized the impacts of citizen journalism on the Arab Spring uprising in Egypt, in late 2010 and early 2011. The application was built to analyze conventional news stories and their relationships to their sources, using 're-tweeted' (for-warded) Twitter reports as the base reference point for events rapidly unfolding in Cairo's Tahrir Square. The application was deployed on a mobile platform that allowed readers to access a snapshot of news stories that were currently being disseminated by mobile citizen journalists, and then compared them with similar stories on syndicated news outlets. The *R-T Driller* showed how often stories had been picked up, adapted, or even run in their entirety, based on posts and retweets of the people who were live and on the ground, in the thick of current events. The project presents individual's short narratives, which are often accompanied by their Twitter ID images, as an interactive visualization of Twitter feed data alongside correlated syndicated news stories. This juxtaposition allowed participants outside the conflict to see that tweets were often the basis of so-called hard news, and that they were often coming from locations outside of Egypt, especially over the period that the Internet was shut down during the uprising. A capture of the live Twitter feed could be navigated interactively, mapped, or printed out as a digital 'news clipping' of the events of a particular day during the uprising. The project gave readers an insight into the

stories behind the news, and a chance to make their own comparative analysis of mobile and conventional news stories. [37]

The collaborative story telling documentary project *18DaysInEgypt* also aims to document the events of the Tahrir Square uprising through social media channels that captured the revolution, with a simple   premise: "for the first time in history, citizens are recording an actual revolution in real time. Throughout the 18 days of the 2011 uprising – and now – Egyptians are filming pivotal events on their cell phones, taking pictures, texting, tweeting and Facebooking their extraordinary bid for freedom. Here, at 18DaysinEgypt.com, you will be able to access stories from the revolution in a whole new way." [38] Mobile projects can bring attention to issues, with politically active individuals using social media as a means to ignite social change, influence mainstream news, and ultimately play their part in tipping the balance of public opinion and power.

The Tahrir Square uprising was re-imagined as a social media revolution, with many of its main proponents being women. The location of women of the revolution in the midst of the political turmoil in Tahrir Square, and their use of social media to distribute news and stories, speaks to new mobile modes. Our research concluded that without access to mobile social media it is doubtful that many of the stories that fueled the revolution would have been so widely and successfully disseminated, or in turn taken up by the powerful traditional news channels. The unique combination of location, situation, and a compelling narrative offered interdependent catalysts for social and political change. Mobile social media gave the Egyptian women a voice and a way to present themselves as a vital political force. These were compelling times, which offered an unusual opportunity for women to represent themselves

and their stories, and to reformulate their positions within the political spectrum in Egypt. This opening has unfortunately not borne the fruit that was so optimistically anticipated; the rights of women are again conspicuously absent from the agenda in post-revolutionary Egypt. Having been a driving force for change during the uprising up until the present, Egyptian women remain unwilling to give up the progress they have made. With the tools of free speech, open information, and access to civil society so tantalizingly close, it is impossible to send Egyptians back to a period of uncontroversial submission to repressive laws and outmoded social practices.

In conclusion, mobile media have opened new chan-nels, creating real-time interaction with people and their personal stories, and bringing human interest into focus, with wider implications for emerging social interactions. Creative practices in mobile media and art have progressed from the personal and serendipi-tous through to the political and strategic. From their beginnings as a form of benign veiling, layering and annotation of public space, in projects like *Trace* and *Park Walk*, projects have emerged that document and actualize the strategic activation and politicization of public space, such as *You Get Me*, *CherryBlossoms*, the *Re-Tweet Driller* and *18DaysInEgypt*. Mobile media plays a crucial role in enabling direct address between story-tellers and their audience. These first person narratives are powerful and personal. 'You' are the one who 'I' most probably do not know, and yet you are reading or listening to my words, and beginning to understand and perhaps picture me, and empathize with my situation. This is a direct form of address that implicates 'us' in an active, political encounter.

People who are creating mobile media and actively using these channels to strategize, share, and dissemi-nate their ideas and views have become skilled public

commentators, activists and actors whose digital identities and stories are managed with equal assiduousness. Mobile media supports the construction of personal and community narratives through collaborative narrator-participant interchange, which may in turn encourage greater social and political awareness. It is my firm contention, that mobile narratives, aligned with the power of being located in political public spaces, have the potential to provoke a profound sense of interconnectedness, and belonging, engaging with the participatory power of social change. ∎

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