

Highways of the Mind



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*What sphinx of cement and aluminum bashed open
their skulls and ate up their brains and imagination?*

*--Allen Ginsberg, *Howl**

"The future, always so clear to me, had become like a black highway at night. We were in uncharted territory now...making up history as we went along."

--Sarah Connor, *Terminator 2: Judgement Day*

Our highways are haunted. Ghosts peer at us from the road-sides in the frail shapes of white crosses adorned with plastic flowers and the misshapen remains of critters—"roadkill." One frequent victim of roadkill, Warner Brothers' hapless Wile E. Coyote is outwitted again and again by the avian hot-rodding Roadrunner, and usually ends up splattered across the Arizona blacktop. Even in children's cartoons, the highway stands as a metaphor for destruction. Twentieth-century literature lends us further examples. In Thomas Pynchon's *The Crying of Lot 49*, a highway forces its way through a graveyard. In Douglas Adams' *Hitchhiker's Guide to the Galaxy*, Earth is destroyed to make room for an interstellar bypass. In Don DeLillo's *Underworld*, the highways of Los Angeles are stalked by a craven gunman taking pot shots at fellow drivers.

Stories of the highway, that open road leading between and beyond the bustle of well-lit cities, have long haunted our imaginations. From ancient Rome's tomb-lined Appian Way to the well-trodden path carrying pilgrims of the Canterbury Tales or seventeenth-century post roads on which horse and rider journeyed miles between cities to deliver



IMAGE Highways of the Mind.1: Ghosts on the road: Tombs along the Appian Way. From Breasted and Robinson, *The Outlines of European History*, 1914.

news, highways have been places of banditry and derring-do. Consider, even, the number of American horror films in which zombies, monsters, and serial killers lay in wait, haunting the margins of our highways, preying on newlyweds, family road-trippers, and those poor travelers unlucky enough to have car trouble. To name a few: *The Texas Chainsaw Massacre* (1974), *The Hills Have Eyes* (1977), *Natural Born Killers* (1994), *Jeepers Creepers* (2001), and *Wrong Turn* (2003). While America's cities were, by the mid-nineteenth century, lit up by gas and electric lights, leading to what historian Peter Baldwin calls a "great expansion of nocturnal activity," highways

have remained unilluminated except for the narrow beam of the driver's headlight (Baldwin 750). As a result, our highways have continued to be imagined as both exciting and fearful places, lines pointing us toward an uncertain future while also waylaying us along the roadside with tales of woe and wonder.

Stories of the open road continue to hold a powerful sway over our imagination, and could even be said to structure our understanding of the spaces we travel through. Landscape designer John Brinckerhoff Jackson notes that:

The sense of place is reinforced by what might be called a sense of recurring events... [A] favorite episode in novels and movies and television shows laid in the American heartland is that lonesome ride through the night landscape: an occasion for remembering other times. (152)

In addition to helping us "remember other times," Jackson's "lonesome ride" also allows us to make sense of where we are going:

The road narrative typifies what Mikhail Bakhtin calls "the chronotope of the open road," a narrative feature of novels in which road journeys figure prominently and serve as metaphor for the "life journeys" of their protagonists:

[the novel] fuses the course of an individual's life (at its major turning points) with his actual spatial course or road—that is, with his wanderings [...] In folklore a road is never merely a road, but always suggests the whole, or a portion of, "a path of life." (120)

For Bakhtin, the "chronotope of the open road" creates a new importance for the conceptualization of space, which is "filled with real, living meaning, and forms a crucial relationship with the hero and his fate" (120). Space, in other words, becomes a kind of writing surface. As well as providing a metaphor for human struggle, the chronotope establishes the power of the individual to "author" his or her own story metaphorically "on the road."

The superhighways of the twentieth century have raised the cultural stakes. Traditional road narratives live on, but our new superhighways are not really about the past but the future, and are marked by a vaguely formulated goal of ultimate speed without destination. "Cars, cars, speed, speed!" proclaimed architect Le Corbusier in 1925. Rather than situating travelers in a particular place and time, the modern superhighway decouples us from the landscape over which we journey, transforming *place* into *space*.

A highway system visible from space and built for an unprecedented number of travelers, evacuees, or troops is no longer a place to experience a series of adventures along the wayside. Rather, the superhighway is built to be experienced, in its own right, as the embodiment of perfect speed and perpetual motion. The chronotope of the open road has escaped story-time, and now organizes our physical interactions on a fundamental level, so much so that the highway, Jackson argues,

continues to weave a tight, intricate web over every landscape in the Western world and has spawned a whole breed of roadlike spaces—railway lines, pipelines, power lines, flight lines, assembly lines. (190)

These "roadlike spaces" have come to dominate our understanding of both the landscape and our own movements in and through space and time.

