THE EMOTIONAL LIFE OF MAPS

by

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Abstract

With current critical theory comes the admonition that social scientists look more fully at the power of visual representations from an affective perspective. Our world is flooded with images and spectacles to the extent that it sometimes appears superficially and depthlessly contrived. Within this context, geographers and others write about the power of GISystems to create spectacular map outputs. Often, these outputs are used to sway recalcitrant policy makers on crucial geo-political topics.

This paper looks at two important caveats that go beyond spatial representations. First, there are the ways we go inside images. GISystems are now augmented by GIScience and sophisticated geovisualization to the extent that these visual technologies probe and explore the depths of data, creating new ways to think spatially. Second, we go beyond the image. Our understanding of the power of representation is now augmented with 'more-than-representational' ways of knowing. This perspective goes beyond images to look at their affects. To look at affects spatially is to presuppose how emotional geographies change the world.

This paper brings together these two, often disparate, knowledges to argue for a broader understanding of the affective power of visual geographies as part of our disciplinary systems of technology.

In 1654, Madelaine de Scudéry published a map of her own design to accompany the novel *Clélie*. Her *Carte du pays de Tendre* – a map of the land of tenderness – pictures a varied terrain comprised of land, sea, river, and lake and includes, along with some trees, a few bridges and a number of towns. The map, produced by the female character of the novel to show the way of the "countries of tenderness," embodies a narrative voyage … In this way, the *Carte de Tendre* makes a world of affects visible to us. … Emotion materializes as a moving topography (Bruno, 2002, 2).

There has been quite a lot of talk recently about emotions and other aspects of geographic practice that go beyond representational ways of knowing. Maps are, at base, representations and yet it is not an overstatement to suggest that when they represent space well they also draw us in imaginatively and emotionally. Many of us began our careers because we were at some time transfixed by this power of maps; as our minds wandering around contours, our imaginations wandered around places. There is power to maps that is about what they are <u>and</u> what they do. Emotional geographies offer a theoretical basis for taking a look at this entanglement between visual objects and their affects. One root of the discussion about emotional geographies comes from post-structural theories that go beyond texts and other representations (Thrift 2004; Wylie 2006; Aitken and Craine 2005), while another is spurred by feminists concerns for elaborating theories of affect (Anderson and Smith 2001; Davidson et al., 2004). In the epigram, Giuliana Bruno points to a 17th Century *cartography of tenderness*, that countered the imperial cartographies of the day. The notion of a tender mapping is hugely appropriate to moving into and beyond imperial cartographies of today and we believe that emotional geographies help us get to that place.

Although GiScience can go into, through and beyond images it is as partial as any other way of knowing, and it may be usefully situated within emotional and affective contexts. The paper begins by considering the power of affective visual geographies and then considers the implications of this perspective for affecting change in the ways GIScience is practiced and realized.

Affective Geovisualizations to Counter the 'God-trick'

Spatial data visualized through Geographic Information Systems – in cartographic form or otherwise – can be joyless and over-calculated, with a tendency for the program to overwhelm the content. Geovisualization is a sub-field of GIScience that develops techniques and tools designed to interactively "visualize" spatial phenomena. It uses exploratory techniques to help visualize spatial data in ways that elaborate patterns and processes. The best geovisualized data is often more interesting to *think* about than to *experience,* more interesting to *create* than to *comprehend* - it is most often *less* the creation of a searching soul and more the product of a highly computer-literate mind (Aitken and Craine 2006). And yet, as neuro-scientist Antonio Damasio (1994) has shown, emotions are a huge part of, and are not separate from, our intellectual reasoning. From this union of emotional experience and data representation, we bring forth our 'affective geovisualization': a methodology that attempts to elaborate how humans interact with GIS-based digital virtualized environments and datasets.

