

# Introduction

## *Life of Infrastructure*

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Infrastructures are both durable yet fragile, hidden but ever present, solidly embedded in the collective world yet open to speculation and uncertainty. The essays in this section of *CSSAAME* explore the many ways in which, whether as scholars or as political subjects, we think about forms of infrastructure and make them a focus of collective life. The essays also consider how infrastructures can enable, transform, or inhibit ways of thinking and living collectively.

Contemporary discussions about infrastructure often focus on its frailty and failures. In many parts of the world, the mechanical arrangements and interconnected equipment that are meant to provide populations with potable water and take away their waste, that distribute supplies of electricity or gas, that facilitate the mass movement of people, energy, and goods, or that are built to contain and block those movements, appear overburdened, contested, or in decay. These shortcomings are often blamed on the extraordinary movement and concentration of populations into ever-larger metropolises, and on the inability of municipal governments and national fiscal regimes to cope with the pressures of maintenance, expansion, and renewal. But they also reflect a contemporary world in which financial infrastructures allow the accumulation of capital to bypass the work of building durable or productive structures for collective life. Where capital is still successfully drawn into large infrastructures, it often flows into projects that appear to weaken rather than enhance the possibilities for future collective life—for example, in the building of large dams, the creation of gated enclaves and mega-towers for the super-rich, the construction of long-distance oil pipelines, or the hydraulic fracturing of gas fields.

Capital and infrastructure share a longer history. In the later nineteenth century, the building of large-scale networks of transportation, communication, and energy gave rise to a new political and economic power, the giant managerial corporation. A couple of centuries earlier, the joint-stock company had first developed as a largely colonial institution. Organizations such as the English East India Company had channeled the flow of capital into the building of long-distance trading monopolies and managed European overseas settlement, labor, and the extraction of sugar, cotton, and other resources. In the course of the nineteenth century, the corporate form was adapted to exploit the opportunities to profit from new modes of long-distance control—the building of railways, large ship canals, the sanitation systems of industrial cities, national networks of electrical power, and transnational oil industries.

The apparent durability and scale of these infrastructures was the source of a corresponding speculative fragility. Modern infrastructure gave birth to corporate power and modern banking, which grew by selling shares, not just in commercial ventures or the ownership of a physical apparatus, but in the fu-

ture flow of income that this long-lived equipment seemed to guarantee. Finance capital expanded into a future built upon the new life span of infrastructures, charging its flimsy paper world of financial promises with the durability of the iron, steel, copper, lead, and concrete through which it now lived. Capital bulked itself up through the scale and longevity of the material grids of modern collective life, and then traded the expectation of this future income by selling speculative shares in the present.

If modern infrastructures often express a contradiction between durability and uncertainty, grandiosity and destructiveness, their history is usually written in less equivocal terms. Technological infrastructures appear to shape the successive epochs of modernity: the age of steam and railroads, the age of electrical power and oil, the era of the microprocessor and the Internet. Each wave of human development seems to be set in motion by a new energy system, each requiring an infrastructure that reshapes collective life, connecting humans to new technical grids and natural forces.

The essay by On Barak that opens this special section explores the limits of this way of thinking. Taking a series of watersheds in the history of energy, Barak shows how the development and spread of a new technology such as steam power was enmeshed in and dependent upon new and existing forms of animal and human power. Living forces nurtured and enabled the new energy infrastructures, and in many cases were themselves expanded and transformed through the arrangements they helped create. Infrastructures do not allow a single or even a dominant “energy regime.” They reconfigure the old as part of the new.

Sunila Kale’s article on electrification in colonial India develops a related argument. Studies of the colonial state often approach the building of infrastructure as a manifestation of the overarching logic of colonial rule. The construction of irrigation canals and mechanisms of river control, for example, or the laying out of imperial railways and telegraph systems, are read as material expressions of the territorial reach of colonial power and the economic rationality of capitalist development. Kale’s account of colonial electrification reverses this optic. A comparison of electrical systems in different regions of India shows that an infrastruc-

ture of electrical power could take multiple forms. Rather than politics determining infrastructure, the different ways in which populations, regions, and productive life were interconnected or isolated by an energy system shaped the very modes of government.

