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Mobile After-media, Cultural Narratives and the Data Imaginary

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ABSTRACT

In the context of a conference themed “After media,” this paper suggests a notion of *after-media* – not as a time beyond the demise of some particular media, but as an approach where the goals of a new medium are made explicit in relation to its historical foundations and practices. The author presents several principles and trajectories that shape his approach toward mobile after-media. These theoretical concerns are made more tangible by an explanation of the author’s project Datascape, a geographic storytelling platform that supports the telling of locative narratives by artists, researchers, educators and community groups.

Keywords

Locative media, geography, mobile, locality, narrative, interactive art, storytelling, visualization, data, after-media.

1. INTRODUCTION

Cities, nations and communities are bound not only by physical geography, but also by shared visions and stories through which their constituents identify both personally and collectively. Imagination and narrative are important modes through which we engage locations and cultures we can’t experience first hand, constructing images of far away lands and their inhabitants. These modes are also complicit in forming local communities of knowledge and in shaping public policy. Benedict Anderson refers to nations as “imagined communities” [1] – constructions of various agendas serving to unite otherwise dispersed geographies and populations. He associates the development of nationalism with print capitalism and the use of common vernaculars through which the nation state and its constituents became able to communicate. Edward Said also reflects on geographies as constructions of culture, but his “imagined geographies” are imposed from the outside. He implicates Western portrayals of Asian cultures in acts of colonialism and domination that continue to shape and justify western foreign policies toward the east. He also shows how these cultures sometimes internalize the projections and narratives constructed from the outside [21]. Print culture is an obvious medium through which many of these narratives and imaginaries are enacted, but there has also been a lot of attention given to popular media and new media as helping to shape contemporary imaginaries and constructions of geography and culture [4][15][17][16][7][18].

In light of these various media narratives, when asked to imagine a world “after media,” I’m inclined to ask, “Which media have died?” I don’t believe the images and narratives through which

our cultural and personal imaginaries are constructed will suddenly disappear. Media historians and theorists love to write obituaries. The book was declared dead at the dawn of hypertext (for example [14]), though we’ve yet to see that prophecy fulfilled. Channels of consumption for cultural narratives are changing, as they always have. Perhaps this notion of a time “after media” fits in part with the rhetoric of web 2.0, participatory media, open source, DIY. It is certain that the digital age is ushering a new age of media where the top-down channels are now supplemented – and in some cases supplanted – by new modes of consumption and production.

But let’s not be distracted by the alluring rhetoric that we are quite yet “after” or “post” anything, and instead consider ourselves in the midst of an ongoing sea change. I suggest we think of *after media* not as a time – a time beyond the demise of some particular media – but instead that we consider *after-media* as a practice – an approach toward media that sets itself in opposition to that which came before it. It is always dangerous to write history when you’re in its midst. After-media might be seen as a movement – like postmodernism or post-structuralism – that witnesses a long sequence of premature declarations of the end of what came before, and many small moments of departure that together make up a larger shift which will only be fully understood and appreciated much further down the road.

While it might not allow for quite such dramatic rhetorical flourishes, the notion that we are in the midst of an evolving movement – instead of the beginning of a new dawn – can actually be quite comforting, and also humbling. We are not starting from scratch; we have a rich history of experience upon which to build, and from which to depart. The term after-media evokes the phenomenon of afterimage – the optical phenomenon that makes images persist in our minds after a bright or static vision has left our view. Just as the persistence of vision of the afterimage leaves in our psyche a resonance with the past, so too do previous media and their methodologies and affordances enable and shape the production of new forms. Understanding and explicitly noting the tools and methods from which we are departing can help avoid false impressions that our history has not embedded within us certain ways of seeing and understanding the world and the problems and opportunities we encounter. Thus an after-medium (or various after-media) should not simply condemn to the past its predecessor, but should reinvent itself as something new, while at the same time maintaining a consciousness of that which it is following. This allows – and requires – the medium to be more explicit about the goals to which it aspires – enabling richer experiences, more democratization, more immersion, etc. In

