



Affective space, locative bodies

Ellen Moffat, Kim Morgan

► To cite this version:

Ellen Moffat, Kim Morgan. Affective space, locative bodies. *Ambiances in action / Ambiances en acte(s)* - International Congress on Ambiances, Montreal 2012, Sep 2012, Montreal, Canada. pp.83-87. halshs-00745046

HAL Id: halshs-00745046

<https://shs.hal.science/halshs-00745046>

Submitted on 24 Oct 2012

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Affective space, locative bodies

Ellen MOFFAT¹, Kim MORGAN²

1. MOFFAT, Independent Media Artist, Saskatoon, Saskatchewan, Canada.
moffat.e@sasktel.net

2. MORGAN, Nova Scotia School of Art and Design University, Halifax, Nova Scotia, Canada. kmorgan@nscad.ca

Abstract. *The focus of our inquiry is the relationship between affective spaces and the body in urban space as a locative media project. Our direct research and development is locative mobile technologies for data capture of human rhythms in urban space.*

Keywords: *locative media, somatic rhythms, affectivity, interactive public art*

Technical: two approaches

As artist-researchers, we are based in different regions of Canada, and are developing distinct technological devices. In Saskatoon, Ellen Moffat is constructing controller-driven low-level operation systems with physical sensors; in Halifax, Kim Morgan is developing apps for Android smartphones. We have completed the first stage of our research – development of prototypes for data capture and transmission and field tests. Our eventual goal is to integrate the controller and android as a hybrid unit.

Ellen Moffat: wearable controller devices

For me, technology and media projects involve personal and personnel elements. My interest is somatic rhythms in urban space, in particular individual and subjective rhythms within the collective space of the city. My focus is quotidian rhythms of urban life, fluctuating rhythms of the pedestrian subject, degrees of self-awareness of somatic rhythms, shifts in somatic rhythms in diverse situations, neighbourhoods or cities, and somatic rhythms detached from ambient urban sounds.

My technological devices are low-level controller-based prototypes equipped with various sensors including pressure, ECG and stretch sensors. The compact wearable devices are dedicated to data collection *via* sensors attached under the feet and on the chest of the user; footsteps, heart rate and breath are collected. The data is stored as integrated data. In addition, time stamps, dates and GPS information is collected on one controller device. The prototypes employed different controller boards – either logomatic or arduino board – with varying sample rates and file formats (as CSV, binary and raw data). Having diverse prototypes allowed me to explore performance, function (collection, storage or transmission of data via SD card or Bluetooth to a computer or Smartphone), and processing (sonification of data into wav or MIDI files, or as visualization of data). One solution often created another problem. Working with data rather than sound files facilitated the collection of quantitative information but the conversion to sound and compatibility of software were challenging.

The process generated curiosity in computing engineering and medical research. I worked with engineers and programmers in computer and electrical engineering, human computer interaction and computer science at the University of Saskatchewan to develop several prototypes. The principals in my research were: Dr Anh Dinh, Computer and Electrical Engineering, U of Saskatchewan and his student, Curtis Tuplin; Jared Cechanowicz, graduate

from Human Computer Interaction, U of Saskatchewan; Dr Craig Gelowitz, Computer Science, U of Regina.

Kim Morgan: smartphone

My research interests for this project concern the artistic and philosophical investigation of lived experience within the urban space. In particular how our bodies move through space and the extent to which we respond emotionally to the things we encounter along the way. As a creator and participant in the project, I desire simplicity of experience – using a device that is small, mobile, unobtrusive, and user friendly. Today mobile phones are ubiquitous and multi-functional enabling a user to record both images/sound, get travel directions and text people. My mobile device is an extension of my body and I do not leave home without it.

Keeping this in mind, I wanted to develop an app, which records the pulse and rhythms of the body (the user) and locates this in space using GPS. Similar apps exist, but for this project it is also important to record the environment in which the body moves through and respond/reacts to. The data collection is done through the existing capabilities of the phone.

