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QUICK LINKS : [LEA E-JOURNAL](#)[TABLE OF CONTENTS](#)[INTRODUCTION](#)[EDITOR'S NOTE](#)[GUEST EDITORIAL](#)[ESSAYS](#)[ANNOUNCEMENTS](#)[:: GALLERY](#)[:: RESOURCES](#)[:: ARCHIVE](#)[:: ABOUT](#)[:: CALL FOR PAPERS](#)**Locative Media & Instantiations Of Theatrical Boundaries**v o l 1 4
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Locative Media & Instantiations Of Theatrical Boundaries

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ABSTRACT

Throughout history, theater has constantly remapped its temporal and spatial boundaries, sometimes reviving old models that resurge with acuity in this reshaping process. Performance rituals underpinned by chronological and topological signifiers offer a valuable framework for studying social and aesthetic implications of locative media art, and for conjecture on the specific communion of perception afforded by its fused time zones and deployable topographies.

New kinds of synchronization of interactive participants may emerge as today's answer to the dynamics of bygone theatrical celebrations. Conversely, strategies used to instantiate boundaries of theatrical art may inspire new forms of locative media.

Theater abounds in conventions where discrete physical locations exist in parallel and/or rapid succession within the symbolic stage arena, and in conventions which legitimate the manipulation of timelines: reminiscence and premonition (or flashback and projection) are an ancient part of stagecraft. History testifies to the constant remapping of the boundaries that instantiate performance as an art form. With respect to temporal boundaries, amphitheaters exploit natural day and night cycles, while specific theatrical housing and artificial lighting allow staged time to be mastered independently of these cycles. With respect to spatial boundaries, vestigial geometries and patterns of archaic performances investing ad hoc stages continue to haunt theater that has long been grounded in dedicated physical premises.

Because theater uses real life as its raw material, much effort has been spent trying to define the relations that offset it from the surrounding environment. Because mobile, context-sensitive technologies are used by real-world communities, much effort is needed to define the moments of continuity and rupture that offset locative media art from its surroundings. This text attempts to juxtapose locative media works with historical perspectives derived from theater, which crafts social encounter to instantiate spatial and temporal boundaries in ways that may be relevant to other live art forms.

BEATING THE BOUNDS

Terminus, Roman God of the Boundaries between Fields, was celebrated in ancient times with annual festivities consecrating spatial and temporal milestones. February processions marked the end (therefore the beginning) of the calendar year by strengthening the energy of boundary stones through sacrificial offerings. The medieval term "beating the bounds" revolves around the royal or baronial charter, a legal document by which patrons granted property rights. A ritual procession to beat the bounds, i.e. trace a landowner's or village's boundaries, led by an official bearing the charter which granted legal prerogative over a given territory, imposed the

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charter's recognition as a tool of material power, and ensured metaphoric perpetuation of proprietary power [1]. Border inspection ceremonies in Scottish and Welsh border towns, called 'Riding the Marches' (from the Saxon word 'march' for boundary), 'Riding the Fringes' or 'Common Riding', were held to preserve resources by tracking illegal incursions of livestock or turf cutters [2].

Most rural communities perform seasonal ceremonies to control and/or celebrate sites crucial for their livelihood – cultivated or grazing land, sources of water, fishing grounds - associating physical places with the natural cycles governing means of subsistence. Processions, parades and pageants are an integral part of this ancient performance history, building on rituals where actors and audiences may be static or mobile, separate or inextricably mixed.

Historical taxonomies of "encounter-patterns" [3], which characterize the morphologies of parades and processions in terms of their social dynamics, offer descriptors which might enhance our understanding of locative media events. Medievalist Tom Pettitt differentiates between perambulations which follow boundaries, excursions where denizens cross boundaries outwards, incursions where aliens cross boundaries inwards, fetchings where something from outside is paraded into the community, and expulsions where something from inside is paraded out of the community. These encounters take the form of transgressive, deregulatory fêtes, cathartic moments where society wittingly breaks its own rules in order to knowingly and readily re-subscribe to them [4].

