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Europe as Infrastructure: Networking the Operative Community

Infrastructures produce collectivity on the material level. The pipes, channels, roads, and wires that organize life in modernity create a durable “in-between” (Edwards 2003: 185) and provide a “connective tissue.” “For better or for worse . . . infrastructure unites distant strangers into new communities” (Guldi 2012: 198). Infrastructures are therefore political matters (Collier 2011; Simone 2012). While the social study of technology has always drawn attention to the ways “artefacts have politics” (Winner 1980), current debates in social and political theory go one step further: they take infrastructures as the vantage point for rethinking politics (Braun and Whatmore 2010; Larkin 2013). The assemblages of pipes and wires become the ground on which a different understanding of material collectivity is sought (Bennett 2010; Latour 2005).

What are the implications of taking *infrastructure* as a key term for reenvisioning the common? What is the “we” of infrastructure that is implicitly presumed in these attempts to rethink material politics? This article discusses how technological connectivity can be linked to a notion of political collectivity. We argue that the articulation between connectivity and collectivity is modulated

by two distinct, albeit related, parameters: the specific rationalities of governing that program infrastructures and the type of political space that infrastructures establish. The article substantiates this theoretical argument with a close-up, exemplary analysis of the current envisioning of Europe as an infrastructural collectivity in the directives, guidelines, and regulations about trans-European networks in the field of energy.

Europe is a particularly instructive case for thinking about connectivity and collectivity for two reasons. First, Europe presents a novel type of political unity, however precarious and laden with difficulties. It can be regarded as a “name of an *unresolved political problem*,” as Étienne Balibar (2003: 2) has suggested. While technocratic politics and a neoliberal agenda currently shape the European project, it remains an experiment of “collectively inventing a new image of the people” (9). Second, the political invention of Europe’s unity has specific ties to infrastructure politics. The historians of technology Frank Schipper and Johan Schot (2011: 246) diagnose a specific “infrastructural Europeanism” that signals a coconstitution of Europe and infrastructure. Europe’s unification process was ignited by infrastructural alliances in the wake of the Second World War. The 1951 Treaty of Paris established the European Coal and Steel Community hoping to “fuse” political interests through infrastructural collaboration (see Laak 2012). To this day, a “technological imaginary” about infrastructural unity is asked to “address questions of political integration, to remedy a system of government that is increasingly problematized not just as an economic community but as an emergent polity,” as Andrew Barry and William Walters (2003: 315) put it.

We look at Europe as a laboratory of infrastructural collectivity. Our aim is to debate the claim that a novel understanding of the common can be garnered from analyzing the materiality of infrastructures. We start with a theoretical discussion that clarifies the relationship between infrastructure, governmental rationality, and political space. We argue that the “common” produced through infrastructure cannot be understood properly without triangulating these parameters. In a second step, we use this theoretical frame for an analysis of Europe’s infrastructuralism. We show how the governmental articulation of the market as a spatialized common programs European power grids, and we explore the combination of topographical and topological properties that determine this material collectivity. By constellating the theoretical elaboration of the politics of infrastructure with a particular case, we hope to gain new insights about the ways that the connectivity of infrastructure becomes a crucial hinge for the articulation of collectivity.

Assembling Collectivity: Theoretical Explorations of Infrastructure

The theoretical perspective that most prominently ties together infrastructure and politics for an understanding of collectivity stems from Bruno Latour. Latour (2005) uses infrastructural terms for the description of hybrid assemblages in general. The sociology of associations has to register the “tiny bridges” (170), “channels” (201), or “canals” (245) that can be traveled along by several “types of vehicles” (179). The social is framed as a connectivity that is likened to the physical connection as fashioned through “modes of transportation” (179). At the same time, Latour introduces infrastructures not only metaphorically but also literally as a crucial site for depicting the social-political fabric in terms of materialized associations. Taking up the tradition of science and technology studies in the analysis of “large technical systems” (Hughes 1987), he studies transport and urban administration as modes of constituting the social through technological means (Latour 1996).

Most interesting for the current argument is the fact that Latour relates this study of associations to a political theory of collectivity. This political theory claims a contiguousness between networked connectivity and collectivity. The two concepts are closely linked, since each act of establishing connections incorporates elements into a collective. Latour thereby embraces and radicalizes the idea of the artificial nature of the body politic to be found in political philosophy. The collective is not an organic community but a thoroughly synthetic aggregate. From such a perspective, technological infrastructures do not simply become political through being the object of collective deliberation. Infrastructural connectivity entails modes of participation that remained invisible on modern constitutional grounds. In this sense, scientific methodology irreducibly merges with political procedure: “Sociology is best defined as the discipline where participants explicitly engage in the reassembling of the collective” (Latour 2005: 247).

This theoretical approach that ties collectivity to an open-ended list of horizontal, material linkages without predetermined end, essence, or habitat is intriguing. It opens up political theory to a political ecology of things and dispenses with a more traditional politics of identity (Bennett 2010; Aradau 2010). At the same time, this notion of collectivity raises questions: Can we derive the notion of collectivity solely from technical connectivity? Is any infrastructural connection constitutive of a collective? Are there different ways of articulating an infrastructural connectivity as collectivity?