This project's title is inspired by media theorist Marshall McLuhan who, in 1964, proclaimed that "in the very Hot



IMAGE Highways of the Mind.2 Roadlike spaces: View from the Gordon Highway Overpass, Augusta, GA. Photo by Douglas Parker/HABS. Library of Congress

Peace since the Second War, it is the highways of the mind that have been found inadequate" (102). This remark, aimed at the changing ways we approach the study of media cultures, suggests that communication technologies organize thinking and subjectivity just as much as transportation technologies organize goods and people. In part, we aim to reverse this analogy in order to reconsider the ways that the Interstate Highway System has not just organized the movements of goods and people through time and space, but, like modern communication networks, has determined, to a large extent, an entire culture, its practices, and its values.

Much in the same way that younger generations are incapable of imagining life before the World Wide Web, many Americans today no doubt find it hard to imagine a national landscape that does not and has not always depended on the superhighway. The Interstate Highway System did not only transform the American landscape. America's superhighways and the stories that have sprung up around them have shaped the way a nation thinks of itself, for better and worse.

Many books have dealt successfully with the historical dimension of highways, emphasizing the development of political movements and people over time, as well as the development of technological interventions. Tom Lewis's exhaustive history of the Interstate highway (1999) for example, traces how individual road engineers, corporations, and political figures came together to create the divided highways we know today. Mark Rose and Raymond Mohl provide ex-

tensive coverage of highway politics, and early critics of highway planning (Jacobs 1960; Berman 1988) have dealt with the ways that highway planning and development (and the personalities that drove these plans) created unexpected consequences in their quest to create new urban spaces. Urban studies have focused on the regional and ecological impacts of transportation networks and the more general role of transportation in creating technological landscapes (Bottles 1987; Garreau 1991). Scholars in the fields of architecture and geography have become interested in the ways highways have shaped our landscape and the people within it. Keller Easterling (1999) has paid considerable attention to this power, arguing that traditional architectural studies, which tend to foreground aesthetics and form, now need to think about architectural space (and in particular, the spaces created by transportation) as a network that organizes people. Similarly, John Brinckerhoff Jackson (1994) suggests that transportation networks are changing our understanding of the landscape and its relationship to space and time.

This project's contribution is its consideration of the highway's rhetorical dimensions. We approach highways as persuasive spaces—rhetorical machines that force us to engage in a limited and limiting range of physical and ideological behaviors. In the last century, superhighways have developed as a major component of a vaster network of organized, procedural spaces that determine where and how Americans live. As historian Kenneth T. Jackson writes, “[...]

the space around us—the physical organization of neighborhoods, roads, yards, houses, and apartments—sets up living patterns that condition our behavior” (3).

In this project we look at, and in many cases present directly to readers, planning documents, industrial films, corporate ephemera, and science fiction narratives in order to examine how these stories of the road have influenced not only how we imagine highways, but also how they came to be physically built, and how we have been captured within their vast networks.



IMAGE Highways of the Mind.3 The new space: Arroyo Seco Interchange, Los Angeles, CA. Photo by Brian Grogan/HAER. Library of Congress.

Highways of the Mind looks less at the political or legislative history of the Interstate Highway System, focusing instead on cultural and media representations of the highway, taking into account these "highways of the mind" that have reconfigured how we think about ourselves and our world. As an artifact of an optimistic era saturated with advertisements, propaganda, and corporate fictions that promised Americans a future of perpetual progress, cleanliness, and technological perfection, the superhighway is as much a spectacular media event as it is a large-scale infrastructural project.

They're on the way —

**Modern Freeways
FOR A GREATER AMERICA**

Concrete is already being placed on many sections of the National System of Interstate and Defense Highways authorized by Congress last summer. By 1972 the entire 41,000 miles will sweep from coast to coast in and out of (and around) all our great cities. Suburbanites as well as transcontinental travelers, trucks and military vehicles will move swiftly and safely on multi-lane, controlled access highways separated by wide median strips. There will be gentle grades, wide curves, no stoplights. Modern engineering plus smooth-riding concrete pavement will save lives, save time and save money—and help build a greater America.

PORTLAND CEMENT ASSOCIATION
33 West Grand Avenue, Chicago 10, Illinois
A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work.