Questions of territory, control, and transgression are key to art works that are today "beating the bounds" by embarking on cartographic inventions attuned to specific communities and needs. Politics of access to cartography data are driving projects which challenge centrally controlled government survey information by promoting collectively elaborated, publicly available reference documents. Against a backdrop of user-led functional cartography activities such as those undertaken by the University of Openness Faculty of Cartography [5], locative media works like Michelle Teran's *Life: a user's manual* posit technologically and poetically intertwined readings of the public and private spaces that make up urban fabric [6]. Teran's week-long walks in different cities, mobilizing scanning and recording devices which operate in the narrow band of the radio spectrum allocated for public use, are structured as two distinctive activities. In the course of hour-long street performances, the artist guides her walking audience through sequences of interlaced public and private views, gleaning the latter off wireless CCTV streams. During collaborative mapping expeditions, the artist and fellow explorers collect live feeds for online maps to produce collages of surveillance footage, images from the street, conversations, and any other annotations recorded by the mappers. Electronically penetrated private spaces are thus publicly discovered and paraded in the streets and/or in subsequent museum installations, to become part of the commons.

PLAY AND POLITICS OF SYNCHRONIZED INTERACTIONS

Like locative media, theatre offers eminently social experience which entertains diverse relations to politics, where subversive art may be potently woven into the fabric of institutions, and purportedly marginal activity may be just a flimsy cover-up for lost creative liberty. As a privileged vehicle for contrasting ideologies, performance history shows how ambiguously art, agency and power can be enmeshed in technics. Tyrants who made attendance a civic duty include Pisistratus, who institutionalized the Dionysian cycles that led to Greek tragedy, and Nero who sought to appease restless subjects with "bread and circus". Theatre's vivacity as an instrument of contestation and subversion is evidenced by its loaded history of censorship, testifying to creative resilience and a propensity to invent or invest arenas for free expression. Locative media journeys on the borders of legality, as in Teran's use of public radio frequencies to reveal private data, mobilise a poetics of defiance similar to that encountered in early popular performance forms, which often had to adroitly sidestep, deride and override waves of prohibition [7].

Many locative media projects use self-configuring mobile ad hoc networks (MANETs), whose evolving topologies favor emergence in the shaping of connected social experience. Exploration of the temporal qualities of co-incidence sets these projects in the edgy arena where structure meets chance, an arena which regularly attracts artists seeking to escape or hijack the constraints of formalism. Such work is exemplified by Jonah Brucker-Cohen's and Katherine Moriwaki's *UMBRELLA.net*, which stages players carrying Bluetooth-equipped umbrellas and Personal Digital Assistants running networking software [8]. When the umbrellas are opened, affixed hardware communicates to the PDAs to initiate a connection. Networking status is shown by LEDs that illuminate the umbrellas with a red pulse if searching for nodes and blue if connected to other umbrellas, and that flash blue if data is being

transmitted between them. Brucker-Cohen and Moriwaki evoke the coincidence of need which subtends rainy day situations, and lends itself to spectacular responses in urban crowds. Everyday connectivity is reframed and dramatized as locative media trigger interaction and shared social recognition.

A world bristling with live connections calls for new notions of synchronicity, though it would be misleading to imply that all artists tuned to this world optimize the use of locative media in their search for meaningful cultural interaction. On the contrary, certain projects propose spaces that are radically disconnected from the networked environment: Pedro Sepulveda's **Digital Shelters** and Usman Haque's **Floatables for Privacy** are designed to protect us from the supposedly unblinking gaze of surveillance systems [9].

Research revealing gaps and uncertainties in mobile tracking and routing technologies is producing graduated maps where technology-refractory nooks and crannies feature alongside exposed, controllable terrain. The Institute for Applied Autonomy's **i-see** project is a web-based application charting CCTV control cameras in urban environments, allowing users to choose the "paths of least surveillance" as they move around in their cities [10]. Matthew Chalmers' study of irregular scan paths of satellite eyes, hampered by environmental and technical constraints [11], has resulted in **Seamful Games** where Big Brother's blurred or blind spots are integrated in playful strategies revealing flaws in our surveillance apparatus at least equal to those of our physiological optics. Non-humans inhabit surveillance technology in Marcus Kirsch and Jussi Angeseva's **Urban Eyes**, where pigeons fed with tagged grain trigger trajectory tracking systems on the urban CCTV cameras they fly past. Birds' eye views of the city are streamed to their feeders' PDAs, to nurture human imaginations with visions of urban space the artists describe as "shamanistic" [12].