Latour’s “associology” (2005: 9) does not offer a theoretical vocabulary for describing this translation. As Barry (2013: 417) notes, actor-network-theory is not a theoretical script applicable to all cases. To trace the politics

inherent in forming a collective out of connectivity, one has to “address a problem addressed by Foucault, who, in his lectures on biopolitics and governmentality also recognized that he needed to study the history of explicitly political reason, rather than expand further the range of objects, bodies and practices that should be considered political” (426). The notion of political rationality becomes an intermittent category between connectivity and collectivity.

Most notably, Stephen Collier (2011: 26–30) has already put forward such bridging between a Latourian take on infrastructures and a Foucauldian take on political rationalities in order to determine how collective life is being reassembled by sociotechnical means. In his in-depth study on the transition from Soviet planning to the post-Soviet social, he explores the “material structures, bureaucratic routines, and resource flows that had . . . plugged people into centralized systems of urban provisioning, and plugged cities into national mechanisms of economic coordination” (7). As political technologies, infrastructures configure and intervene into the problem space of collective existence. On the one hand, Collier highlights the formative qualities of infrastructures that derive from their physical properties. Their “stubborn material structures” maintain the spatial forms of Soviet socialism and constrain the leeway of post-Soviet reform (*ibid.*: 26, 203). On the other hand, Collier draws attention to the activity of “programming,” in order to understand the political rationality at work in an infrastructural production of collective life. Briefly put, it makes a difference whether technological systems are supposed to extend “infrastructural power” (Mann 1984: 192–94) over a territory, if they serve as the “backbone of social planning” (Collier 2011: 41), or if they are deployed as the material framework through which market relations are expected to unfold. Accordingly, one has to look at the specific programming of European infrastructure: the modes in which their connectivities are politically mobilized for instantiating a collectivity.

While the important role of political rationalities for determining infrastructural collectivity has been convincingly argued for, a second modulator of political infrastructuralism is less well developed: the question of space. Even though the importance of the category of space for understanding the politics of infrastructure has been noted by historians of the nation-state and of empire (Goswami 2004; Weber 1976), by urban studies (Gandy 2008), and by anthropologies of global space (Bach 2011), the ways that infrastructures, space, and collectivity interact remain to be fleshed out. So far, studies have demonstrated that infrastructures produce spatial forms by cal-

ibrating proximities and distances, accessibilities and barriers, or centers and peripheries (see Harvey 2012). But how does this formatting of space become part of a political articulation of collectivity?

Infrastructure, Political Space, and Collectivity

Infrastructures have served to create different types of political space. Eugene Weber in his study of France offers a classic case for the infrastructural making of the political space of the nation. Only in the second half of the nineteenth century was it taken to be in the public interest to extend fine-grained networks of roads and railways to cover the national territory. It was to broaden the “skeleton” (Weber 1976: 203) of the national highway system that had served solely the strategic aims of military and monarchy. After the 1860s, the program of public works carried the republic into the hinterlands, creating influence and unification through building canals, railroads, and small roads. France is just an example for a more general tendency (Graham and Marvin 2001: 73–74). The modern state was imagined as a space that should be coherent and ordered (see Scott 1998). Local networks with their distinct operators, voltages, pricing systems, and poor levels of innovation were integrated into a rationalized national grid. The overall aim was to create collectivity through connectivity across a defined space.

This infrastructural state-form was not solely inward-bound. Neither was it always aiming at creating the collective unit of a republic. Rather, infrastructural state-space was also established in relation to its outside: in a “race” toward technological progress and as part of imperial rule (Headrick 1981; Goswami 2004: 45). The production of a nationalized, unified space through infrastructural means has to be seen therefore in conjunction with the infrastructural space typical of empire, which consists in the creation of “nodes.” Being a node means to be small, it implies being declared as politically “empty” or as devoid of contestation, and it entails a technologically rich infrastructural setup (Oldenziel 2011: 27). Such nodes belong to a political space insofar as they serve military strategies or territorially extended rule. They are like “islands in the net” that are less extended in space but weighty in strategic significance (Maurer 2001). But these “islands” need not be articulated explicitly to a mode of existing “in common.” On the contrary, being a node often means to be intensively connected, without being recognized as “belonging,” here understood as sharing a polity with the neighboring space (Easterling 2005). Hubs of intensified connectivity—established by

privileged and privatized corridors of transport, communication, and energy that are sharply severed from neighboring places—have become the signature of today's infrastructural politics (Graham and Marvin 2001; Opitz and Tellmann 2012).

If we take the nation-state and the empire as two ideal-typical versions of how infrastructures serve the production of political space with and without collectivity, Europe becomes a particularly interesting case: it articulates connectivity with collectivity through a politics of infrastructure without fitting neatly into this dual structure. Curiously and disturbingly, the main political theorist who has addressed this form of political space has been Carl Schmitt (Burgess 2009). He envisioned a political articulation of an extended and distinctly European infrastructural collectivity beyond the nation-state. However, Schmitt's European vision has an unacceptable political valence: the *Großraum* conceptualized as "living space" with an ethnic foundation. Despite this political allegiance, Schmitt's book *Völkerrechtliche Großraumordnung* (1941) is important for the current argument since it explicitly links technological infrastructures, spatial order, and collectivity in a political form that is neither state nor empire.