When I coined the term "affective geovisualizations" with Jim Craine in the title of a 2006 article in *Directions Magazine* our intent was to suggest a link

between emotive work in geographic studies of media, particularly film, with some of the cognitive and behavioral work in geovisualization. Our argument was that these two fields of study tend to talk past each other and it was time to more closely look at the ways that they might inform each other. Given the early contributions to geovisualization of semiotics and other structured ways of knowing how representations worked on viewers (MacEachren 1994), it seemed reasonable to suggest that nonrepresentational theory, with its focus on emotions, could well play an important part in theorizing the current contexts of geovisualization. With this paper, I want to move these ideas forward a little more with a discussion of the ways visual geographies coalesce with, in, and through GIScience and I want to suggest a way to proceed and, perhaps also, a way out of the dilemma of the "infinite vision," the "promising vision from everywhere and nowhere equally and fully" applied by Donna Haraway (1991, 189 & 191) when she famously christened maps and other representations of "Science" as "an illusion, a god-trick."

Haraway (1991) argues that particular forms of visuality produce specific visions of social difference and that institutions, such as capitalism, mobilize certain forms of visuality to see, and to order, the world. She urges us to embrace new technologies as we seek further insights into the social relations contained therein: "taking responsibility for the social relations of science and technology means refusing an anti-science metaphysics, a demonology of technology, and so means embracing the skilful task of reconstructing the boundaries of daily life" (1991, 181). The potentially vast amounts of digital data contained within GIS

representations of visuality (which, in itself, *could* be considered a scientific discourse and is certainly a technological, if not a social movement) are ideal sites for the study of social relations.

The Visuality of Geographic Sciences and Arts

Gillian Rose (1993, 107) argued against the patriarchal nature of traditional cartography through highlighting: "[t]he inherent fears in geography's visual pleasures, its suspicion in its pleasure, produce its persistent refusal to problematize its pleasure – geographers are invisible to themselves." From this, she pointed out that so-called objective observations, by experts from afar, strive for a disembodied perspective that belie serious issues of male control and coercion: the god-trick As part of a project that pushed against what was seen as a larger patriarchal project in science, feminists evoked Haraway's (1991, 189) simian/cyborg manifesto, which declared the need for a usable, but not innocent, doctrine that recognized the possibility of sustained, rational, objective enquiry residing solely within a politics and epistemology of partial and situated perspectives.

Since the 1990s, the traditional visuality of geography has been problematized by a series of powerful critiques that focus not just on patriarchy but on a host of other power relations that are imbedded in visual phenomena such as maps, landscapes, paintings, advertisements, photographs and movies (Robins 1996; Fyfe 1998; Crang et al, 1999; Cresswell and Dixon 2002). This critique targets both the sciences and the arts. As Rose (1993, 99) points out, Science may

strive for disembodied mastery, but with the ideological notion that Art is the ultimate form of human expression comes the problematic assumption that "its pleasure is assumed to be untainted by the specificity of social relations."

The visuality of geographic sciences and arts does many things to shape meanings. The appeal of visual geographies resides with the ways it uses all types of visual images (maps, paintings, photographs, animations, movies) to highlight the physical world as a metaphorical space for the portrayal of spatial and social relationships. This is a good start towards an affective cartography but is at best a naïve understanding of the ways images stand in for something else. It glosses over how little we know about the power of the visual. We do know that images are powerful and that they are used for good and ill, but we do not really know the extent of their influence, nor do we know with any certainty what aspects of images are seen, or how we connect with them, and who connects in what ways. In addition, despite fifty years of semiotic analyses – a science that focuses specifically on linguistic systems and signs -- no one has come up with a precise relationship between images and language structures. Nor – and this is the main point of this paper -- do we understand well the emotive and nonrepresentational aspects of visual representations.

Situated Knowledge Representations and Emotions

> "[V]isualization is foremost an act of cognition, a human ability to develop mental representations that allow geographers to identify patterns ..." (MacEachren 1992, 101).

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"…affectively imbued thinking is always already underway by the time consciousness intervenes to pull it in this or that direction" (Connolly 2002, 94).