Infrastructures arrange the interaction of human lives with nature. They make available supplies of clean drinking water, carbon-based energy, fresh (and polluted) air, reserves of irrigation water, and other vital resources. The building of infrastructure is a politics of nature: the planning and provision of its grids and networks must negotiate questions of the scarcity, pollution, depletion, fair distribution, and subsequent disposal of available reserves. At the same time, nature is produced in infrastructures. The spaces, flows, measures, and calculations out of which infrastructures are built create the most common forms in which humans encounter and measure the reserves of nature—or experience their lack.

Since the boundaries of nature do not necessarily correspond with those of human communities, political collectives must find ways to divide and share access to the reserves, or agree to limit their waste or destruction. These political issues are often decided in the planning and building of infrastructure. We sometimes assume that river basins, oil fields, wildernesses, or other natural resources that cross political boundaries are an inevitable source of conflict. On other occasions we assume the opposite: that this extrapolitical reserve can solve politics, bringing communities together to overcome conflict and negotiate the management of what they must necessarily share. As Sophia Stamatopoulou-Robbins shows in her essay on the politics of waste disposal in occupied Palestine, the study of infrastructure suggests that neither assumption is a useful starting point. If nature enters politics largely through the planning and organizing of infrastructures, then the politics of nature is always a politics of infrastructure. Both the human and the natural take shape in the sociotechnical struggles over the calculation and building of our access to reserves, whether to be used as a supply or a dump.

The promise of infrastructure is to provide a service that works continuously in the background, supplying a durable and uninterrupted flow of es-

sential services and amenities. Political agency forms to cope with its interruption, unavailability, or breakdown. In her article on the politics of water supply in Mumbai, Lisa Björkman explores the way communities negotiate the ever-present risk of water shortage. The shortages in this case do not result from any overall lack of water, but reflect the frenzied bulldozing and speculative redevelopment of neighborhoods to transform Mumbai into a “world-class city.” In place of an orderly substructure that can be mapped, managed, and developed, water engineers must maintain supply pressures through a network that is increasingly dysfunctional. Scarcity now affects not just the system of supply, but the very knowledge of that system that would allow orderly adjustments and management.

The expertise at stake in the supply of water in Mumbai suggests a more general point. Infrastructures are themselves partly human. Their components include the expertise of those who monitor and repair them, the labor of those who build and maintain them, and the very sociality of those who use them. In her essay on automobility and citizenship Kristin Monroe explores another human-material interaction, and another mode of politics, in the infrastructure of roads and automobile travel in interwar Lebanon. The French authorities aspired to build Lebanon as a distinct national-colonial space, in part by laying out a network of roads and highways, along which government officials conducted driving tours that were intended to demonstrate both the infrastructural integration of the new state and its subtraction from the larger Syrian polity to which the country had previously belonged. As the urban elite began motoring, the infrastructure of urban roads, rural highways, and automobiles that they were drawn into, and helped form, gave shape to new distinctions between the public and private and the urban and rural, and new relations of both gender and class.

The human element in the life of infrastructure can be quite substantial, as Rosalind Fredericks shows in her essay on the infrastructures of trash collection in Dakar. Drawing on Julia Elyachar’s concept of “phatic labor,” she argues that the human components consist not merely of the physical work of construction, maintenance, and

use but of the social practices that constitute communicative and moral ties. The city’s garbage collection operates through both a municipal labor force and an informal system of recycling, disposing, and dumping. These infrastructural operatives can disable the system through strikes, and subvert it through moral and religious appeals that transform the negative associations of trash into the values of a well-ordered life. The bodily labor of pickers and recyclers, the moral claims of those who do vital work, and the vibrant material of organic waste constitute what Fredericks calls a participatory infrastructure. Working with the resonant materiality of what is meant to be dealt with silently and invisibly, “discard labor” transforms a system of filth and disposal into claims for a more ethical life. ■■■■