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Introduction

In this chapter we discuss the sociotechnical concept of infrastructure with a particular focus on those theories and discussions of infrastructure relevant to various forms of knowledge and scientific work. Infrastructure, in a simple (though somewhat flawed) formulation, refers to the prior work (be it building, organization, agreement on standards, and so forth) that supports and enables the activity we are really engaged in doing. More particularly, infrastructure refers to those systems, technologies, organizations, and built artifacts that do not need to be reconsidered at the start of a new venture. A chef does not need to know everything about the infrastructural network of pumps, sewers, reservoirs, filters, and regulations to fill a stockpot with water for soup—she turns the handle and clean, potable water comes out of the faucet. In much the same way, a librarian does not need to rebuild his classification scheme each time he wants to add a new book to the collection. Electricians and contractors, with their infrastructure of regulations and formal standards, do not worry that their building projects will fail to connect to the relevant grids or be accessible by vehicle when connected to local roads—the work of interoperability and access has already been done. Uber and Lyft did not need to rebuild the entire network of roads to establish their transportation system. Infrastructure is pervasive and ubiquitous, and many otherwise distant fields of scholarly work have seen (or are discovering) the need to negotiate infrastructure in order to support fundamentally new kinds of work. While it is difficult to point to a stable and consistent definition of *infrastructure*, or even to find a singular point of origin for what we think of as modern infrastructural theory, there is a cogency to the emergent field which we will endeavor to set forth. Throughout this chapter, we will describe several seemingly disparate historical trajectories (or relatively isolated instances) of thinking and research that have worked together to inform how we understand infrastructure theory and infrastructural work.