Prototype environment and application functionality

An app prototype is currently being developed for a Samsung Galaxy SII Smartphone running Android version 2.3.3. An open-source development environment being used on MacOS 10.6.8, incorporating Oracle Eclipse IDE with Android SDK and Google API's. The app is currently unregistered and is signed using a temporary debug key. The internal features of the device being employed are touch screen, rear camera, LED flash, microphone, magnetometer, and GPS (fine and coarse location). Additional functionality to be considered in later development phases is Bluetooth, gyroscope, and ambient light sensor.

The touch screen displays the app interface, allowing the user to select what data or media they would like to collect. In the current prototype, the user can take heart rate, video, and audio, as well as view collected data and media on a map. Each piece of data collected is registered with a media type, value or filename, and geospatial coordinates (latitude and longitude). This information is used when plotting and retrieving the data and media on the map.

I'm working with Lukas Steinman, media artist/programmer, Halifax, who is building the app. Our goal is to collect the body's responses (pulse, pace) to certain environments while simultaneously recording the immediate environment – video and audio – which will also be located on the map.

Shared considerations

We are already aware of some of the weaknesses and strengths of the android compared to the controller devices. The heart rate monitor on the android devices is less accurate than the ECG capabilities on the controller. The GPS already exists in the phone.

Once our prototypes are field tested, we plan to construct a small number of units (approx. 6) for public circulation through a public institution such as a library, university, or community centre. We also plan to collect data in different sites for comparison. The data will be translated into various artistic forms such as language, text, performance, sound, maps and other physical iterations. We will extend our interpretation of the data using methods of qualitative and quantitative analysis with Martha Radice, an urban social anthropologist.

Field (Trip) performance

We have three different devices, which will be field-tested in Paris. For this first stage of investigation, we are the first participant-users. Each of us will have one controller sensor device, arduino Bluetooth and an Android phone with GPS capacity. We have set up criteria for investigation according to the specific place. With the devices in hand or attached to the body, we will choose different locations and situations in Paris to explore, respond to, and collect data. Taking into consideration the different ways individuals react to people, places and things, and the different ways of interpreting them, we have chosen specific locations or situations that influence our experience of place.

It should be noted that some times we will be together, collecting data on a shared experience or sensation, while other times we will be apart – perhaps experiencing the same thing but at different times. In this way the phenomenology of perception and shared experiences will also be explored. Do two people respond differently to the same situation? Are experiences unique and what does this look or sound like? Can we collect this?

Location – Paris

Our first site is Paris. (Eventually this will be different cities – Paris, Halifax, Montreal, Berlin – cities in which we are both present.) We have come up with 5 walks to investigate. During these walks, each of us will wear a device to capture the body's somatic rhythms. The mobile devices – a smartphone and physical controller boards equipped with sensors – capture pulse/heart beat and footsteps as data; the data will be processed and enhanced to augment amplitude and frequency. The quality of the sound will be rhythmic rather than musical. The video will capture moving images of the immediate environment.

The walks in Paris refer to cultural and tourist sites such as Benjamin's Arcades, the Situationists' methods for "getting lost", exploring a place on "intuition" or sites of lore (catacombs). They also include:

- Quotidian events: going for a coffee, walking to get breakfast, or walking to the office or studio.
- A religious, ritual or spiritual place: visiting a catacomb or cemetery or mosque, or church.
- Following an "other": trailing, stalking.
- Finding/loosing each "other".
- Public event or spectacle; crowds; market places.

Since Paris is our first field test with the working devices, the results will be very important and will dictate our next phase in production. We will test the user friendliness of the devices and compare them to each other. How well they function will be determined during this process. The type and quality of the data we collect will determine the output and materialization of it into art.

What will the data look, sound, and act like? How do we interpret this for ourselves and then interpret it for the public. Where do we go from here?

