

Memory, Periphery, and Globalization: The Freeway and Construction of Knowledge

Mike Christenson

North Dakota State University, USA

Abstract

The freeway is simultaneously a tangible, built expression of globalization and a device for making the world visible. As an expression of globalization, the freeway embodies and enables the “unprecedented flow of people, goods, and information” within a region, but always in a uniform and intentionally predictable manner. Indeed, the flow enabled by the freeway is made possible precisely because its form is predictable and uniform: to know and to use one freeway is to know and to use them all. Perhaps more so than any other aspect of the built environment, the freeway is the “blurring of boundaries” central to the functioning of globalization. From the predictable uniformity of the freeway’s built form follows a predictable and uniform means of knowing (and hence remembering, and navigating) a region: regardless of a region’s particularity of topography, culture, or its built environment, if one comes to know these things from a freeway, one’s memories are guaranteed to be peripheral (gained at 70 mph) and fleeting. Thus, the way in which the freeway constructs knowledge is – through precisely structured visibility – to cause regions everywhere to be not uniquely memorable but rather everywhere equally memorable. This paper argues that the freeway’s impacts on the construction of knowledge can best be understood through examination of the artefacts which precede its construction (e. g., promotional literature, maps, planning documents) and the artefacts which the freeway enables (e. g., popular movies, signage and roadside advertising). And moreover, that through the critically reflective production of new artefacts (such as the “inflection series map”, described here), the ability of a region’s specific conditions to disturb the ideal form of the freeway can be tested.

Keywords: *freeway, media, regionalism, knowledge, mapping, artefacts*

1 Introduction

The present conference call identifies globalization with a tendency to promote a "universal outlook" on the built environment. Simultaneously, the call recognizes the persistence of "regional identities" as a countering force to these universalizing tendencies. Globalization can thus be understood as a set of exportable processes or practices which promote uniformity in the built environment, while regional identity can be seen as reflecting those sets of practices which are specific to a given place or locale.

The limited-access motorway, or freeway, is rivalled in ubiquity and pervasiveness as a globally exportable phenomenon perhaps only by the skyscraper, like which, it simultaneously enables and serves as an easily understood symbol of those cultural and political processes termed "globalization." Like the skyscraper, as discussed by Michael de Certeau (1984), the freeway provides individual drivers and passengers with a specific way of seeing the environment. As an established framework for seeing, promoting a uniformity of apprehensibility and operability applicable in worldwide contexts, the freeway functions in an intentionally predictable manner. In this way, it can be simply understood as an obvious built manifestation of those processes termed "globalization". The specific "flow of people, goods, and information" enabled by the freeway is made possible precisely because its form is predictable and uniform: to know and to use one freeway is, to a strong degree, to know and to use them all. From the predictable uniformity of the freeway's built form follows a predictable and uniform means for an individual to come to see, know (and hence remember, and navigate) a region: regardless of a region's particularity of topography, culture, or its built environment, if one comes to know these things from a freeway, one's memories are assumed to be peripheral (gained at 70 mph) and fleeting. Thus, the way in which the freeway affects an individual's construction of regional knowledge will tend to be – through precisely structured visibility – to cause regions everywhere to be not uniquely memorable but rather everywhere equally memorable. In this sense, the freeway is a constructed device for enabling particular kinds of visibility and hence particular ways of constructing knowledge: a "centrifugal space" (Dimendberg, 1995) for individuals to view and to understand the world.

Nevertheless, the freeway has characteristics which are capable of making cities and regions specifically memorable to individuals, as distinct from those characteristics which tend to homogenize memory of specific places, diluting regional specificity. Because a freeway can shift its basic "exportable" form, it can register local particularities, allowing those particularities to enter into an individual's experience of what would otherwise be a homogenous experience. In other words, while the freeway certainly concretizes – or makes specific – those aspects of individual experience which are efficient, uniform, and generic, it is precisely through its capacity to admit exceptions to its neutral form that persistent local forces, or regional identities (e. g., as manifest in topography, or in the political will of a resistant entrenched population) become manifest.