Schmitt develops the *Großraum* as an alternative to the British Empire that, from his perspective, fails to provide a proper political articulation of its spatial extension. Because the empire is, in his account, mainly a "discontiguous agglomerate of dispersed property" (34; our translation), Britain conceives of the world mainly in terms of roads and traffic lines: "The vital interest in sea-lanes, air-lines, pipe-lines etc. is undeniable from the viewpoint of the widely dispersed British Empire" (36). In Schmitt's highly polemical view, this liberal programming of global infrastructures dissolves any spatial attachment that he deems to be necessary for a meaningful political collective to exist. Infrastructures such as the Suez Canal primarily serve an economic connectivity; geopolitics becomes indistinguishable from a commitment to universal mobility.

Interestingly, however, infrastructures also play a main role in articulating the alternative vision of *Großraum*. As Schmitt notes in the preface of his book, its genealogy lies "most significantly not in the state sector, but in the technical-industrial-economic-organizational field" (11–12). In his search for a political-spatial form that is neither a nation-state—which he sees as outdated due to technologically induced changes in spatial scales—nor an empire, Schmitt refers to the space created by energy infrastructures in Europe: "'*Großraumwirtschaft*' [greater space economy] became intelligible as

word and thing for the first time as a result of a well-planned cooperation of wide-ranging electrical power- or gas-pipeline-networks and a ‘collective economy,’ that is, rational usage of the diverseness of energy production facilities, rational distribution of varying loads, recourse to mutually compensating reserves, balancing of secured and insecure loads and peaks” (12–13).

Even if Schmitt drops this focus on technical matters over the course of his book, he clearly observes how infrastructures become part of a political ontology in the early twentieth century. He puts forward an analytical perspective that sees the political space folded into the technological and vice versa. In his view, the politics of infrastructure is inextricably entangled with the production of a spatial order that implies the constitution of collectivity.

By drawing attention to the proposals for European integration as part of a “new economic order” in the 1940s, which was understood as a *Großraum*, we do not want to insinuate that the current “European infrastructuralism” bears resemblance to this authoritarian political project that was based on claims about ethnic superiority (see Walters and Haahr 2005: 8; Tribe 1995). Schmitt’s argument is relevant because he puts forth a theoretical contention. He claims that no articulation of infrastructural collectivity is possible by framing it solely in terms of a free space of circulation for goods, information, and people. In this view, the liberal envisioning of space as a space of circulation does not in itself furnish the means for translating connectivity into collectivity due to its lack of a proper conception of political space.

Schmitt’s thought continues to haunt contemporary efforts that seek to further an emancipatory vision of a postnationalist Europe. Carlo Galli (2010: 132, 131), for instance, insists on the political necessity of outlining “a space in which not everything is possible” for escaping the alternative between the “reactive (or reactionary)” reversion to “large or small communities” and the “global vortex of the New Empire.” According to Galli, the latter cannot constitute a proper mode of political existence due to its lack of spatialization. In a similar vein, Balibar (2009: 196) clearly shows reservations toward understanding Europe in terms of a “global network pattern” that posits the “primacy of circulatory processes.” Such a politics, he warns, might lead to “the dissolution of the object [Europe] itself” (197). Both authors clearly reject Schmitt’s vision of *Großraum*, while struggling to reconceptualize political collectivity in spatial terms. Whereas Galli (2010: 62) at least briefly acknowledges technology to be the “indispensable condition for the creation, formation, and inhabitability of modern political space,” Balibar does not pay attention to the technological condition immanent to collectivity.

He neglects this aspect in favor of the democratic and educational politics of identity formation.

In the attempt to understand the spatial politics of infrastructural collectivity we have now come full circle. We have substantiated our claim that the articulation of collectivity from connectivity hinges on the notion of political space. But we are left with theoretical-political questions instead of having found clear answers. It seems as if linking political space, collectivity, and infrastructural connectivity is currently a matter of experimentation—politically and theoretically. Europe is such an experiment.

History of European Infrastructuralism: Engineering the Common

The European projects of infrastructural unification emerge in the context of a liberal internationalism in the wake of the First World War. The League of Nations initiated pragmatic policies of international cooperation in order to overcome national hostilities and divisions through the restoration and improvement of transport and communication. But the most explicit and solely European infrastructuralism of the interbellum years can be found in infrastructural unification schemes that imagined a homogeneous space connected through wires, roads, and pipes (Vleuten et al. 2007: 333). The political space was writ large across the European continent and positioned vis-à-vis Russia and the United States, with its own colonial “hinterland.”

