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Infrastructure and the international governance of economic development, 1950–1965

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Only in the context of international debate about economic development after Second World War did the term infrastructure become a label for the technical-political systems required for growth and modernity. This chapter traces the intellectual and institutional roots of the category of infrastructure in the development debates of the 1950s: its affinity with the earlier idea of social overhead capital and its mobilization in the conflict between the United Nations and the World Bank surrounding the financing of development investment. I argue that debates about development aid shifted attention from an economic definition of infrastructure towards one framed more in terms of general prerequisites. Analyzing this expansive category of infrastructure, which remains largely in place today, gives insight into the territoriality of the post-colonial world and challenges exclusively physical or engineering-based ideas of infrastructure.

What does it mean to write the history of infrastructure? One approach is to write the separate histories of all those infrastructures that have come to have such importance for modern society, starting with canals and waterworks and ending with fiber optics and the immaterial cyberinfrastructures of the internet. This approach, however, takes for granted the idea that infrastructure is a coherent and stable historical object, that infrastructure is a neutral way of describing certain engineering works, regardless of historical period. What if we took the very idea of an infrastructure as a historical problem, and asked not how the infrastructures of the past were organized, but how things like roads, telecommunications, and power came to be seen as similar kinds of things, parts of the coherent bundle we now call infrastructure? As part of a reflection on the internationalization of infrastructures, I think this question is especially relevant, since analyzing the intellectual history of infrastructure shows it to be closely related to new kinds of international collaboration, in particular the practice of economic development aid after Second World War.

A central point here is to see infrastructure as a quasi-philosophical concept.

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Even though it often seems merely a simple label for certain large-scale systems of transportation and communication, I want to focus less on which things are labeled as infrastructure than on how the category is defined and understood. Infrastructure involves a separation of human activity into two categories: the supportive and the supported. The boundaries of infrastructure are thus defined in terms of a vertical, gravitational metaphor: infrastructure is fundamental, basic, foundational, and it is as necessary for its superstructure as a solid foundation is for a building. Karl Marx used a similar metaphor for describing society in general, where an economic base determines the nature of the cultural-political superstructure.[1] The modern category of infrastructure, however, is more complex than this, as it blurs the distinction between physical and metaphorical support. The support provided by railroads and hydroelectric plants is undoubtedly metaphorical, yet immaterial infrastructures (such as standards) seem in turn to refer, metaphorically, to the physicality of steel and concrete.

Note how different this is from the horizontal metaphor found in networks: even though an electric grid can be seen both as a network and as infrastructure, as a network it is defined by connections and pathways through which something circulates, while as infrastructure it is defined by its supportive relationship to other economic activities (Dupuy 1988; Curien 1993; Offner 1999). Although network effects can lead to the same conditions of natural monopoly found in many infrastructures, they are philosophically quite different. Economically, too, they are defined by different considerations of cost, price, scale, and relationship to the state.

Infrastructure is also quite different from other categories which happen to label many of the same things—categories such as public works, public utilities, or natural monopoly. Without too much simplification, one could distinguish these categories by their associated economic variable. Public works, for example, is largely a question of labor—labor deployed by the state, especially in times of crisis. Public utilities are a question of price: a way of justifying price regulation to ensure that socially sensitive services are not interrupted by cyclical economic fluctuations. Natural monopolies, in turn, are a function of the supply–demand curve (Robinson 1928; Porter 1995; Mosca 2006). In contrast, the category of infrastructure has its roots in a debate about cost, where the business logic of overhead accounting came to be applied to entire national economies.