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IMAGE Highways of the Mind.4: “They're on the Way!”
Portland Cement Association advertisement for the Interstate system. Harry Ransom Center, The University of Texas at Austin. Image courtesy of the Edith Luytens and Norman Bel Geddes Foundation.

Highways of the Mind looks at the superhighway, not simply as an inert background for family road trips, but as a central "character" in the twentieth-century American drama. We show how the stories we tell about the highway—whether in the service of national pride, corporate advertising, urban planning, or apocalyptic warnings—determine how we imagine, or fail to imagine, the possibilities for human action in built environments. Like the highways themselves, the stories we tell accumulate layer upon layer with each passing generation. To encounter the highway of today, then, is to experience its multiple and contradictory cultural associations—past and future, utopian and apocalyptic—all at once.

We also show how highways are disciplinary: they force our paths by determining which landscapes we have access to, how and where we travel, and who can accompany us. The physicality of the highway—its preference for some behaviors over others—determines how and what we think about our place in transportation networks. A highway is thus a literal and rhetorical "infra-structure," a site that structures both physical space and our cultural identities in the age of auto-mobility.

As the story of the Interstate Highway System unfolds in subsequent chapters, we demonstrate that our highways have been haunted, first by narratives of promise and progress and then by narratives of decay and death as the fantasies of a thoroughly automated, auto-centric society have given way to this reality, the here and now. The stories that

we trace show how the highway has been rendered, in turn, as a clean and bright technological marvel, a high-speed power route, a cornucopia of wealth, an aid to the creation of the (white) middle-class family, a desert wasteland, an ecological nightmare, and, finally, as the material reminder/remainder of a once-powerful civilization.

Throughout the twentieth century the highway has served as a compelling metaphor for the contradictory cultural logic of humankind's fascination with and fear of transportation technologies. It reveals fantasies of technological utopianism as well as anxieties about the destruction of the environment and the dehumanizing impact of modernity. The narrative trajectory of this project, from industrial designer Norman Bel Geddes' visionary "Futurama," harbinger of a golden future enabled by high-speed transportation in the 1930s, to JG Ballard's "Autogeddon," and other science fiction narratives in the latter half of the twentieth century that imagined the end of the world by automobile, reflects some of our most potent fantasies as well as our deepest anxieties about modernity, ecology, commerce, and individuality.

As we explore America's romance with the open road in the twentieth century we consider key questions about our past, present, and future as each has been determined to some extent by the highways, both literal and rhetorical, that we travel. In what ways has auto-mobility and the Interstate Highway System defined America's material and cultural

landscapes? What promises were made to the American public, by corporations as well as government, about a golden future of prosperity, cleanliness, and leisure brought about by superhighways? Which of these dreams have come true and which have turned to nightmares? What, in an age of increasing anxiety about air pollution, traffic accidents, and oil scarcity, does the future of America as a “nation on wheels” have in store? Is the age of the automobile, as some science fiction authors have imagined, reaching its end, or is America’s identity so deeply entangled with the network and machinery of our Interstate Highway System that its end has become impossible to imagine? Finally, we consider how, going forward, we might resist such compelling road narratives of freedom and progress that continue to resonate so strongly with our sense of national and even personal identity? How might we begin to take part in a different conversation that seeks alternatives to the alienating, and often deadly, forces of technology?



IMAGE Highways of the Mind.5 Under the overpass: Cloverleaf interchange, Dakota County, MN. Photo by Mike Whye/HAER. Library of Congress.

Theoretical Foundations

Highways of the Mind is conceived in terms of three distinct, but intersecting analytical threads, each represented by a key rhetorical figure: the chronotope, the specter, and the machine.

Thread I: the Chronotope

In the Chronotope thread, we approach the highway as a site that complicates our understandings of space and time. Bakhtin's formulation of space and time is a common theme: narrative representations of the landscaped spaces of the superhighway are accompanied by science fictional speculations about "the future," conveying a sense of both excitement about what is to come, and, ironically, nostalgia for the past. Henri Lefebvre suggests that there must be a "science of space" that includes:

[...] a technological utopia, a sort of computer simulation of the future, or of the possible, within the framework of the real [...] The technological utopia in question is a common feature not just of many science fiction novels, but also of all kinds of projects concerned with space, be they those of architecture, urbanism or social planning. (9)

In the Chronotope thread of Chapter One, "Space and Time at the Fair" (1.2) we show how Norman Bel Geddes had already embarked upon Lefebvre's "science of space" in

his building of the Futurama diorama in 1939, both at the level of storytelling (in *A Distant Technology*, JP Telotte calls the Futurama a "science fiction movie" (162)) and in his aspirations to become a planner of the "roads of tomorrow."