This paper, then, is a consideration of freeways as a specific condensation of the conference theme. This is accomplished by juxtaposing freeways as built manifestations of globalization (implying exportable uniformity and a disregard of an individual's experience, or of regional specificity) against characteristics of freeways as built registers of regional identity (implying the necessity of individual experience in the construction of knowledge of a specific place). Central to the argument is a discussion of mediating artefacts, or things constructed to make ideas visible. The paper argues that mediating artefacts specific to the freeway are categorizable as being either *initiating* (i. e., produced prior to the construction of the freeway), *enabled* (i. e., made possible because of the freeway), or *critically reflective* (i. e., produced after the construction of the freeway, with the deliberate intent of entering the freeway into critical discourse). Mediating artefacts thus provide simultaneous means by which the freeway's impacts on the construction of knowledge (individual and collective) can best be understood and by which the ability of a region's specific conditions to disturb the freeway's ideal form can be tested.

2 The Freeway as a Predictable Means of Knowing

Peter Merriman (2004) identified a polarity in contemporary discussions on freeways, defined by the terms "place" and "non-place". According to Merriman, writers (specifically, Marc Augé and others) who propose to treat the freeway as a "non-place" emphasize its homogenizing effects on society, as those who inhabit its uniform and mundane spaces experience a loss of individual identity and develop an inability to form social bonds. As contrast, Merriman has referred to Edensor (2003) and others who argued that the act of inhabiting the freeway holds the promise of developing "familiarities" and a fundamentally meaningful existence. Merriman's central argument, however, recognized that the "binary polarities" of place and non-place tend to devalue, if not to actively subvert, the importance of mediating artefacts on an individual's construction of knowledge. Merriman's point was quite simply that "placing" is a concept not limited to inhabitation, but that the possibility of meaningful relationships arising can also be due to mediation (i. e., constructed artefacts). Specifically, he developed the concept of "placing" through tracing "the topologies of the [freeway] through the many documents and texts that have actively played a part in placing and spacing [it] in different settings."

Indeed, the notion that mediating artefacts such as documents and texts necessarily structure the possibility of developing specific, meaningful (i. e., symbolic or analogical) relationships among and between people, places, and things, is widely acknowledged within contemporary architectural discourse. Piotrowski (2001) argued that the mediating artefacts produced by architects (e. g., "conceptual sketches, physical models, functional diagrams, technical drawings, cost analysis spreadsheets, and verbal explanations") support and indeed define a continual process of conceptual negotiation between and among symbolic meaning and the spatial and material aspects of architecture. More generally, constructed artefacts of any kind, whether drawings produced by

architects as a process of engaging conceptual negotiations, or buildings themselves, or indeed freeways, always hold out the possibility of establishing specific theoretical stances, or ways of seeing. Artefacts have potential to simultaneously concretize ideas, make the intangible specific, and structure possibilities for discourse. When the freeway is considered as a mediating artefact, or as a device or filter through which an individual's knowledge (of the city, or of the region) is mediated, making prediction and navigation possible, it must immediately be recognized that its ability to sustain conceptual negotiations is predictable and uniform.

Those aspects of the freeway which, when entered into discourse through the production of mediating artefacts such as promotional literature, maps, and travel photographs, operate to establish and concretize otherwise intangible aspects of perception and memory, exist primarily in three forms, each of which is specifically related, in time, to the moment of construction of the freeway. I consider each of the three forms in the following sections, beginning with a consideration of knowledge as a collective phenomenon, structured by artefacts prior to construction, then moving to knowledge as an individual capacity, registered by artefacts enabled by the freeway, and finally to knowledge as a cultural phenomenon structured by the production of artefacts which purposefully and critically reflect on the freeway.

3 Artefacts Constructing Knowledge Prior To the Freeway

I use the term *initiating artefacts* to refer to those mediating artefacts produced prior to a freeway's construction. I intend the term to reflect the role these artefacts have in shaping (initiating) perception and anticipation of a freeway before it is built. Merriman (2004) recounted those aspects of perception and memory which, through the production of initiating artefacts, are deliberately entered into discourse prior to the construction of the freeway. He acknowledges the pervasive and persuasive agenda inherent in initiating artefacts to structure a popular conception of modernity or newness. For initiating artefacts to function productively in this way, they must highlight those aspects of the freeway which are predictable and uniform (i. e., enabling consistent flow of people and information), but also those aspects, inextricable from the use of automobile in contemporary society, which promote the possibility of excitement and novelty. Though most apparent in promotional advertising materials, this agenda is present in rationally motivated engineering drawings, though frequently it is not immediately apparent.