One of the most telling and curious projects among those technological imaginaries was the plan for a hydroelectric dam across the Mediterranean Sea at Gibraltar strait by the architect Herman Sörgel. Called “Atlantropa,” it would be capable of generating “enough power for the whole Europe, making all European states dependent on this huge power source” (Lagendijk and Schipper 2006: 36). Slightly different in emphasis from the plans for a political Paneuropean Union with a common market by the Count Coudenhove-Kalergi, Sörgel put his hope on technical means of integration (Bugge 1993). He wrote, “The interlacing of Europe through high-voltage wires is a better guarantee of freedom than treaties on paper, since the destruction of these wires would imply the self-destruction of each people” (Sörgel 1932: 118–19). Infrastructures would provide a “new fundament” for Europe without which it could not be saved. The dam at Gibraltar would not only produce sufficient energy to cultivate the deserts of northern Africa but would also create the possibility of a land bridge between Europe and Africa: “Berlin-Kapstadt without transfer” (987). Needless to say, this plan was never realized. But Sörgel’s scheme stands for the many technocratic,

engineering projects of European infrastructuralism that envisioned unification through the materiality of infrastructure at that time.

After the Second World War the plans for the restoration of Europe “as an economic and military barrier to the spread of communism” made infrastructure again into a backbone of a European project (Schipper and Vleuten 2008: 6). The unifying gaze of Europe as a natural-technical unit and a single state did not wane. The political economist Gunnar Myrdal (1968: 624), who was the executive secretary of the United Nations Economic Committee for Europe (created in 1947), expressed the intention to look upon “coal resources in all parts of Europe as a whole and draw up a program which would take account of geological factors irrespective of political frontiers.” The Committee on Electric Power suggested in a similar vein to study the problems “as though Europe were but a single country, regardless of political frontiers” (Lagendijk 2005: 2). It was hoped that such energy networks would push economic growth and overcome political cleavage, especially in regard to the East-West divide. But multiple rationalities of infrastructural connectivity played out after the war and undermined these unifying visions: the Cold War policy of NATO, nationalized frames of financing and integration, single initiatives by smaller countries, or the partial integration of the Nordic European countries characterize this time (Misa and Schot 2005: 13). By the mid-1980s, Europa’s infrastructure policies were declared as absent or ineffective (Schipper and Vleuten 2008: 7).

This situation changed during the 1990s. Plans for trans-European networks were made part of the 1992 Treaty of Maastricht. Especially, since the Lisbon Treaty in 2009, the role of infrastructure for integrating Europe has received a new boost. With this treaty, the trans-European networks belong to the responsibility of the European Union (EU): energy, transport, and communication have become a “shared competence” between the EU and its member states. “We witness something reminiscent of the centralized interbellum plans when we look at the proposals emanating from Brussels today” (Lagendijk and Schipper 2006: 12). In the next two sections, we unpack this latest phase of “infrastructural Europeanism” in detail.

Infrastructural Collectivity as a Market

As is well known, Europe currently conceives its unity in terms of an economic concept: it is understood as an internal and integrated market-space. But this market is not just a place of exchange. It is framed as “the very foundation of the integration project” (Monti 2010: 12). The foundation of the

polity of the EU on an economic order can be described as a quintessential neoliberal act, insofar as neoliberalism, according to Michel Foucault (2008: 84), assumes that “the economy, economic development and economic growth produces . . . political sovereignty.” In this sense, the market articulates an “art of government” for Europe (Walters and Haahr 2005: 48–53). But what happens if this art of government is tied to the project of infrastructural collectivity? Infrastructures materialize the common—but how so if the common is a common market?

Infrastructure is first and foremost presented as the material condition of possibility for the market. While the legal existence of the single market has been achieved, it does not exist in practice due to insufficient material connectivity. As a “nervous system of our economy,” energy infrastructure has to be complemented and missing links have to be closed in order to “optimise network development on a continental scale” (European Commission 2011b: 7). The full integration of the market, and thus the full integration of Europe, requires that “no Member State is isolated from the European network,” for otherwise the “internal market in energy remains fragmented” (European Union 2013: 39, 40). Infrastructures allow for the “interconnection” and “interoperability” that make it possible to buy and sell energy “from any source . . . anywhere in the EU, regardless of national boundaries” (European Commission 2011b: 13–14).

But infrastructures are at the same time much more than a material backbone of the market. The market is not just the *telos* of a “European vision” (European Commission 2011b: 12); the market is at the same time the *means* for bringing this collective into being. Only those infrastructures should be built that produce a positive net outcome in a cost-benefit analysis: “As a rule, the construction and maintenance of energy infrastructure should be subject to market principles” (European Commission 2006: 1). Those agencies that will operate the grid for commercial gain, called the transmission system operators (TSOs), are providing the means to bring these infrastructures into existence as they expect their costs to be covered by tariffs: “The efficiently incurred investment costs . . . related to a project of common interest . . . shall be borne by the relevant TSO [and] be paid for by network users through tariffs” (European Union 2013: 54). In other words, the infrastructural collective has to pass the market test, and the commercial TSOs have the role of performing this test.

But this entwinement of the infrastructural common with the market is deeply paradoxical since “infrastructural Europeanism” also fails to be

commercially viable. If the common is channeled through the market test, it turns out to become a “non-commercial positive externality” (European Commission 2011b: 8). “Non-commercial positive externalities” are those projects that have a “wider European benefit” but “no sufficient commercial justification” under existing conditions (11). Such could be the case because tariff structures do not reflect the additional risks and costs of cross-border investment. And it could also be the case when the geopolitics of a “security of supply” cannot be sufficiently taken into account as part of a cost-benefit analysis.