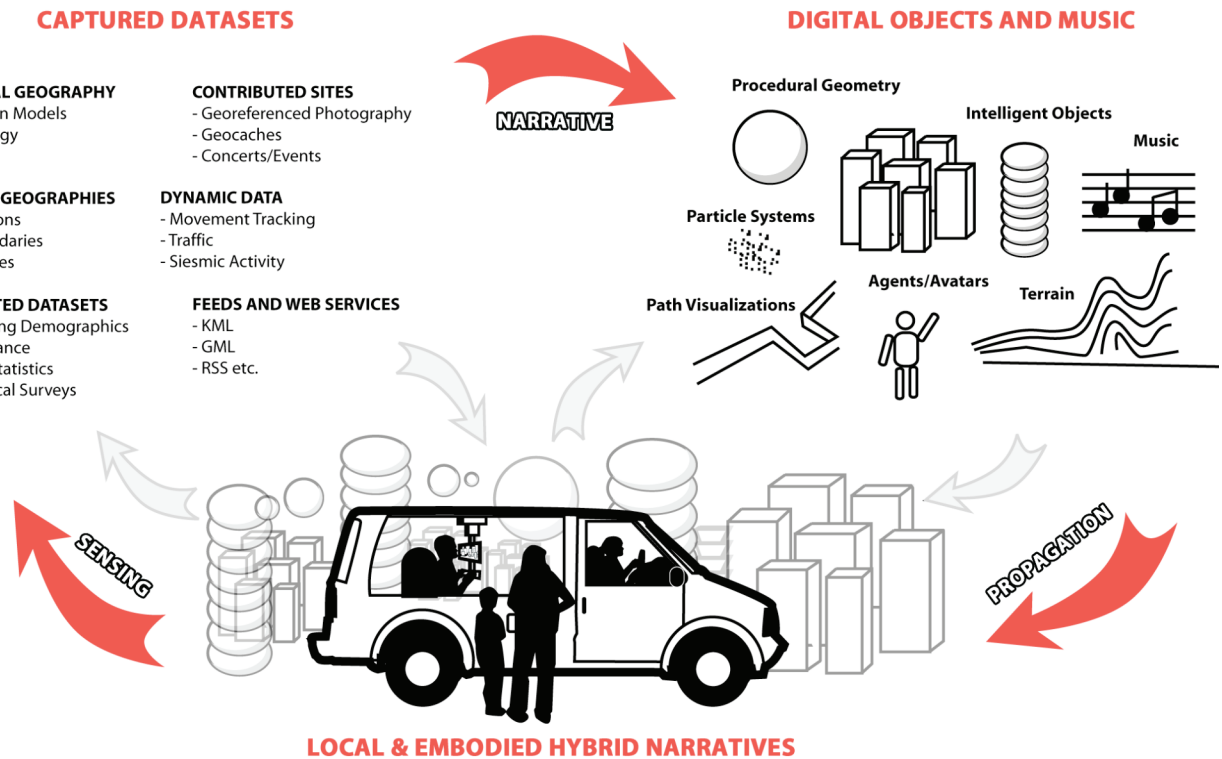


figure 1. An overview of the Datascape applicaiton.

this essay I present my work on Datascape, and frame it within a brief discussion of how one vision of after-media might appear. I suggest several principles and trajectories that guided the development of this project, and then return to a discussion of how locative and mobile media and artworks might become more explicit in addressing some of the critiques that have been levied against the field.

2. DATASCAPE

I have built a platform for the creation of virtual worlds that are layered on top of the physical world. Datascape is a geographic storytelling platform that enables artists, researchers, community groups and other individuals to narrate their local communities through geographic data. Participants in the project ride in a van; constructing or viewing an overlaid ecology of visuals and sounds that depict scientific or user-generated information about the communities they are traversing (see figure 1). A handheld LCD screen and other displays act as periscopes and windows into hidden layers of the city, riders selecting and interacting with narratives that have been created by themselves and others. By building 3D virtual worlds on top of the physical world, people shape the public imaginary and create a dialogue with more institutional and established mapping practices and accounts of space.

Datascape began with the construction of an art installation (see figure 2) that served as a prototype for the vehicle installation. I constructed a periscope-like installation through which viewers gazed into a simulation of Orange County where the geography was seen through the lens of geodemographic marketing data. My main goal was to expose the ways that marketing companies collect consumer and demographic data and then

compartmentalize our communities into discrete pockets of consumers, labeling each city block with a demographic profile narrative. My research suggests that these practices have the capacity to shape the ways in which these geographies are regulated and lived [19][20], so I wanted to create awareness of the marketing profiles, while simultaneously providing critique and parody of the practice.