LIVING ARCHITECTURES OF SOCIAL PATTERNS

The variable connectivity gradients that permeate and animate networks yield moving, living patterns that are themselves a source of aesthetic appreciation, like the choreographic art imagined by Emile Jaques-Dalcroze last century, made of nuanced densities and fictive spaces, and of their constantly changing relationships, an art that would have "its own laws, based on experiences of a geometric and spatial order, aimed at creating a moving architecture" [13].

Evolving patterns in networks are produced and revealed by human interaction, as in the **Amsterdam RealTime** project designed by Esther Polak with Waag Society, where participants equipped with GPS devices moving through the city were viewed by a public as lines rendered on a large, high resolution projection screen, gradually forming a living map of Amsterdam [14]. Cyclists, pedestrians and drivers of motor vehicles fed different dynamics into the map, and recurrently traversed areas changed colour to show the frequency with which they were visited, creating a map that reflected movement of the urban population, rather than static landmarks.

The Dalcrozian ideal of nuanced densities and fictive spaces as a moving art form likewise haunts Teri Rueb's **Choreography of Everyday Movement**, where trails of dancers moving through the city and tracked with GPS give rise to real-time dynamic drawings which are then printed on acetate, sandwiched between stacked glass plates that grow taller with the gradual addition of journeys, allowing installation viewers to observe each traveller's movements over time [15]. In Jen Southern's **Surface Patterns: Audio Tours** installation, GPS traces of ten local walks through Huddersfield are "rendered" using patterns of contributed pieces of wallpaper, shaping the data as a personal, tactile environment [16].

BEYOND CALENDARITY AND CARDINALITY

Enmeshed temporal and spatial indices have long subtended anthropological reference systems Bernard Stiegler denotes with the terms "calendarity" and "cardinality". In discussion concerning the memory that characterizes "programme industries", and its hold over contemporary society, Stiegler argues that emancipation from solar cycles leaves us with a calendarity devoid of essential cardinal markers, causing disorientation [17]. Mnemonic prostheses offered by digitalisation free us from chores of transcription and recollection, as they collect, collate and store data for supposedly infinite use. The radical break imposed on our temporal (calendar) rhythms also severs us from tightly-coupled spatial (cardinal) rhythms, previously combined to give society an essential, albeit precarious form of coherence.

This temporal and spatial coherence has conventionally been upheld in performances offering a communion of direct, living perception, described by Jerzy Grotowski as being the fundamental condition of theatre [18]. Yet if shared **in vivo** experience is indeed the essential condition of live art, then durational locative media works forming

communions of interactors can be seen to create the premises of a novel kind of theater. The *Telematic Dinner Party*, where Michelle Teran and Jeff Mann convened Amsterdam and Toronto guests to a shared virtual space, was orchestrated to enhance the sense of community amongst geographically and temporally dispersed members [19]. Time differences required the dinner to be staged over a five-hour afternoon, and strategies were devised to create spatial and temporal continuity amongst the groups of guests. Devices highlighting interaction included automated wine servers which filled glasses on each side of the Atlantic, sensed "Glass Clinkers" which called for toasts, and a speech-mediating animatronic fish. Drawing on an age-old social event with easily recognizable customs and protocols, the *Telematic Dinner Party* serves as a modern echo of the theatrical banquets that form a determinant though often overlooked part of performance history [20].

Whereas traditional performances involved geographically unified social groups ruled by the "natural" order of things in keeping with obvious seasonal changes and physical boundaries, ubiquitous technologies require milestones relevant for distributed groups welded by strongly shared experience. Locative media performances encompass participants and forge identities at levels ranging from the most intimate to the most distant; the propensity of such performances to go global is equalled by their aptitude to inject highly localized, often tightly time-bound events into overall connected fabrics. It is this tension between localized input on the one hand, and web-borne, purportedly universal resonance on the other, that gives mobile systems their complex social and artistic potential.