The question of cost is also what separates the modern concept of infrastructure from earlier uses of the word. The word infrastructure, as others have pointed out, can be traced back to French railroad engineering in the late nineteenth century,

1. Marx used the terms *Basis* and *Überbau* in the foreword to his 1859 *Zur Kritik der Politischen Ökonomie*. Beginning in the late nineteenth century, *Basis* was sometimes translated (somewhat incorrectly) into French as *infrastructure*.

and infrastructure was an important category in French, in a variety of domains, long before it began to be used in other languages after 1950 (Laak 1999).[2] But nowhere in these earlier uses of infrastructure can one find the idea that large-scale engineering systems, especially those of transportation and communication, together constitute a supportive base for other kinds of economic activity. It is only in the 1950s discussion about international financing for economic development that infrastructure becomes recognizable as a concept relating engineering to larger socioeconomic concerns.[3]

I have two goals in this chapter. First is to sketch how the concept of infrastructure emerged from intellectual and institutional debates about development. I argue that infrastructure should be understood as the reification of the concept of social overhead capital used by development economists, and that this reification took place as a result of a struggle over the financing of international aid, with the United Nations (UN) and the World Bank as the major players. Second, I want to argue that we should take the link between infrastructure and early development economics quite seriously, to see infrastructure codifying and reproducing certain ideas about the role of the state, territorial sovereignty, and socioeconomic modernization. In short, I want to suggest that infrastructure be understood as an inherently international category. Or better still, as a post-national one—one signaling the increasing misalignment between bounded geographical units, cultural groups and economic markets.

Early development economics and social overhead capital

The category of infrastructure only began to be used in development economics near the end of the 1950s; its immediate predecessor—and in many respects its direct synonym—was the notion of social overhead capital, which came into wide use in the early part of the decade (Greenwald 1965). Social overhead capital, as the phrase implies, refers to capital that is not attributable to any one productive activ-

2. Dirk van Laak focuses on railroad engineering. In addition to railroading, where it was in use by the late 1860s, the word was also used in geology, archeology, aviation, and maritime engineering to mean literal substructure. It was used metaphorically in many areas, including philosophy (especially in discussions of Marxism), political science, and psychology.

3. Based on searches of full-text newspapers, periodicals, and books. The closest relatives to modern ideas of infrastructure in French are found in general discussions of the foundations of society and government (from the late 1930s) and in the coordination of various engineering systems for aviation (from the late 1920s). The term infrastructure was also used by the Western European Union and North Atlantic Treaty Organization (NATO) (in French and English) to refer to their coordinated heavy-construction programs in western Europe, from roughly 1949. In the popular press, however, this was seen as NATO-jargon, and in English-language discussions of development the word was treated again as a neologism in the late 1950s.

ity (hence overhead), and is shared between many individual enterprises (hence social). It initially referred mostly to systems of transportation, communication, and power, but by the mid-1950s it was being used to label many other systems that fit the same logic, including education, government services, and even the rule of law. The idea of social overheads can be traced back at least to the 1920s, but in development economics it took on a new importance through its relation to capital, especially in the work of the World Bank and the modernization theory of writers like Walt Rostow.

The first important point about social overhead capital is that it did not originate from within academic development economics. Early development theory is often portrayed as infrastructure-centric; if there is a single theory that stands for the economic thought on development in the 1950s, it is the 'big push', where a huge infusion of lumpy infrastructure capital is seen as necessary for overcoming the vicious circle of low productivity, low savings rate and low investment thought to exist in underdeveloped countries. This theory is most closely associated with the work of Paul Rosenstein-Rodan, especially his 1943 article on industrialization in eastern Europe, but the contemporary work of Eugene Staley or Kurt Mandelbaum is seen as espousing a similar view (Arndt 1973; Meier 2005). Reading this work from the early 1940s, however, it is difficult to find any great interest in what was later called infrastructure. All these authors call attention to basic services like roads or power; but it would be more apt to characterize this early work as a call for overall central planning, rather than the kind of infrastructure-type investment typical of development work in the 1950s. Mandelbaum's interest in basic services, for example, is essentially a call for Keynesian deficit spending, while Rosenstein-Rodan is in fact quite critical of the idea of basic industries altogether. The conclusion of his 1943 paper is instead that the entirety of east and southeast Europe should be treated as one large corporation—what he called the Eastern European Industrial Trust—and subjected to total planning. In his paper, infrastructure industries like transportation or power were treated very similarly to productive or service industries; the goal was overall balance of all sectors (Rosenstein-Rodan 1943; Mandelbaum 1947: 5).