Maps. Carol Burns (1991), in bounding a critical discussion of relationships between site and architecture, defined an oppositional framework of "cleared" and "constructed" sites. She proposed that "[t]he idea of the cleared site is based on an assumption that the site as received is unoccupied, lacking any prior constructions and empty of content. ... the cleared site strategy undertakes to isolate architecture from time." Moreover, it is a strategy which depends on the "mathematicization of the land" and hence once which relies on maps as

instrumental mediating artefacts. In Burns's view, the principal tool of mathematicization is the grid, which "systemizes topography" and has the effect of denying specificity to parcels of land. To propose a freeway, particularly through a dense urban site, obviously requires a mathematicization of land, although unlike Burns's formulation, the freeway is enabled not through the grid, which it frequently subverts and transcends, but through the established *right-of-way*: the set of parallel property lines between which enables Burns's "cleared site". In forwarding the particular mathematicization of the right-of-way, the planning of a freeway forces a predictable and uniform way of knowing maps. Emphatically, maps are not means of registering visibility of the surrounding landscape, but become instead enabling documents for the production of cleared sites. Nevertheless, the initiating map has the capability to register those regionally specific features which disturb the pure mathematicization of the freeway's established right-of-way, whether these features are topographical or political.

Sections. Keller Easterling (1999) argued that the freeway enters discourse as a "frozen shape – a dumb network with dumb switches." Her position clearly acknowledged the rational motivation present in initiating artefacts produced to anticipate any freeway, whether map, section, or perspective image. However, Easterling's position most strongly informs the role of the *transverse section* as an initiating artefact. As a "frozen shape", the freeway's transverse section anticipates and enables the freeway as an arbitrarily long extrusion across and through the landscape. Considered rationally, the transverse section is obviously an artefact which highlights clearances, reflecting specific assumptions about vehicle sizes, but more critically, it is an artefact which delineates the ground as that which is to be *acted upon* or *carved into* by the freeway, and which is subsequently bounded by slopes and embankments. In short, the transverse section is a means of registering the reshaping of land necessary to construct the freeway. Its mutability is continually provoked by local forces, provided that the necessary minimum and rationally determined constraints which it registers are met; the transverse section makes visible the exceptions and shifts most critical to the functioning of the freeway. By so recording local conditions as exceptions, particularities of place are made specific in built form. These include on-ramps and off-ramps, overhead structures, and less commonly (and hence more memorably), tunnels, bridges, and extraordinarily tight embankments. Additionally, the transverse section is a register of visibility *across* and *into* the freeway – though not *from* the freeway, as this role is properly reserved to the longitudinal section (i. e., the section cut parallel to the direction of travel). Admitting the possibility of drawing longitudinal sections of a freeway prior to its construction is to acknowledge two factors: first, the importance of demonstrating conformance with established rational criteria for slopes and clearances, and second, the importance of a particular way of structuring visibility. This second factor is possible because the longitudinal section corresponds with the direction of automobile motion, and hence is instrumental to the driver's visibility; a series of longitudinal sections becomes instrumental when the series is used to determine positions of navigational signage.



Figure 1. Promotional image of the Trans-Texas Corridor.
 (<http://www.governor.state.tx.us>)

Promotional images. The pervasiveness of images as tools of promotion or marketing is widely acknowledged. Specifically, the kinds of promotional images which precede the construction of any freeway allow the promise of endless and continuous flow to enter into collective consciousness prior to public (or more specifically governmental) commitment. The mutually constitutive relationship between freeways and promotional media was amply discussed by Edward Dimendberg (1995) in his discussion of Hitler's Autobahn, and by Susan Robertson (2004) regarding the construction of Britain's Westway. A contemporary example exists in the material associated with the quarter-mile-wide Trans-Texas Corridor (TTC). The overarching aerial views associated with the TTC provide a functional overview of the system; they are views designed to persuade an audience of all aspects relating to rationality and function. Simultaneously, their construction *as perspectives* carries every implication of embodying in an individual (though profoundly unachievable) point of view the possibility to apprehend the entirety of the system. Obviously, such omniscient perspective is understood to be a highly effective marketing tool. The particular relevance to the present discussion exists in the complete disregard within these images for anything identifiable as a local particularity; such particularities are implicitly acknowledged as counter to the promotional necessities of the image. Le Corbusier's hand-drawn or pseudo-photographic images of new cities are no less capable than the Texas images of acknowledging the fundamental rationality of the freeway (indeed such rationality is at the root of his proposals); similarly, Corbusier's images tend strongly to assume an aerial point of view, as distinct from a ground-level one, again implying the possibility of achieving, as an individual, apprehension of the system as a whole. While certain of Corbusier's images acknowledge the presence of local forces capable of disturbing the