THEATRUM MUNDI, ET TEMPORIS (Giovanni Paolo Gallucci)

Gallucci's 1588 atlas (generally truncated, depriving the "Theater of the World" of its correlative "Theater of Time"), uses a trapezoidal projection system to build a set of vivaciously characterized constellation drawings based on the Copernicus catalogue of star positions. The astronomer's attempts to personify and vivify abstract celestial bearings seem strangely akin to some contemporary artists' attempts to redeem abstract positioning data by means of creatively humanizing activities. But the comparison does not end there. Like Gallucci's atlas, locative media's use of geographical space as a canvas is an adventure in mapping and navigation that reaches beyond this planet.

Our sense of calendarity previously ensured by solar cycles is today broiled not only by the conflated time-zones and seasons of global communications and transportation, but by temporal units related to extra-terrestrial emigrations. Sidereal periods are increasingly present in earthly doings and imaginings, as we network to monitor stand-ins exploring distant planets. An extraterrestrial robot that sends us a self-portrait [21] is symbolically more than a mix of materials and programs: it belongs to the lineage of totems, effigies, and chimeras that have always haunted and inspired humans, and been a constant source of theater. Artefacts which act as our eyes, ears and hands in remote parts of the cosmos are forging conceptual and technological reference systems which interweave new kinds of spatial and temporal experience.

In May 2005, when Jet Propulsion Laboratory engineers built a sandpit simulating the Martian dune in which Opportunity was stranded, internauts could simultaneously follow the trapped vehicle and its pilots' antics to get it out of the rut. Mapping the constraints of terrain tens of millions of kilometres away onto a sandpit in California, and devising strategies to instrumentally link the two spaces, implies a new kind of technology-supported location awareness and entanglement of apparently non-miscible spaces. Using locative media to beat the superhuman bounds we are tracing is surely one way of upholding our humanity as we continue to reach for the stars.

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5. See the **LondonFreeMap** project (2004), at <http://uo.space.frot.org>. Heath Bunting's **Downhill Map of Bristol** (2005) devised for and by skaters, cyclists and walkers, specifies quality and gradient of road surfaces, location of private paths, fruit trees, etc. The Skate Survey Group (including Bunting) used the artist's web-based software with flexible plotting, annotation and rendering options, to make the map a fittingly dynamic reflection of survey trajectories. Cf. http://locate.irational.org/bristol_map/, and text by Saul Albert, chinabone.lth.bclub.org.uk/~saul/docs/texts/crossing_the_line.doc
6. <http://www.ubermatic.org/life/> (the first walks were performed in early 2003).
7. An intriguing example is that of censorship of Italian fairground comedians in 18th century Paris, fomented by their Comédie française rivals; by gradually depriving them of the right to stage dialogues, monologues, song, then dance, legislators stimulated the Italians' ingenuity and reinforced spectator loyalty.
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Born in Aotearoa, holder of dual nationality (New Zealand/ France), Sally Jane Norman is a theorist (Docteur d'état, Paris III) and practitioner working in performing arts and technology. She was scientific coordinator of the first Louvre International Symposium on New Images and Museology (1993) and has co-/organized workshops, performances, and seminars exploring human interactions in digital environments at institutions including the International Institute of Puppetry (Charleville-Mézières), Zentrum fuer Kunst und Medientechnologie (ZKM, Karlsruhe), Studio for Electro-Instrumental Music (STEIM, Amsterdam), Phénix Theatre (Valenciennes), Ecole supérieure de l'image (Angoulême/ Poitiers), and Institut de Recherche et Coordination Acoustique/Musique (IRCAM/ Paris). Her writings include academic texts published by the Performing Arts Laboratory of the Centre national de la recherche scientifique, and commissioned studies and cultural policy papers for UNESCO and the French Ministry of Culture; she has lectured widely on art, technology, and cultural

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