Evidence suggests that the idea of social overhead capital emerged instead as a kind of working theory among the staff of the World Bank. As Albert Hirschman—one of the most prominent critics of early development thought—put it, social overhead capital 'can be operationally defined as comprising those activities for the financing of which the [World Bank] shows a pronounced preference, just as the behavioral sciences have been said to comprise all those endeavors which manage to obtain financial support from the Ford Foundation'—and indeed many of the earliest articles to use the phrase in the 1950s were written by World Bank staff

(Adler 1952; Hirschman 1958: 83). Famous for its resistance to academic economics in its early years, the appeal of the Bank's idea of social overhead capital was not its logic—which, Hirschman argued, was 'far from compelling'—but rather its usefulness as a heuristic for justifying how Bank funds were being used. This post-hoc theorization is not surprising, since during its first decade the Bank's greatest concern was the viability of its bond issues and its credibility with the private banking establishment in the United States. As an institution staffed almost entirely by Americans, and headquartered in Washington, DC, it was also careful to avoid any projects that suggested state ownership of industry. Thus almost by necessity, its early development work was focused on discrete projects that seemed somehow 'public,' but could be evaluated using the typical tools used by bankers—projects like railroads, power plants, or irrigation (Mason and Asher 1973).

Despite the Bank's own statements about the importance of private enterprise over state-controlled industrialization, however, its emphasis on social overhead capital suggests that its political-economic assumptions were not terribly different from those of the more radical planners. Indeed, the Bank's counterposing of 'national overhead' to 'directly productive activities' indicates a predilection for seeing the state as a business rather similar to Rosenstein-Rodan's call for a single Eastern-European trust. The difference was not the nature of the state, but simply the role of government: if the solution to industrializing 'backward' areas was to treat entire countries or regions as one large business, the World Bank positioned itself (and its recipient governments) as top management; private enterprise would be responsible for day-to-day operations. Social overhead capital was thus a way of marrying the central-planning focus of economists like Rosenstein-Rodan with a post-Keynesian division between public and private.

The reason I stress this affinity between social overhead capital and anti-liberal concepts of the state is not to suggest that it signalled a great departure from contemporary notions of public and private; but to highlight the fact that thinking in terms of social overhead is not a neutral political-economic stance. Prior to the early 1950s, the most thorough treatment of the larger economic implications of overhead was John Maurice Clark's 1923 book, *Studies in the Economics of Overhead Costs*; his chapter on the 'Costs of Government as Overhead Outlays' makes this point quite clear. As Clark put it, to 'think . . . of the nation as a business house' means to 'disregard the traditional boundaries between the private and public economies' (Clark 1923: 451–2). Instead of seeing a separation of political and economic spheres, one would be compelled to 'regard government as a productive economic agency of a vital sort, a partner of industry, provider of some of the most vital factors of production' (Clark 1923: 453–4). This is more than a call for regulation, deficit spending, or government provision of public works; it is a realignment

of public and private around questions of cost, where public refers to those costs for which social return exceeds private return.[4] Perhaps most interesting here is that in the dozen or so examples that Clark gives of social overheads, only one—roads—has anything to do with construction or large-scale engineering.

What separated the World Bank from earlier writers like Clark was the idea that social overhead was not just a kind of cost, but a kind of capital. Indeed, the reputation of the 1950s as the decade of infrastructure largely stems from the Bank's ongoing focus on large-scale construction works at the expense of agriculture or social programs. In general discussions of development, however, writers began to slide between 'social overhead capital' and 'social overhead' as if they were the same thing, and by the mid-1950s the cost-accounting logic of overhead came to problematize the Bank's own emphasis on physical construction. Just as Clark had included traffic regulations, census statistics, and pure-food inspections in his list of government overheads, writers on development began to see things like agricultural research and primary education as potential sites of investment—as types of capital. In a 1953 review of the World Bank's development plan for Mexico, for example, social overhead was taken to include not just transport and power, but also education. Similarly, an analysis of the Japanese legacy in Formosa, also from 1953, included maps and geological surveys as social overhead among a longer list of physical engineering works (Ginsburg 1953; Mosk 1953). Overhead, in other words, soon exceeded the bounds set for it by the World Bank.