Having successfully constructed a platform capable of delivering interactive 3D worlds from geographic data, I then focused on enhancing the platform and developing an ontology through which non-programmers can compose their own 3D environments – finding or creating geographic information and then animating and presenting their narrative in ways to shine light on their issue of interest. The software platform was rebuilt, and the necessary technologies for deploying the platform in a vehicle were developed [13].

The software is built to allow for modular development of tools to translate geographic information into actions and representations in the digital environment. I am currently engaging participants (see figure 3) to use the platform in open-ended ways and continuing development of the platform based upon participant observations that are captured during the design collaboration activities. I am borrowing methods from ethnography and participatory design [24][3] in order to allow these engagements to be less constrained by the technology and to instead shape the technologies to the needs of the participants. Whereas many user-generated mapping tools have a very specific and limited tool set from which the mapmaker chooses, my desire was to work from the narrative, artistic, educational or research goals of the participant to unleash the creative impulse in a way not so defined by technological constraints.

The participant engagements are ongoing, but so far the results have been rewarding. We are developing tool palettes for the Datascape environment that are geared toward different types of representational goals – educational, scientific, artistic, etc. – and we are discovering the challenges and affordances of using a system such as Datascape to visualize and narrate communities. Some of the participant groups with which we are working are: graduate education majors who will be using the system to enable ecological and historical education around Newport Bay for high school students; artists and atmospheric scientists who will be using atmospheric data to illustrate correlations between changes on Earth and on Mars as a lens toward the importance of the issue of climate change; researchers who are collecting community information through cell phone users in order to highlight local community issues; a cultural anthropologist who is mapping the social geography of local Native American groups and how it has changed over time; a department of Cultural Affairs preparing interactive and interpretive experiences for visitors and residents; and a youth artist mentoring community group that enables disadvantaged youths to tell stories about their local communities.

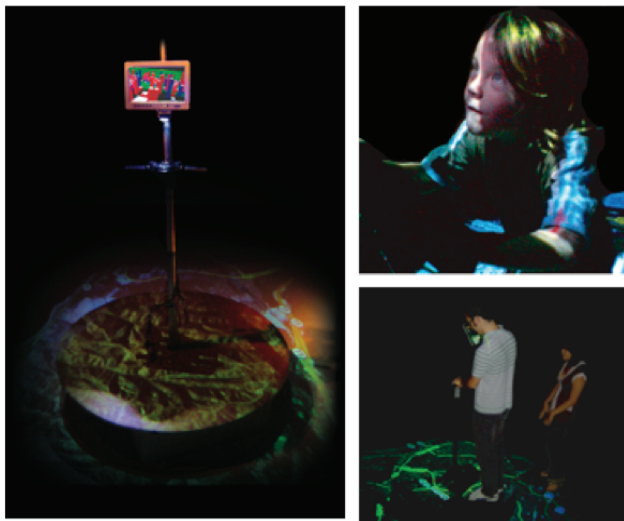


figure 2. The original Datascape art installation and prototype.

3. SUGGESTED TRAJECTORIES

Datascape is representative of many theoretical concerns that have been driving my arts practice. One of these concerns is that the map-making tools and APIs enabling locative media – which have in some ways liberated the space for geographic representation – are quite limited in the range of representations through which more creative narration of space might take place. I ascribe this in part to the nature of the ontology and coordinate systems to which sources of geodata conform, and also to the degree to which attitudes and methods from scientific visualization have pervaded the ways in which these tools are put to use. That is, locative media as an offshoot of the underlying technologies of GIS is quite bound to previous modes of representation. I suggest that the requisite geodata ontology is typically carried through to the level of representation. A place – in all its richness – becomes a static marker on a map, a journey becomes a line, and a community becomes a polygon outline. This limitation in the complexity and dynamism of geographic representation forms the basis from

which my vision of mobile after-media departs. For me, a movement away from the previous and current



figure 3. Images of the author and participants collecting data and planning narration in the Datascape van.

approaches toward mobile media could be characterized by a move away from more constrained views of static data toward dynamic representation and emergent behavior; from representational and documentary to living and enacted; from online and distant perspectives to local and immersed; from augmented reality to alternate reality; and from participation to engagement, as articulated here.