In the Chronotope thread of Chapter Two, "Space and Time at Futurama II" (2.2), we detail how the spaces of the Futurama II exhibit in 1964-1965 show a "technological utopian" motif, a scaled-up version of the first Futurama, while the bombastic film, *To the Fair*, follows visitors through the different spaces of the second World's Fair in a kind of miniature "road narrative" reminiscent of Bakhtin's chronotope.



IMAGE Highways of the Mind.6 Riding into the future. *To the Fair* (1965). Prelinger Archive.

Finally, Chapter Three's Chronotope thread, "The Ruins of Space and Time" (3.2), looks at science fictional spaces, positing that the ruined superhighway that figures so persistently in American science fiction represents a kind of "space-time machine" that allows us to think about the future even as characters reflect back on an idealized past.

Thread II: Specters

In the Specters thread of this project, we consider the ways our highways are haunted, both by the past and the future. John Brinckerhoff Jackson describes the genealogy of the term "sense of place," noting that the Latin *genius loci* originally referred not to "sense" but to the genius: the spirit or "guardian divinity" of a place (157). Part of the reason American towns are so removed from a European sensibility, suggests Jackson, is that the citizens do not share a common gathering place, but instead have a "deep and consistent need for privacy and independence" (157). Thus our sense of place has been relocated into "space," specifically into the interconnected spaces characterized by the networks of highways and other placeless spaces, like the mall, that have come to define the American experience. Slowly, Jackson argues, the meaning of *genius* as "spirit" has devolved into mere "sense" (158). But what happened to the *genius loci*, the spirit of place? Did it catch a ride into the future or get left by the roadside?

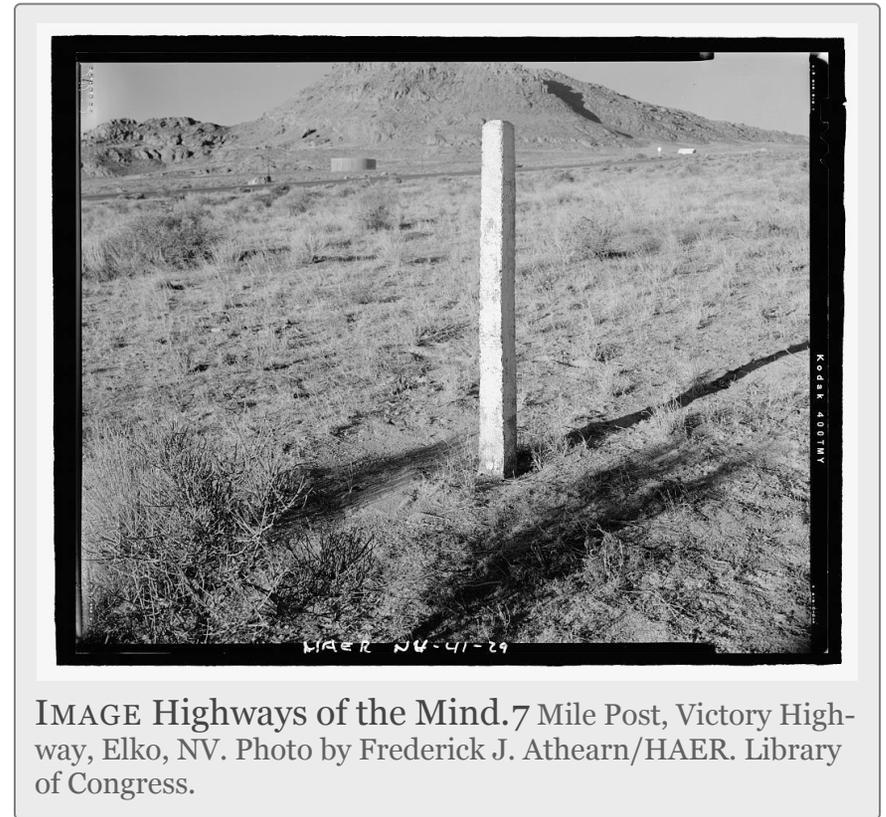


IMAGE Highways of the Mind. 7 Mile Post, Victory Highway, Elko, NV. Photo by Frederick J. Athearn/HAER. Library of Congress.