freeway's ideal form, very few of them treat this question at a level beyond the topographical – as much to imply that the geometry of the land itself is the only force capable of causing disturbance to the freeway.

4 Artefacts enabled by the freeway

Enabled artefacts are those which are made possible because of the existence of the freeway as a physical artefact. I consider these artefacts separately from *critically reflective artefacts*, which (as discussed later) are produced to deliberately enter the freeway into critical discourse. And, they are clearly distinct from *initiating artefacts*, which are instrumental in the planning and creation of the freeway. Enabled artefacts, by contrast, make no claim to be either instrumental in terms of freeway planning, or critical in support of discourse; they exist rather as a subset of a larger cultural milieu reflecting and enabling exchanges and transactions.

Travel photography. Analysis of travel photographs (snapshots) of the kind freely available on websites like Flickr is a means of gauging, in an unstable and constantly shifting fashion, those aspects of the freeway which capture the photographic sensibilities of its users. In other words, a sample of Flickr images has the capability to reflect ways in which freeways enable and promote a particular type of photographic seeing and memory. Merriman (2004) recognized the photographic specificity of visibility made possible through freeways when he stated that “motorways have provided travellers with a distinctive outlook on the countryside, as engineers and landscape architects aim to ensure that they are visually pleasing but free from distractions.” Flickr images, as a general rule, tend strongly to reflect the capacity of the built and inhabited environment to capture attention in an immediate way. A one-time sample of Flickr images generated through a keyword search for “freeway” sorts into two types: either produced from within a moving vehicle or produced while stationary, looking at the freeway from outside. The moving-vehicle photographs, in turn, tend strongly to the front-window view, registering the inexorable and ubiquitous lane markings vanishing into the distance, the tail-ends of automobiles, and the surrounding landscape peripherized. The moving-vehicle photographs which are not front-window views tend to respond to specific objects (e. g., focusing on or framing an unusual vehicle or sign) or to a photographic registration of motion (i. e., as achieved through a longer exposure time). Less common are photographs taken perpendicular to the direction of vehicle motion, suggesting that the accelerated periphery of vision made possible by the freeway is simply outside of the commonly understood ways of structuring specific knowledge and memory as phenomena specific to individuals. These observations accord with Williamson (2003), who argued that the freeway results in a particular kind of absence, or placelessness, manifested as an “obscured awareness of the passing landscape,” and also with Edensor (2004), who, while quite correctly asserting the possibility of a “relationship between space and national identity”, was most willing to characterize this relationship in terms of objects (cars, highway signs, “road furniture”, or roadside architecture) rather than in a particular structuring

of visibility. The Flickr sample suggests that Williamson's "obscurity" occurs with specific reference to the periphery, not to the novel or supposedly unique "distractions" or "road furniture" which the experience of freeway travel apparently provides in abundance, waiting to be captured in traveller's snapshots.

Maps as promotion. Graham and Marvin (2001), in *Splintering Urbanism*, discussed the binding between the definition of an urban location and its topological connection to freeways. Their discussion specifically makes reference to a reproduced image of several small-scale maps which, in a manner famously employed in Harry Beck's 1933 map of the London Underground, distort distance in order to emphasize topological connections (i. e., junctions between roads). As tools for marketing and promotion, maps such as those reproduced in *Splintering Urbanism* are ubiquitous, appearing in American newspaper supplements advertising car dealerships or furniture sales depots distributed across the city. These maps are made possible by the freeway, as no other component of the road system is as clearly characterized by consistency of topology, and indeed, the maps bear immediate visual similarity to the stylized junction diagrams which appear as graphics on highway signs prior to unusually complex freeway interchanges. Graham and Marvin did not directly discuss the mediating role of the reproduced small-scale diagrammatic maps, which is clearly to encourage an understanding of the freeway *as a component of a system*, much in the same way that an engineer's "one-line diagram" encourages discourse about devices and conduits. However, it is precisely the fundamental recognition of the freeway's system-component nature and the focus on joints which permit the maps to function as effective tools for marketing: in denying distance, they foreground all possibilities of convenience, speed, and promised ease of access, which are fundamental preconditions to enticing consumers to a point of sale.