We must move from modes of engagement that focus on representation and move to those which engage the interaction and performance of the user AND the environment. Much work in locative media is focused on an object-based or coordinate-specific representation of information¹. This focus on the object/coordinate is at least in part a result of the affordances of the technologies available for indexing and representing information – an RFID needs to be attached to an object and a geodatabase entry needs to be associated with a point, line or polygon in physical space. The ontology of the geodatabase, while reducing the complexity of dynamic systems and interdependent

¹ Augmented reality (AR) markers; barcodes and RFID; Bruce Sterling's *spimes* and the *internet of things*; Mixed reality games ([2][3]); spatial annotation projects (<http://www.elasticspace.com/2004/06/spatial-annotation/>).

events to database entries, also has had a tendency to reduce complexity in interactional terms.

To emphasize objects and coordinates is to be concerned with nouns – with entities that are acted upon and known about. While this focus may elucidate the *known*, perhaps a focus on action – on verbs – might bring into view the act of *knowing*. Turnbull [25] suggests, “all processes of knowledge generation are based in the dynamics of movement through space, and of change over time.” He considers the act of knowledge production as hodological – concerned with paths and connections. By focusing on hodology we move from concentrating on what is known or established to considering the act of knowledge production. If we apply this notion to interaction design, we might see that moving beyond the object or coordinate and focusing on processes of linking and moving between the objects can yield a similar shift in focus.

We must move from panoptic toward localized contexts for representation. In most maps and spatial representations the city is seen from a bird’s-eye view. This is the dominant mode of geographic information analysis (biologists, social scientists, city planners) and is also the dominant mode of representation in the creation of maps. This way of seeing and ordering the world is born of technological developments such as cartography and satellite imaging. In *Seeing Like a State*, Scott [22] critiques the ways that governments and other institutions have imposed spatial order onto cities for purposes of control and rational division. Scott importantly notes that in creating an urban order legible from the outside, “the grand plan has no necessary relationship to the order of life as it is experienced by its residents.” De Certeau [8] similarly draws a distinction between the experience of the city looking down from a skyscraper – which he refers to as an act of *reading* the city – and the act of *walking* in the city, where the viewer is transformed from voyeur into a participant. The experience of Datascape is decidedly *local* and set in the *everyday*. Information and narrative encountered by the participant is not read from a panoptic vantage point, but is read from the same local perspective experienced in daily negotiations with the city. Experience of the city shifts from, in De Certeau’s terms, an act of *consumption* to an act of *production*.

We must allow for alternate realities in addition to our augmented realities. The use of overlays onto live video is an increasingly common way to present information to people in situ. The inclusion of a digital compass on mobile devices such as the iPhone is sure to unleash a gamut of applications that utilize features that are often referred to as *augmented reality*. It is my strong feeling that this approach – the overlaying of information chunks onto flat imagery – further increases the approach I outlined above treating objects and spaces as *known* as opposed to *lived*. Instead of creating overlays as known points in space – augmenting our known reality – perhaps after-media can act to create *alternate realities* where we have fully imagined and evolving worlds acted out in parallel (and symbiosis) with the lived world we inhabit each day. A virtual environment, unrestrained from a static image of the world but geographically and experientially coherent with lived spaces, is the approach taken with Datascape.

We must move from aspirations toward participation in our media toward true engagement. Participation has become a buzzword, and actions as simple as dragging a slider have been deemed participatory. Participation is not simply enlisting subjects to become involved, such as mapping bio-indicators or asking for

annotations, etc. In some cases participants become as much subjects of the output as they are authors, or they input content in very rudimentary ways. Perhaps after-media can aspire not just to capture participation but also to enable it in ways where our systems and artworks grow from the input of participants, rather than simply representing that input. In Datascape we are doing this by placing people into a real-world environment where they both browse and author narratives about the places they are traversing and living.

4. MOBILE AFTER-MEDIA

I alluded in the introduction to the importance of cultural narrative and representation as a mode not just to understand the past, but also to imagine and shape the future. My research in recent years has focused on geographic representation as an important site in which contemporary cultural imaginaries are playing out [13]. I’ve been particularly interested in the ways in which collected datasets about given geographies (personal consumption, demographics, crime, marketing, etc.) enable institutions to construct narratives about communities or neighborhoods that end up shaping public policy, physical geography, and community identity [19][20]. What is interesting to me is how modes of discovery and representation intertwine to facilitate future realities, and the ways in which geographic representation can be contrasted with the expressive and creative characteristics of other types of narrative.