The Specters thread looks at Jackson's disappearing spirit in terms of ghostly encounters and ghostly remainders: in the first chapter, in the section called "Specters of Urban Architecture" (1.3), we listen for the disembodied voice of the "Polyrheter" sound machine; in the second chapter, in "The Specters of Consumption" (2.3), we eavesdrop on an imaginary man who takes a woman to the car exhibit of her dreams, and we are haunted by the ghost of Harley Earl who has "come back to show us the cars of the future." In the Specters section of Chapter Three, "Ghosts at the Cross-

roads” (3.3) William Gibson’s short story "The Gernsback Continuum," describes a ghostly encounter with characters epitomizing the "future" of the 30s and 40s, while the modern fascination with "ruin porn"—particularly associated with Detroit, the "motor city"—shows what happened to the places left behind in the wake of the journey to globalized economic spaces.

Thread III: the Machine

The third thread of this project, Machine, concerns itself with the highway as an instance of what Le Corbusier called the *machine à habiter*, a "machine for living" (160). Cecelia Tichi’s study of modernism, *Shifting Gears*, argues that in the modern age, the dominating metaphor is a machinic one: the novel is a machine; the poem is a machine; the body is a machine; society is a machine. It is clear that the constitutive components of technology have changed the way we both view and physically construct our place in the world as we strive to fit in to Jackson’s "new odology." Nancy Stepan’s observation that "it is the metaphor that permits us to see similarities that the metaphor itself helps constitute" (271) points to the ways that this machine metaphor is a powerful tool for both mediating and shaping our experience of everyday life.

In the Machine thread we look at how two metaphors for humanity’s place in a technological world—the machine and the network—have come to dominate our understanding

of modern life. In particular, we look at the way machines and networks increasingly force us to ask whether there is a space left for humans at all. "This is the ultimate horror," writes Slavoj Žižek:

not the proverbial ghost in the machine, but the machine in the ghost: there is no plotting agent behind it, the machine just runs by itself, as a blind contingent device. (40)

We trace some of the ways Žižek’s "blind contingent device" might be playing out in terms of our own integration into the smooth networks of modern life. Alexander Galloway and Eugene Thacker insist that:

...networks, by their mere existence, are not liberating; they exercise novel forms of control that operate at a level that is anonymous and non-human, which is to say material...even while networks are entirely coincident with social life, networks also carry with them the most nonhuman and misanthropic tendencies. (5-6)

The decentralized and networked superhighway, we suggest in this thread, subordinates human experience to the preferences of the machine: the smooth flow of money and information and unimpeded energy consumption. In the Machine thread of Chapter One, "Highway, Network, Machine" (1.4), we consider increasing concerns, in the 1930s, regarding what Lewis Mumford called the "monotechnic" force of technology, including the automobile and the infrastructure that sprang up around it. Chapter Two’s Machine thread, "Highway as Death Machine" (2.4) considers the rise

of the highway safety film as indicative of a new anxiety in the latter half of the twentieth century: what happens to fleshy human bodies caught up in the modern Highway machine. Offering an in-depth analysis of JG Ballard's science fiction novels about car culture, *The Atrocity Exhibition* and *Crash*, this section sets the stage for the final Machine section, Chapter Three's "The Highway as Broken Machine" (3.4), which surveys post-apocalyptic science fiction novels in which the broken-down highway features prominently as a decaying monument to a once great civilization.

Reading Highways of the Mind

Highways of the Mind can be navigated in two ways: by chapter or by thread. Choosing to navigate the project by chapter will take you through an historical period, beginning with a comprehensive contextual overview followed by three theoretical nodes. So, for example, by navigating through Chapter One, "Highways and Horizons," you will first encounter a "context" reading discussing the 1939-1940 World's Fair, followed by three theoretical readings: a chronotope reading discussing how the General Motor's "Futurama" exhibit reimagined space and time for visitors of the fair, many of whom were encountering, for the first time, a cleaner and faster vision of the American landscape of the future; a spec-ters reading examining how the Futurama's idealized aesthetics were already haunted by the very social problems—urban

slums, pollution, and poverty—that this "new horizon" aimed to sweep under the rug; and, finally, a machine reading showing how the fair was already foreshadowing contemporary concerns about the dehumanizing effects of technology.

Alternatively, you may decide to explore the project by thread, concentrating on one theoretical perspective at a time. You may choose to navigate by chronotope, for instance, which will lead you to follow a pathway through the project so that you view the context section followed by the chronotope section in turn for each chapter.