The regulatory framework therefore prescribes a methodology for planning the common, whose criteria are “cross-border flows,” “cross-border impact,” and “security of supply.” These criteria supplement the market-test in a particular sense: they define a certain geoeconomy as they add spatial-political categories to define the market-space, which does not come into being by itself. An “investment gap” is left by commercial operators. It has to be closed by methods of innovative and market-based financing. A “flexible tool box of market based instruments” (European Commission 2011c: 7) should be applied for “mobilizing, pooling, and leveraging public and private financial resources” (European Commission 2011b: 18). The infrastructural collectivity programmed through the market hence implies that political funding and political cartographies are involved in building trans-European networks.

Nevertheless, the market defines the ontology of this infrastructural collective insofar as it is both the means and the end of it. The market is not simply a variable tool, a prothesis, or an experimental realm, but it is its own aim. Accordingly, no analytical distance is maintained between different types of market designs and the physicality of the infrastructure. As the methodology of the Ten-Year Network Development Plan requires, the market and the network are to be mapped onto each other (European Union 2013: 71). The effect is that they become almost indistinguishable. Furthermore, the TSOs have been granted the very role of planning the public network as a whole while operating parts of it commercially.

Such conceptual enfolding of the physicality of infrastructure and the making of the internal market becomes especially apparent in the concept of the “bottleneck” (ENTSO-E 2012: 49). What sounds like a physical impasse or a simple lack of connection is much more than that. *Bottleneck* turns out to be a hybrid term that problematizes all sorts of different impasses in interconnectivity. It is something that imposes unwanted “boundaries”

(178) that stand in the way of so-called “bulk power flows,” because security of supply is threatened, or the market is not sufficiently integrated, or possible generation of renewable energy is not feeding into the system. The designation as “bottleneck” turns these rather different issues into a similar problem: that of a barrier which is to be erased by a physical-cum-economic connectivity (Peters 2003: 331). Yet neither the policy documents on transport nor the programs on energy infrastructure give a clear and precise definition of the term *bottleneck*. Only a corollary report by the consultants of PricewaterhouseCoopers (2011: 79) acknowledges the hybrid and normative meaning of this term: “Bottleneck is not usually a blockage . . . it is a degradation in quality of service relative to some norm. What the norm is can often be a matter of judgment.”

The trope of the bottleneck functions as a “productive machinery, capable of constructing all manner of institutional practices . . . as barriers to the market” (Walters and Haahr 2005: 61). Understanding infrastructural collectivity as a space of political experimentation is hence subdued by making the network and the market indistinguishable in terms of unspecified barriers to be overcome. The possibility for differentiating what the market is and could be and what the public grid is about is barred by the trope of the barrier that presents the market in terms of physical bottlenecks and physical bottlenecks in terms of the market.

Infrastructural Network Space: Territorial and Topological Dimensions

The spatial dimension inherent in Europe’s infrastructuralism is first of all articulated through an imaginary of unity and cohesion. The “Union-wide” and “pan-European” physical grid should leave no “energy islands,” and no EU member state should remain isolated (European Commission 2013: 3). Peripheral and central areas are to be leveled with the aim of accomplishing “territorial cohesion” (European Union 2013: 41). As outlined above, the project of achieving political cohesion and unity through infrastructures has a long history. The question thus pertains to the specificity of the European case: What kind of peculiar spatiality can be found embedded into the connective tissue of Europe’s infrastructures?

Looking at the current problematization of European energy networks, it is remarkable that the envisioned infrastructural space is not coextensive with Europe’s political boundaries. Instead, it stretches out geographically. The EU is supposed to concentrate on “expanding links between the European energy network and neighbouring countries” that are “willing to be

part of the European energy system” (European Commission 2011a: 3, 6). Switzerland, for example, sits in the geographic midst of Europe but is neither part of the EU nor part of the European Economic Area. Nevertheless, current negotiations hold the promise for Switzerland to become “Europe’s electricity hub and, thanks to the flexible intervention of pumped-storage power plants, to a certain degree to work as an alpine ‘storage battery’ for European power supply” (SFOE 2013). Likewise, Turkey or northern African countries such as Morocco, Algeria, and Libya are spatially conjoined in planning “high-capacity electricity highways” (European Commission 2013: 6) for achieving a European “network integration” (European Commission 2011a: 5). With regard to the southeastern edge, the European Commission announces that “Turkey will soon be linked to the EU power grid and could become a major gas hub and gas transiting country for the EU” (7). In a similar vein, “interconnections in South Western Europe” are supposed to make the “best use of Northern African renewable energy sources and the existing infrastructure between North Africa and Europe” (European Commission 2011b: 13).

As these cases show, energy infrastructure becomes a means for creating a space of geographic contiguity that extends beyond what are mostly regarded to be Europe’s political confines. Their networked structure is taken to be expandable *per se* and, thereby, keeps Europe from being spatially saturated. In terms of its infrastructure, Europe constantly displaces its boundaries between inside and outside by forging differing degrees of connectedness. The neighboring and adjacent spaces appear thereby primarily in terms of useful resources.