Computer-generated multi-dimensional representations do not initially seek to explain phenomena or events, but rather to enable researchers to see things that might not be immediately obvious or visible. As part of this trend in science, more sophisticated technological representations of spaces, places, patterns and processes through geographical information science highlights visual acuity that takes the viewer well beyond simple cartographic displays. In contrast to cartographic visualization, geovisualization's aim is not normally to communicate knowns, but rather to explore unknowns (MacEachren 1994; MacEachren, Gahegan, and Pike 2004). As the first epigram to this section suggests, geovisualization is primarily about developing mental representations. It emerged as a field in the 1990s as a combination of scientific visualization, information visualization, and exploratory geo-referenced data analysis (Buttenfield et al 2000). Characterizing the key components of representation is an important part of geovisualization. For example, Skupin and Fabrikant (2003) provide what they call an itinerary of geovisualized representations of non-geographic information and Dykes (1997) uses dynamic graphics to elaborate cartographic and statistical representations. Acevedo and Masuoka (1997) and Fabrikant (2005) use animations to represent spatial data with the purpose of exploring the scientific usefulness of different representational qualities.

Gahegan and Pike (2006, 728) take on the context of situated knowledge representations, pointing out that there is now significant progress "towards

better representational models in computer and information science, which help to bring to light many aspects of meaning and epistemology that currently lurk in the backgrounds of many GIS applications." They suggest some important ways forward in using computational representations to highlight the situated knowledge of what often resides in the "volatile memory of the analyst(s)" as well as giving "voice to different individuals and communities, specifically by representing a wealth of different perspectives that might be taken on geospatial information" (2006, 730). Influenced by Pierce's classic semiotic theory and Whitehead's foundations of knowledge representation, Gahegan and Pike (2006, 730) go on to argue that "some aspects of the situations surrounding creation and use of resources can be harvested, remembered, mined, visualized and applied to help communicate some … missing aspects of meaning, and to complement the more objective, top-down knowledge that might be provided by computational ontologies." With this work, there is still an overriding focus on the representation and cognition where cognitive models are used to cover the ways users conceptualize, learn and understand the data presented to them.

This focus misses an important new stream of work in neurology that highlights the emotional aspects of being in the world. As the second epigram at the beginning of this section suggests, to discount the affective components of thought is perhaps to miss a foundational aspect of cognition. Challenging traditional views about the connections between emotions and rationality, neuro-scientist Antonio Damasio's (1994) suggested that Descartes' error in his famous proclamation "I think, therefore I am," was to steer science away from emotions

as the primary source of humanness. More recently, V.S. Ramachandran (2008), whose early work focused on visual psychophysics, suggests that what he calls "mirror neurons" are the basis of human empathy and creativity in that they enable humans and primates (and some birds) to recognize and imitate the behaviors of others. In spite of the popularity of this field, to date no plausible neural or computational models have been develped to describe how mirror neuron activity supports cognitive functions such as imitation let alone emotional predispositions.

Current geovisualization discourse has not quite moved out of the technological implications of GIS and into more human-based emotive and affective spatialities. In the balance of this essay I argue that one of the problems of geovisualization studies is a continued focus on computational and cognitive modeling that misses Damasio's earlier point that emotions are essential to rational thinking and normal social and spatial behavior. In addition geo-representations are generally understood as given, or at best as spatial metaphors standing in for social and spatial processes and thereby missing the nuances of constant mutations. In what follows, I turn to affect as a way to encounter the powerful more-than-representational aspects of images.

Tender Mappings

In an astonishing and extensive reworking of cartography away from its imperial roots, Guilliana Bruno (2002) engages the contexts of mapping in architecture, travel, design, housing, planning and film. She takes the history of