The clearest installation of the idea of social overhead capital into development theory is found in the work of Walt Rostow, the most prominent of the modernization theorists of the 1950s and 1960s (Gilman 2003). In his 1956 article on 'The take-off into self-sustained growth,' which introduced the staged theory of development later made famous by his 1960 book, a certain amount social overhead capital—in transport, power, education, etc.—is seen as necessary for moving from the stage of preconditions to the stage of take-off. It is in Rostow, much more than Rosenstein-Rodan or even the Bank, that we find the idea that large overhead outlays—what he calls 'lumpy overhead capital construction of long gestation period'—must precede development, and that 'it is the inescapable responsibility of the state to make sure the stock of social overhead capital required for take-off is built' (Rostow 1956: 30, 40; Rostow 1960: 30). Rostow's main move is to transform what for Clark was largely a question in steady-state economics into a dynamic theory, with overhead being given temporal priority. Regardless of its merits as a theory of growth, the result of this is to make the overhead–productive distinction appear as

4. Social cost–benefit analysis was hardly new—it was, for example, the basis of Dupuit's 1844 analysis of public works. Mill justifies the overall role of the government in similar terms. Manuela Mosca (2006) gives other nineteenth-century examples. What distinguishes Clark and the idea of social overhead is its business logic.

one of scale and gestation period (that is, as quantitative properties of certain kinds of built works, railroads being Rostow's paradigmatic example) rather than as one of social cost–benefit analysis—despite the fact that he himself sees education as overhead capital.[5]

As an integral part of the debate on economic development, the idea of social overhead capital thus solidified two positions that are important for understanding the category of infrastructure. First, it encapsulated a particular theory of the state. The purview of the overhead state is not defined as a middle position between interventionism and laissez-faire—both of which imply a separation of political and economic—but in terms of economic factors alone. What this means, however, is that the political division between public and private becomes secondary to (and potentially misaligned with) the economic division between overhead and productive. (Privatized infrastructure is relatively common; private public works are a logical impossibility.) Second, in the practice of the World Bank or the writing of social scientists like Rostow, we see the cost logic of overhead intermingling with considerations of the scale, fixity, or physicality of capital. The temporal concern with prerequisites heightens this tension. What this means is that there were soon multiple ways of defining the boundary between overhead and directly productive costs: via ideas of public, social cost–benefit analysis, temporal priority, or the physical features of certain engineering works. Despite the basic business metaphor, social overhead capital was never strictly an economic proposition. Its ambiguities were reasonably apparent in the discussion of social overhead capital; with infrastructure, they are much less so.

Development institutions and the politics of infrastructure

At the same time that development economists began to suggest that social overhead was the key to economic growth, a much wider-ranging debate was taking place at the international level about the kinds of institutions best suited to administer aid. Just a few years after the 1946 creation of the World Bank at Bretton Woods, there were proposals from high-level committees in the UN and the United States for creating new organizations that could provide types of aid that the World Bank could not. These debates were largely triggered by President Harry Truman's 1949 Point Four speech about the need to spread science and technology to the underdeveloped world, but they lasted through the entirety of the 1950s, and it was only with the creation of the International Finance Corporation and the International Development Authority as part of the World Bank system, and the creation

5. Albert Hirschman (1958) makes a similar observation; he is especially critical of the idea that social overhead capital must necessarily precede other kinds of investment.

of the two predecessor organizations of the UN Development Programme, that the constellation of international development institutions that we know today was solidified.[6]

It was out of this debate that infrastructure emerged as the wide-ranging category I described in my introduction. The debate radicalized the ambiguities of social overhead capital, making infrastructure seem both more physical and more like a catch-all category of prerequisites. In particular, it was the subtle politics that took place between the UN and the World Bank about concessionary loans that reified social overhead capital into infrastructure, detaching it from a discussion within economics and replacing the business metaphor of overhead with a more straightforward metaphor of physical support.