The geographic imaginary of continental unity and cohesion is, at the same time, modified by a particular definition of what counts as the “European common.” Only certain projects can enter the “Union-wide list” of “projects of common interest” (European Commission 2011c: 7). In other words, a particular definition of what can count as “common” singles out the specific “European” dimension of this infrastructural space. The struggle for defining what counts as projects of “common interest,” “priority interest,” or “European interest” has been ongoing since 2006. According to the latest definition, the common is to be defined from the “top down.” The guidelines for “trans-European infrastructures” (European Union 2013) determine nine “priority corridors” and three thematic areas that will bring the operative collective into being. The criteria that are stated define what kind of project is “necessary” for “the implementation of the strategic energy infrastructure corridors and areas” (41). For an infrastructure located on the territory of one member state, for example, the common is ascertained in

terms of megawatt: only “high-voltage overhead transmission lines” that change the “grid transfer capacity by at least 500 Megawatt” or a project that provides storage of “annual 250 Gigawatt-hours/year” can count as belonging to the “Union-wide” list (68). If it is a preeminently political operation to establish what counts as common, we can conclude that politics is here defined in mega- and gigawatt-hours.

Such definition of the common modifies the geographic unity of the “Pan-European.” The space of European infrastructure is defined by a “long distance” and “high voltage” network, by which large centers of energy generation or storage “outside its territory” can be linked with the consumption centers (European Commission 2011b: 18). Infrastructures hence simply bypass those areas through which their pipes, wires, and cables run. Such a form of “disembedding” from the surrounding geographic space characterizes, for instance, the gas pipeline Nord Stream between Russia and Germany: Nord Stream “effectively renders the intermediate territory a nonentity, making the nodes on either end of the connecting line disproportionately more important than the territory through which it passes” (Johnson and Derrick 2012: 487). By valorizing certain hubs while cutting out spaces in between, infrastructures have “splintering” effects. The topographical contiguity is modified by a topological connection between different functional areas.

The visual presentation of Roadmap 2050, a project commissioned by the European Climate Foundation, renders the double-coding of the trans-European space as both topographically and topologically palpable.¹ It entails a map, produced by the Rem Koolhaas Office for Metropolitan Architecture, among others, that depicts a geographic Europe divided by apparently natural spaces (see figure 1). It shows a continental topography in which national borders have been replaced by regions that are founded on different modes of renewable energy extraction. In this vision, titled “Eneropa,” parts of eastern Europe have morphed into “Biomassburg” and parts of Germany can be found in “Geothermalia,” whereas most of southern Europe forms “Solaria.” At the same time, Roadmap 2050 also envisions a topological Europe where Paris connects to the desert in Africa (see figure 2). In this view, the Seine morphs into the Mediterranean Sea, whose waves break at sandy shores populated by camels beside solar panels under a glistening sun. It seems to be exactly this combination of a topographical and topological map that lies at the core of today’s infrastructural Europeanism. Via infrastructures, Europe constitutes itself as both operationally united and fractured.



Figure 1. Eneropa. Courtesy of the European Climate Foundation



Figure 2. Topological Eneropa. Courtesy of the European Climate Foundation

We, the Infrastructure of Europe?

The collectivities forged through a politics of infrastructure are not by themselves politically emancipatory or promising. As Europe's history shows, at the beginning of the twentieth century infrastructural collectivity was a technocratic vision of unification, while currently it is a project of materializing a geoeconomic market. In this sense, Jean-Luc Nancy's (1991: 23) critique of a notion of political community that can be reduced to a closed space of operative functioning might find itself confirmed: "The techno-economical organization or 'making operational' of our world has taken over, even inherited, the plans for a communitarian organization." But such critique of a communitarian-technological body politic does not need to conjure the "inoperative community" as an opposite ideal. Rather, this article suggests extending the deconstructive opening of communitarian discourses to the level of technological works. We maintain that the modes of political programming and the implied modes of spatial coexistence offer fruitful avenues for such an analysis.

By focusing on these two aspects, we have sought to outline how a specific infrastructural connectivity is articulated as collectivity and vice versa. The specificity of the European project lies in calling up the market as the category for articulating a political common. But as we have shown, this "commonness" resides not simply in the market but in a geoeconomy of the market. This geoeconomy is defined through long-distance, high-voltage connections that allow large-scale flows across space. As our analysis of the spatial configuration has detailed, this political geoeconomy of the market both favors and fractures a unifying gaze of the European continent. On the one hand, "seeing like a market" is here equivalent to "seeing like a state": cohesion and unity are the political backbone of this geoeconomy. At the same time, this cohesion assumes a novel form. It stretches outward into adjacent geographic areas without necessarily implying the same mode of translating connectivity into collectivity—many countries figure only as locales of resources. Cohesion is uneven and heavily modulated by the technological connection that turns geographic adjacency into a topological folding.