5 Artefacts Produced to Reflect on the Freeway

This section of the paper proposes specific outlines for the production of *critically reflective* mediating artefacts. These are artefacts which deliberately reflect on the freeway as a means of entering it into critical discourse. Appleyard, Lynch, and Myer produced the seminal work exploring critically reflective mediating artefacts in their 1964 *The View from the Road*.

Doreen Massey (1991) argued in favour of defining specificity of place not through reference to explicit or implied boundaries, but rather "as articulated moments in networks of social relations and understandings, ... where a large proportion of those relations, experiences and understandings are constructed on a far larger scale than what we happen to define for that moment as the place itself, whether that be a street, or a region or even a continent. ...[S]pecificity of place ... derives from the fact that each place is the focus of a distinct mixture of wider and more local social relations." The freeway itself becomes a means of establishing, through its extruded frozen shape, the "far larger scale than what we

happen to define at the moment"; it exists precisely as Massey's "mixture" of this widely extensible extrusion with local and persistent forces. Thus, it becomes necessary to reflect on how this mixture is established. David Leatherbarrow (1998) asserted that "Design or drawing is ... not the arrangement or rearrangement of representations of existing forms, that is, composition, but the establishment of a framework that will sustain their coherent deformation." Leatherbarrow's position resonates because he acknowledged the connection between design, memory, speculation, and possible deformation of an established framework. Specifically with regard to critically reflective mediating artefacts, it is the local exceptions or the *deformations* (Leatherbarrow) of their established frameworks which register *specificity of place* (Massey).

What then are these established frameworks, and how and in what way do deformations come about? More particularly, how do we construct artefacts which register "coherent deformation" / "specificity of place" of the freeway in order to productively enter this registration into discourse? It is not enough to speculate on what forces or factors may be responsible for the deformation of the freeway's basic form – we must actively enter these factors into discussion through the production of new artefacts. This point is illustrated with a proposal for a specifically defined critically reflective artefact: the *inflection series map*, which documents the existing form of the freeway in a series of maps, each new step in the series introducing the presence of an additional force or set of forces forcing the freeway away from its basic form.

The inflection series map is a critically reflective artefact constituted through iterative steps. The construction of the map begins through the identification of any two points on an existing freeway as two points on a page, connected by a straight line. The line indicates the ideal form of the freeway, the trace through the landscape of the widely extensible extrusion of the frozen sectional shape. Following this initial trace (Figure 2, Step 1), the construction of the map proceeds incrementally to register increasingly fine modifications to the ideal form, by introducing inflection points, each of which disturbs the freeway's form toward its actual route through the landscape (Figure 2, Step 8).

Analysis consists of hypothesizing relations between these inflection points and the inconveniences of place – i. e., changes in topography, or the presence of an historic structure or district, or of a difficult-to-cross river. Such inconveniences are, then, precisely the characteristics of a region's specificity which the freeway makes visible through its form, or more precisely, through its local departures from its general form.

The inflection series map assumes and registers an initial condition: the bright line on the map, connecting distant points. Proceeding through the iterative and sequential introduction of "existing forms" (Leatherbarrow) which have the power to modify or distort or deflect that bright line – to disturb it – to veer it from its straight path. Through the use of the inflection series map, the freeway can be understood as an *inflected medium*: the inflection points become the record of regional specificity (Massey).

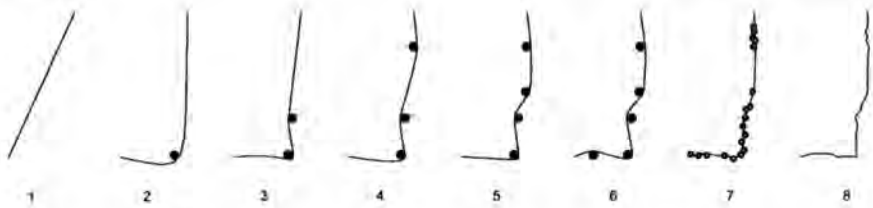


Figure 2. Inflection series map of a portion of the Minneapolis/St. Paul freeway.