The 1955 UN report that first introduced the French word *infrastructure* into the English-speaking development discourse was concerned with the viability of proposals to create a fund for financing economic development as part of the UN system. This proposed fund—known as Special United Nations Fund for Economic Development (SUNFED)—was designed to fill a gap in the existing landscape of economic development institutions. Dividing international aid into bilateral and multilateral, and likewise into market-rate loans and concessionary aid, there were institutions filling three of the four possible slots. The World Bank was a source of multilateral loans at market rates, and several countries had agencies for providing bilateral aid of all kinds.[7] What was missing was a multilateral institution that could provide aid for worthwhile projects that could not satisfy the World Bank's criteria for a viable loan; this was the empty slot that SUNFED was designed to fill. One persistent source of controversy, however, concerned the appropriate form for concessionary aid: whether aid should take the form of 'soft' loans (loans made at below-market rates, or with extended grace periods and payback schedules) or should only be given as outright grants-in-aid. In the early 1950s, the Bank was vehemently opposed to soft loans, while many developing countries and UN officials preferred them as a way of avoiding the aura of charity that might accompany grants-in-aid (Caustin 1954; Mason and Asher 1973: 382–9).[8]

The use of the word infrastructure in the 1955 SUNFED report can be seen as

6. Naturally, organizations with more limited memberships were are also important, notably the Organization for Economic Co-operation and Development Assistance Committee and the various regional development banks; non-governmental organizations have likewise become increasingly influential.

7. Notably the United States Export-Import Bank for market-rate loans, the various grants-in-aid programs of the US State Department and Mutual Security Agency, and the various funds and banks of the United Kingdom, France, and other colonial powers.

8. Another important point of controversy was about apportioning voting rights between donor and recipient countries, and the inclusion of communist countries (the Eastern Bloc did not participate in the World Bank or the International Monetary Fund).

an attempt to deflect this disagreement. Earlier proposals for SUNFED-like organizations had largely defined the role of the proposed fund in terms of financing. The problem, as they identified it, was that worthy projects which were non-self-liquidating or whose rate of return could not support a market-rate loan were being left unfunded. Defined in this way, there was no way to avoid a confrontation with the World Bank (UN 1951: 84–6; UN 1953: 6). The 1955 report, however, defined the role of SUNFED not in terms of a lack of financing, but in terms of a lack of results—namely, the lack of an 'economic-social "infrastructure"' in underdeveloped countries. The report explained:

> It would be . . . wrong to consider that the Fund's essential mission would be to finance non-self-liquidating investments and not potentially self-liquidating investments. From the general economic point of view, all infrastructure investments, whether social or economic . . . are directly or indirectly self-liquidating, since they all contribute to the short-term or long-term development of the country. (Sheyven 1955: 3–4)

What was missing from the array of existing funding agencies, in other words, wasn't a particular kind of concessionary financing—grants, soft loans, or some combination of the two. What was missing was a fund 'that would make possible the financing of infrastructure investment,' regardless of the particular means employed (Sheyven 1955: iii).

There is no reason to think that the authors of the report were trying to use infrastructure in a new way.[9] Indeed, their understanding of infrastructure is quite similar to what we find in reports of the French colonial development program, where infrastructure referred specifically to a set of material objects (railroads, highways, ports, etc.) that together created a base for other economic activity (Commissariat général 1949: 9). But given the overall shift in the late 1950s towards thinking about development in terms of human beings—not just the increasingly expansive definitions of social overhead capital, but the influence of the UN Technical Assistance program or Theodore Schultz's work on human capital as well—discussions of infrastructure very soon came to blur the boundary between material objects and social services in a similar way to Rostow. In a newspaper editorial about SUNFED, for example, a UN official included health and education as the first items in a list of the 'economic and social infrastructure investments' to be supplied by the proposed fund (Seynes 1956).