It is clearly the case that the "reconfiguration of political space lies at the heart of the project of the European integration" (Bialasiewicz, Elden, and Painter 2005: 333). The focus on infrastructural space adds another layer of complexity to the picture. It highlights a peculiar form of networked inclusiveness. In a sense, the network qualities of infrastructural space resonate with the fact that Europe has difficulties determining once and for all where it ends territorially. This situation, however, does not imply that the infra-

structural Europe stands for a more benign Europe, a Europe without deportation camps and refugees dying at sea. It simply signals the necessity to complement the politics of citizenship with a “politics of operation” (Mezadra and Neilson 2013) that looks at how the connective tissue of infrastructures becomes entwined with political rationalities and how it rearranges spaces of extraction, consumption, and bypassing.

Can this “infrastructural Europeanism” be abducted and turned into a springboard for the hopes that Latour’s theoretical infrastructuralism nourishes? Extrapolating from our analysis, one would expect that such abduction or rearticulation hinges on reenvisioning the political space of infrastructural collectivity: the European common needs a different understanding of space than the “cross-border” and the “long distance.” It needs an understanding of how to use the adjacencies for political articulations. Furthermore, to turn these technical matters of infrastructural politics into proper “matters of concern” (Latour 2004), languages and visualizations are needed that do not just mingle the sociotechnical, which they always do, but also allow discerning the different possibilities of aligning the two. In this sense, we need the “operative communities” of trans-European networks to be pried open so as to exhibit the different modes of possible hybridization.

Note

- 1 This Roadmap 2050 is not identical to the “Energy Roadmap 2050” adopted by the European Commission (COM 2011/885/2), although there are overlaps between them.

References

- Aradau, Claudia. 2010. “Security That Matters: Critical Infrastructure and the Objects of Protection.” *Security Dialogue* 41, no. 5: 491–514.
- Bach, Jonathan. 2011. “Modernity and the Urban Imagination in Economic Zones.” *Theory, Culture and Society* 28, no. 5: 98–122.
- Balibar, Étienne. 2003. *We, the People of Europe? Reflections on Transnational Citizenship*. Translated by James Swenson. Princeton, NJ: Princeton University Press.
- Balibar, Étienne. 2009. “Europe as Borderland.” *Environment and Planning D* 27, no. 2: 190–215.
- Barry, Andrew. 2013. “The Translation Zone: Between Actor-Network-Theory and International Relations.” *Millennium* 31, no. 3: 413–29.
- Barry, Andrew, and William Walters. 2003. “From EURATOM to ‘Complex Systems’: Technology and European Government.” *Alternatives* 28, no. 3: 305–29.
- Bennett, Jane. 2010. *Vibrant Matter: A Political Ecology of Things*. Durham, NC: Duke University Press.
- Bialasiewicz, Luiza, Stuart Elden, and Joe Painter. 2005. “The Constitution of EU Territory.” *Comparative European Politics* 3, no. 3: 333–63.

- Braun, Bruce, and Sarah J. Whatmore. 2010. "The Stuff of Politics: An Introduction." In *Political Matter: Technoscience, Democracy, and Public Life*, edited by Bruce Braun and Sarah J. Whatmore, ix–xxxix. Minneapolis: University of Minnesota Press.
- Bugge, Peter. 1993. "The Nation Supreme: The Idea of Europe, 1914–1945." In *The History of the Idea of Europe*, edited by Kevin Wilson and Jan van der Dussen, 83–149. London: Routledge.
- Burgess, J. Peter. 2009. "The New Nomos of Europe." *Geopolitics* 14, no. 1: 135–60.
- Collier, Stephen J. 2011. *Post-Soviet Social: Neoliberalism, Social Modernity, Biopolitics*. Princeton, NJ: Princeton University Press.
- Easterling, Keller. 2005. *Enduring Innocence: Global Architecture and Its Political Masquerades*. Cambridge, MA: MIT Press.
- Edwards, Paul N. 2003. "Infrastructure and Modernity: Force, Time, and Social Organisation in the History of Sociotechnical Systems." In *Modernity and Technology*, edited by Thomas J. Misa, Philip Brey, and Andrew Feenberg, 185–226. Cambridge, MA: MIT Press.
- ENTSO-E (European Network of Transmission System Operators for Electricity). 2012. *Ten-Year Network Development Plan 2012*. www.entsoe.eu/major-projects/ten-year-network-development-plan/tyndp-2012.
- European Commission. 2006. Decision No. 1364/2006 of September 6. "Laying Down Guidelines for Trans-European Energy Networks." *Official Journal of the European Union*, no. L 262 (September 22, 2006): 1–23.
- European Commission. 2011a. *On the Security of Energy Supply and International Cooperation—“The EU Energy Policy: Engaging with Partners beyond Our Borders.”* COM(2011) 539. Brussels, September 7. eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0539&from=EN.
- European Commission. 2011b. *Priorities for 2020 and Beyond—a Blueprint for an Integrated European Energy Network*. Luxembourg: Publications Office of the European Union.
- European Commission. 2011c. *Proposal for a Regulation of the European Parliament and of the Council on Guidelines for Trans-European Energy Infrastructure*. COM(2011) 658. Brussels, October 19. eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0658:FIN:EN:PDF.
- European Commission. 2013. *Long Term Infrastructure Vision for Europe and Beyond*. COM(2013) 711. Brussels, October 14. ec.europa.eu/energy/infrastructure/pci/doc/com_2013_0711_en.pdf.
- European Union. 2013. Regulation No. 347/2013 of April 17. "Guidelines for Trans-European Energy Infrastructures." *Official Journal of the European Union*, no. L 115 (April 15, 2013): 39–75.
- Foucault, Michel. 2008. *The Birth of Biopolitics: Lectures at the Collège de France, 1978–1979*. Edited by Michel Senellart. Translated by Graham Burchell. New York: Palgrave Macmillan.
- Galli, Carlo. 2010. *Political Spaces and Global War*. Edited by Adam Sitze. Translated by Elisabeth Fay. Minneapolis: University of Minnesota Press.
- Gandy, Matthew. 2008. "Landscapes of Disaster: Water, Modernity, and Urban Fragmentation in Mumbai." *Environment and Planning A* 40, no. 1: 108–40.
- Goswami, Manu. 2004. *Producing India: From Colonial Economy to National Space*. Chicago: University of Chicago Press.