For a long time the space of visual geographic narrative has been dominated by institutional voices (such as corporations, governments and certain academic fields), and members of the general public have been mostly consumers of maps. The availability of tools for creating maps has greatly increased over the past several years, largely due to the development of APIs and other online tools, and the development of open source tools for GIS, which can now compete with previously cost-prohibitive solutions. Most computer users at this point have the opportunity to create maps through map-mashups, or at least view their photos or other media through a geographic context. This has opened up the space of geographic representation and imaginary to a much wider set of people.

Media artists have also had a fascination with geography and location in recent years. Some media theorists have argued that locative media has taken the place of the net art movement as the next big thing – following multiple proclamations of the death (or decreasing sense of “purpose and distinctiveness” [23]) of net art [26]. Locative media heralded a movement away from the constraints of the networked but physically stationary machine, allowing the scope of the network to be expanded to include physical mobility, and ushered a welcome shift of discourse from virtuality to hybridity. Much locative media art has focused on the forms of self-representation that GPS and satellite photography afford – marker-based annotations or renderings of GPS traces upon a map are now common tropes. This Cartesianism in locative media has been widely critiqued for reducing the complexity of human action into simple markers [6][10]. Locative media has also been criticized for its adoption of technologies from the commercial sector, technologies that are often implicated in surveillant and hegemonic power relations [12][6].

Some practitioners have indeed embraced the medium in displays of techno-utopianism where locative media is thought to have a power for democratization, and others have taken a more critical

stance. There is an implicit politics present in locative arts, which has been the subject of debate [12][9]. In my view, this debate has served a useful purpose in forcing introspection on the technologies and practices that are present, but it has not always been focused on moving forward an agenda. Some have argued locative media should become more political, but perhaps theoretical arguments are often unmoored from the practice of building compelling artworks. There is unease associated with the practice of locative media as being too closely aligned with commercial interests, but this view reflects a nostalgia toward the purity of art as separate from those communication technologies that support it.

It is in addressing some of these conflicting agendas that I think a notion of after-media can be helpful. An after-medium should be explicit about its relationship to the histories and methodologies upon which it is founded. This would help to address a blind reliance on existing technologies without critiquing their underlying assumptions. This will also allow for direct pragmatic differentiations, and not abstracted assertions detached from the practice of the art. The juxtaposition with previous approaches can serve either a utopian or critical agenda – but forces the explicit communication of values that are often hidden or obscured. Additionally, an articulation of values in relation to previous media calls into question the idealistic stance that would have locative arts stand as an autonomous entity from the technologies that enable it. While it is perhaps a useful discursive device to conceptually liberate locative and mobile media from the underlying technologies and histories, the pragmatics of building new technologies require an acknowledgement and understanding of existing infrastructures, algorithms, coordinate systems and database ontologies.

As an artist and a computer scientist, my practice is driven in part by these tensions between critiquing and utilizing existing technical practices. Datascape was conceived and developed as a critique and parody on the practice of geodemographics and statistical analysis. My goal was to pull this practice of demographic narrative – a practice which I saw as complicit not just in representing, but in producing the performance of everyday living on the ground – into public view through critique and parody. But as I reflected on the original Datascape installation and the experiences of those who interacted with the piece, it was hard to avoid the question: so now what? Critical art has great power to shed light on a given issue, and interactive art has the potential to engage users on an even deeper level. But the lingering desire in my mind – and the minds of many people who experienced the piece – was to somehow affect this problematic. “How can I add my interpretation of the neighborhood?” That has become the driving challenge of Datascape – to allow for a more accessible and expressive narration or contestation of space and communities. And the underlying tension and irony is that I’m trying to solve this problem through the very systems and technologies I had been critiquing.

As artists we should continue to be critics and appropriators of technology. But we might also be best positioned to develop and affect technical practices through more direct means. A mobile after-medium should not be afraid to participate in the development or use of underlying technologies – even those with the potential for sinister use. Implicit in the notion of after-media as a movement is the active engagement of the future. Critical art can shape the future by altering perception of the present.

Developing critical mobile after-media will additionally entail altering the modes through which perception is shaped. If we fully recognize the histories and methodologies that shape our practice; and then we identify the principles and paths with which we resonate or differ; we can focus on developing new practices and media while avoiding complacency or complicity. And so our media practices simultaneously reflect on the present while understanding that we are actors in imagining and making possible alternate futures.

5. ACKNOWLEDGMENTS

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