SUNFED never did get created, but its failure actually pushed the idea that infrastructure was a category of general prerequisites, rather than simply a synonym

9. The section on infrastructure was written by Raymond Scheyven, a conservative Belgian banker-politician, and Jan Tinbergen, a Dutch economist.

for equipment or public works. In 1957, the United States brokered a compromise which created a UN fund for more targeted types of technical assistance; it was known as the Special Fund; but it had no mandate for capital investment (Bhouraskar 2007). This move had two immediate consequences. First, it prompted UN economists to frame the work of the new Special Fund in terms of non-material types of infrastructure. Especially important was Hans Singer's idea of 'preinvestment infrastructure'—'the human, technological, and data infrastructure' that could be created by the various UN programs of training and research (Singer 1964: 21). Similarly, since many development pundits were unsatisfied with the Special Fund as a solution to the problem of concessionary finance, the continued calls for a new kind of institution also made use of a combined human–physical idea of infrastructure. The development administrator Robert Jackson framed the need for an International Development Authority in terms of both physical infrastructure and human infrastructure, while Barbara Ward called attention to India's need for an 'infrastructure of transport, power, education, and so forth' (Jackson 1958: 55; Ward 1961: 130). Singer was explicit in linking these expansive ideas of infrastructure to the popular success of Rostow's take-off theory, arguing that both Rostow's 1960 book and the creation of the Special Fund were symptomatic of an increased emphasis on prerequisites, both human and physical, and a shift towards seeing the condition of underdevelopment as a temporal problem where different kinds of infrastructure were necessary at different stages (Singer 1960: 69).

By the beginning of the 1960s, the concept of infrastructure was ubiquitous in discussions of economic development—much more so than social overhead capital had ever been. It was used in newspapers and popular journalism, in scholarly writing, and in the official development plans created by individual countries or the World Bank.[10] For economists, social overhead capital and infrastructure were essentially the same thing; they both inhabited the fuzzy middle ground between a static description of certain social costs and a dynamic understanding of the lumpiness and time-lag of certain large construction projects.[11] In non-specialist writing, however, infrastructure became simply a synonym for prerequisite, a way to label all those things lacking in the underdeveloped world—that is, everything separating the state of underdevelopment from that of modernity. Infrastructure thus came in many flavors: the UN constantly referred to 'economic and social infrastructure,' while social scientists discussed organizational, institutional, and sociological infrastructure (Myrdal 1960; Myint 1962; Krueger et al. 1989). Overall, the transition

10. By 1960, the word had been in use in English for a decade to describe the NATO construction program; it began to be more widely used after the UN General Assembly issued a resolution in late 1957 stressing the importance of economic and social infrastructure. The World Bank began using it in its country-analysis reports around 1962.

11. This is how it is used in World Bank reports, for example.

from social overhead capital to infrastructure—that is, the semantic shift brought about through the politics of international aid—subordinated economic analysis and ideas of the state, making infrastructure seem more like a neutral description of various prerequisites to growth. Detached from the logic of cost–benefit analysis, infrastructure came to embrace a much wider range of meaning than social overhead capital, but at the same time it was even more closely associated with fixed, physical objects. The result was that intangible infrastructure (such as education) seemed to refer metaphorically to tangible infrastructures; use of the identical metaphor when describing railroads became unnoticed.

The irony here is that these essential ambiguities of definition and physicality—which still persist today—were the product of debates about economic development during a time when many economists and policy-makers were growing increasingly frustrated with the World Bank's exclusive emphasis on the financing of self-liquidating heavy-construction projects. In other words, the reification of social overhead capital into infrastructure was in fact a reaction against projects which we now see as quintessential examples of large-scale infrastructure. Infrastructure became a way of talking about the necessities of modernity without recourse to economics; but it could not do so without being tied to the early strategies of the Bank.