mapping and contextualizes it in the arts, in desire, and in tenderness. Bruno (2002, xi) calls her reworking of cartographic themes against prevailing imperial hegemony a "sentimental geography." As a starting point of her *Atlas of Emotion*, a work that moves in, between and through 17th century cartographies to 20th century films, Bruno evokes Madelaine de Scudéry's map that accompanies the novel *Clélie* (1654). Scudéry's *Carte du pays de Tendre* is a celebrated allegory for the female association of desire with space, and an exemplar of the ways that cartography is inextricably linked with the shaping of female subjectivity (Benjamin 1986). It highlights important passages and mobilities away from lakes of indifference, dangerous seas and *terra incognitae* to favorable villages and towns of tenderness, large hearts, reflection, sympathy and so forth.
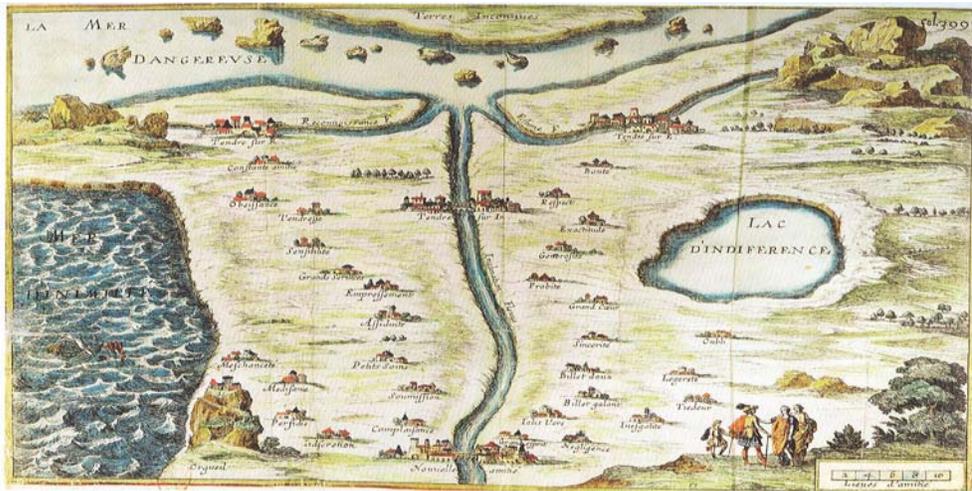

Figure 1. Madelaine de Scudéry's *Carte du pays de Tendre*. Engraved by François Chauveau (1654).

Tom Conley (2007, 127) suggests that the map in *Clélie* might have been drawn in opposition to contemporaneous military cartographies, inaugurated by neo-Cartesian engineers under kings Henry IV through Louis XIV. These

cartographers redrew the defensive lines of France and designed fortified cities in a time when new siege technologies were changing the ways of waging war. Conley goes on to point our that *Clélie* possibly reminded French society of the world of the *salon* and the space that women had crafted in opposition to the mechanistic world of warfare. In a similar vein, Bruno's arguments shift the context of visual geographies (her purview includes and goes well beyond maps) away from patriarchy and imperialism to a consideration of a tender geographical imagination. Perhaps, then, there is another side to the culture of digital immersive experience and, thus there is indeed a cultural politics that does not leave it to GIS software to control every aspect of our digital engagement with geographical space.

Constant Mutations

Cartographers must explore beyond standard data presentation and dig deeper into the virtual structures and affective post-structures of GIS in its digital and virtual totalities using not only standard geovisualization techniques and technologies but also drawing upon new social and critical theories. Affective geovisualization, as a new form of engagement, can bridge the gap between GIS-based cartographies and material geographies. It enables cartographers to rethink the relationship between human users/consumers and digital cartographic information. Affective geovisualization opens up the potential for cartographers to interface more effectively with digital datasets. Additionally, affective geovisualization opens the realm of the visual in ways that transcend the strict

governing binaries of digital code. By gaining an understanding of the affective nature of GIS, cartographers can begin to understand what until now has been considered indiscernible. Geographical representations change meaning as the environment changes so the function of visual characteristics in relation to social processes with the GIS environment can be the purveyor of a specific relations to bodies that are in continual flux. These characteristics can install emotional comfort or distancing, confinement, intimacy, or threat, but also, as a cognitive mode of understanding, can provide a 'scientific' method for grasping the complexities of the our world. In addition, and most basic, the intertextual relationships between GIS, as a series of data-based images, and our different participating senses, the affectivity of the image in other words, require a new form of geovisual analysis. Finally affective geovisualization can work towards a social theory of visuality, focusing on questions of what is made visible, who sees what, and how seeing, knowing and power are interrelated. Affective geovisualization can thus be used to examine the act of seeing as a product of the tensions between external images and internal thought and cognitive processes and passion.

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