The map registers the deflections or distortions into the freeway's uniform and predictable means of knowing; it treats the freeway as efficient means of enabling the "flow of people, goods, and information" even as it allows the distortions of local peculiarities into the form of the freeway – the more exceptional, the more memorable, the more powerful the effect on the form of the freeway. In Figure 2, a clear example of this is shown in Step 2, where an inflection point is introduced corresponding to the centre of downtown Minneapolis. The point incorporated in Step 3 corresponds to the crossing of the Mississippi River, and so on. In short, the map acknowledges that the form of the freeway serves precisely to make visible those powerful local forces which establish regional specificity.

6 Conclusions

I have here considered the freeway as an artefact (a human construct) which simultaneously enables processes and exchanges specific to "globalization" (i. e., the free flow of people, goods, and information), and also which makes regional specificity visible in particular ways. Rather than emphasizing possible numbing effects of the freeway on perception, I have proposed that the physical form of the freeway – its profiles, curves, slopes, embankments, bridges, tunnels, and so on – record and make visible and memorable regional specificity and identity. More importantly, I have argued that those aspects of the freeway which have this capability are best entered into discourse through the examination and production of specific kinds of mediating artefacts, such as maps, photographs, and sections.

Charles Kuralt posited that because of the freeway, "every place looks and feels and sounds and smells like every other place" (Kuralt, 1985: 42); in shifting his conclusion, I suggest that the freeway is responsible not for making places look alike but rather for promoting a uniform way of seeing and remembering places: it is not that what we are looking at becomes identical, but rather, that *what we are looking through* is largely uniform and predictable. This worldwide uniformity and predictability of looking through is precisely the aspect of "globalization" which the freeway most strongly enforces, and the exceptions to this commonality constitute visceral reflection of regional identity.

References

- Appleyard, D., Lynch, K., & Myer, J. R. (1964). *The view from the road*. Cambridge, Massachusetts, USA: MIT Press.
- Burns, C. J. (1991). On site: Architectural preoccupations. In A. Kahn (Ed.), *Drawing, building, text*. New York, USA: Princeton Architectural Press.
- de Certeau, M. (1984). *The Practice of Everyday Life*. Berkeley, California, USA: University of California Press.
- Dimendberg, E. (1995). The will to motorization: Cinema, highways, and modernity. *October*, 73, 90-137.
- Easterling, K. (1999). *Organization space: Landscapes, highways, and houses in America*. Cambridge, Massachusetts, USA: MIT Press.
- Edensor, T. (2003). M6 - junction 19-16: Defamiliarizing the mundane roadscape. *Space and Culture*, 6, 151-168.
- Edensor, T. (2004). Automobility and national identity: Representation, geography and driving practice. *Theory, Culture & Society*, 21 (4), 101-120.
- Graham, S. & Marvin, S. (2001). *Splintering urbanism*. New York, USA: Routledge.
- Kuralt, C. (1985). *On the road with Charles Kuralt*. New York, USA: Putnam.
- Leatherbarrow, D. (1998, Fall). Showing what otherwise hides itself: On architectural representation. *Harvard Design Magazine*, 51-55.
- Massey, D. (1991, June). A global sense of place. *Marxism Today*, 24-29.
- Merriman, P. (2004). Driving places: Marc Augé, non-places, and the geographies of England's M1 motorway. *Theory, Culture & Society*, 21 (4), 145-167.
- Piotrowski, A. (2001). On the practices of representing and knowing architecture. In A. Piotrowski & J. Robinson (Eds.), *The discipline of architecture*. Minneapolis, Minnesota, USA: University of Minnesota Press.
- Robertson, S. (2004). Visions of urban mobility. In P. Wilding (Ed.), *Urban infrastructure in transition: What can we learn from history? (Proceedings of the Summer Academy 2004.)* Graz, Austria: IFZ.
- Williamson, T. (2003). The fluid state: Malaysia's national expressway. *Space and Culture*, 6, 110-131.