Philosophical meanderings

The context of our project is a three-year SSHRC Research and Creation grant, *Tracing the City*, a collaboration between the visual arts and social science. The focus of the project is on what happens when the public space of the city intervenes in the private experience of art. Our overarching research questions tackle this theme from the angles of both the production and the experience of art.

- What happens when the private experience of art is disrupted, unsettled or reframed by the chance encounters and events of the public space of the city?

- How do public art works that incorporate decentralized, collaborative modes of production integrate with the city?
- How does this collaboration affect the structure and content of the work?
- How do interactive, locative technologies affect creative production or generate data?
- How can we use social science methodologies to both generate and interpret engagement with public artworks?

The core team is two artist-researchers and a social scientist who work principally in film (expanded cinema), public art (site-specific installations), and empirical qualitative research in the social sciences and humanities (urban social anthropology). The expanded team includes principals with collaborators: Solomon Nagler with Christopher Kaltenbach; Martha Radice with Erin Wunker and Nethra Samarawickrema; and ourselves.

Our theoretical framework is informed by scholarly literature :

- on social, spatial and cultural dynamics of cities, notably: the sociospatial dialectic, the relation between public and private space, and the urban symbolic economy;
- on new media and information and communication technologies (ICTs), particularly locative media, and their ubiquity and embeddedness in the contemporary city.

Our inquiry is rooted in the idea that the organization of society is necessarily expressed in and constituted by the organization of space, and that transformations in the one effect change in the other. Sociologist Henri Lefebvre analyzes the sociospatial dialectic by means of the “conceptual triad” (1991: 33): spatial practice (lived experience), representational space (lived space) and conceived space (hierarchies and codification of space). The three kinds of space are all intimately related; one cannot be fully understood in isolation from the others.

Our progressive inquiry is into data generation and interpretation, public and private space, private experience of the public institution and mapping.

Artistic interpretation

Affective Space: Locative Bodies is a media project that explores the relationship between bodies and urban space using mobile devices. Our collaboration is a sub project of the SSHRC Grant. At this phase we are exploring processes and devices for the collection of the body’s rhythms in specific locations. Rhythms are responses and reactions by and to people, places and things. They can also include temperature, pulse, breath, and pace.

The body is active agent in the city environment. By tracking, recording, and locating the body within different urban locations, we begin to see how different places may affect and (dis)connect us. Thinking of the devices as a possible extension of the body, the body is sometimes subject, sometimes object and sometimes a trigger. The city becomes the interface and surface for the physical performance of the individual.

The city is a complex system of human relationships, constructed environments and behaviors. Each city has its own particular characteristics, including rhythm, pace and architecture. As a living entity, the city affects that which moves through it or interacts with it. In this way, the city is an interface. Pedestrian routes and routines are a means of claiming, navigating and knowing space.

As artists, our questions include: how we as humans affect space, how space affects us, whether data is affective material, whether the affective can be measured as data, and how the interpretation of data extends perception. We are also interested in the limits of public/private space(s) and borders of transgression, and translation of data into sound and language.

The results will be used to develop installations or projections in outdoor and indoor public spaces that become part of the sensory experience of the city; they will also have a virtual presence on the web. The extension of this project into the larger SSHRC project will involve

the participation of “the public” – understood as people *and* places/spaces – in the artistic creation, proposing a decentralization of authorship.

Acknowledgements

This project is funded through a Social Sciences Humanities and Research Council Research and Creation Grant.

References

Lefebvre H. (1991 [1974]), *The Production of Space* (D. Nicholson-Smith, Trans.), Malden, MA & Oxford, Blackwell

Authors

Ellen Moffat is an Independent Media Artist and Professional Affiliate of the University of Saskatchewan, Saskatoon, Saskatchewan, Canada. www.ellenmoffat.ca

Kim Morgan is an Artist, Assistant Professor at Nova Scotia School of Art and Design University, and Researcher at Cineflux Institute, Halifax, Nova Scotia, Canada. www.kimmorgan.ca