Infrastructure territoriality and materiality

The close alliance of the concept of infrastructure with changing attitudes towards economic development suggests two broader lessons. First is the relation between infrastructure and internationalism, or more broadly, the relation between infrastructure and new forms of post-colonial territoriality. I want to suggest that the close link between the modern category of infrastructure and international debates about development should not be taken as a coincidence. Instead, I would say that infrastructure only makes sense as part of the new international system created in the middle of the twentieth century.

At first glance, infrastructure seems like a relatively neutral geopolitical idea, or even one that reinforces territorialities of national consolidation. The idea of social overhead capital, after all, took the country as its natural unit; it reinforced the tendency to think of growth in terms of national economies, with clean divisions between domestic and foreign. The world system it implied was very much in keeping with the territoriality of the nineteenth century: the analogy between countries and businesses gave a clear division between a national inside of total control and an international outside of total anarchy.

The administration of international aid, however, worked at cross-purposes to

this simple analogy. One of the central problems of development practice after Second World War involved new types of coordination: not only were there many international organizations whose efforts needed to be coordinated amongst themselves; but various development initiatives had to be coordinated at the country level as well. This gave rise to a new conflict between the geographical sovereignty of territorial states and the functional sovereignty of international organizations, with the bureaucratic expansionism and self-preservation instincts of both elite-led governments and technocratic international agencies furthering the tension. These new administrative alignments also provoked new geographies of planning, especially international river-basin development, regional training institutes, and continental mapping programs (Sharp 1952, 1961). The world system of postwar development coordination tended to regard territorial states more as administrative units for subdividing global initiatives than as self-contained political-economic agents.

Infrastructure was much more closely aligned with this latter system than the national units implied by social overhead accounting. The goal of the SUNFED proposal was to make an international organization that would have functional sovereignty over the financing of infrastructure, much like the World Health Organization had functional sovereignty over epidemics and vaccination. While not as radical as SUNFED would have been, the various international development agencies that were put in place by the early 1960s mostly accomplished this goal: the creation of the International Development Authority as part of the World Bank and the creation of the Special Fund as the counterpart to the UN Technical Assistance program gave both the Bank and the UN the dual task of keeping their programs geographically balanced yet targeted enough to reward countries that best took advantage of aid. Infrastructure was a universalist concept with a particular territoriality: it could be used at any geographic scale, and could align with either administrative or economic geographies.

The second major lesson here concerns the materiality of infrastructure and the difficulty of defining it solely in terms of physical construction. Infrastructure seems like a concept with a core and a periphery: things like railroads and power plants are definitely infrastructure, while education and health sometimes make the cut and abstract notions of property rights and entrepreneurialism seem to stretch the concept to its limits. But this is not how infrastructure is actually deployed administratively. Government planning documents routinely include categories like social infrastructure; the recent Bush administration even defined national morale as a critical infrastructure of the United States (Moteff, Copeland and Fischer 2003). Rather than being defined through economic or engineering considerations, with heavy construction being somehow more infrastructural than other infrastructures,

the governmentality of infrastructure often reduces to no more than a justification of prerequisites, a normative (and at times seemingly arbitrary) judgment of what is necessary to achieve certain goals.

Being mindful of the history of infrastructure as a category—its roots in international development, its problematization of territoriality and materiality—does not mean that the category should be banished, or even that some other category should be used instead. Rather, I want to suggest that we pay closer attention to how the category is actually used by governments and international organizations, and resist the inclination to see intangible or non-economic infrastructures as conceptually novel, or to see their infrastructural status as any more metaphorical than that of large engineering systems. As a category created in the context of international debates about development—especially theories of staged growth through specific prerequisites—we should ask whether the normative judgments implied by infrastructure still align with our own ideas about economic development and sociopolitical modernity.

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