- Graham, Stephen, and Simon Marvin. 2001. *Splintering Urbanism: Networked Infrastructures, Technological Mobilities, and the Urban Condition*. New York: Routledge.
- Guldi, Jo. 2012. *Roads to Power: Britain Invents the Infrastructure State*. Cambridge, MA: Harvard University Press.
- Harvey, Penelope. 2012. "The Topological Quality of Infrastructural Relation: An Ethnographic Approach." *Theory, Culture and Society* 29, nos. 4–5: 76–92.
- Headrick, Daniel. 1981. *Tools of Empire: Technology and European Imperialism in the Nineteenth Century*. Oxford: Oxford University Press.
- Hughes, Thomas Park. 1987. "The Evolution of Large Technological Systems." In *The Social Construction of Large Technological Systems*, edited by Wiebe Bijker, Thomas P. Hughes, and Trevor Pinch, 51–82. Cambridge, MA: MIT Press.
- Johnson, Corey, and Matthew Derrick. 2012. "A Splintered Heartland: Russia, Europe, and the Geopolitics of Networked Energy Infrastructures." *Geopolitics* 12, no. 3: 482–501.
- Laak, Dirk van. 2012. "Pionier des Politischen? Infrastruktur als europäisches Integrationsmedium" ("Pioneer of the Political? Infrastructure As a European Medium of Integration"). In *Verkehrsgeschichte und Kulturwissenschaft: Analysen an der Schnittstelle von Technik, Kultur und Medien (History of Traffic and Cultural Studies: Analyses at the Crossing Point of Technology, Culture, and Media)*, 165–88, edited by Christoph Neubert and Gabriele Schabacher. Bielefeld: Transcript.
- Lagendijk, Vincent. 2005. "High Voltages, Lower Tensions: The Interconnections of Eastern and Western European Electricity Networks during the Cold War." *Transnational Infrastructures in Europe*, Working Document 11. cms.tm.tue.nl/tie/files/pdf/WD.11.Lagendijk.pdf.
- Lagendijk, Vincent, and Frank Schipper. 2006. "European Road and Electricity Networks in the Twentieth Century: Imagination, Contestation, Realization." *Transnational Infrastructures in Europe*, Working Document 15. cms.tm.tue.nl/tie/files/pdf/WD.15.Lagendijk.Schipper.pdf.
- Larkin, Brian. 2013. "The Politics and Poetics of Infrastructure." *Annual Review of Anthropology* 42: 327–43.
- Latour, Bruno. 1996. *Aramis, or The Love of Technology*. Translated by Catherine Porter. Cambridge, MA: Harvard University Press.
- Latour, Bruno. 2004. "Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern." *Critical Inquiry* 30, no. 2: 225–48.
- Latour, Bruno. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.
- Mann, Michael. 1984. "The Autonomous Power of the State: Its Origins, Mechanisms, and Results." *European Journal of Sociology* 25, no. 2: 185–213.
- Maurer, Bill. 2001. "Islands in the Net: Rewiring Technological and Financial Circuits in the 'Offshore' Caribbean." *Comparative Studies in Society and History* 43, no. 3: 467–501.
- Mezzadra, Sandro, and Brett Neilson. 2013. "Extraction, Logistics, Finance: Global Crisis and the Politics of Operations." *Radical Philosophy* 178: 8–18.
- Misa, Thomas J., and Johan Schot. 2005. "Inventing Europe: Technology and the Hidden Integration of Europe." *History and Technology* 21, no. 1: 1–19.
- Monti, Mario. 2010. *A New Strategy for the Single Market: Report to the President of the European Commission*. ec.europa.eu/internal_market/strategy/docs/monti_report_final_10_05_2010_en.pdf.

- Myrdal, Gunnar. 1968. "Twenty Years of the United Nations Economic Commission for Europe." *International Organization* 22, no. 3: 617–28.
- Nancy, Jean-Luc. 1991. *The Inoperative Community*. Translated by Peter Connor et al. Minneapolis: University of Minnesota Press.
- Oldenziel, Ruth. 2011. "Islands: The United States as Networked Empire." In *Entangled Geographies: Empire and Technopolitics in the Global Cold War*, edited by Gabrielle Hecht, 13–41. Cambridge, MA: MIT Press.
- Opitz, Sven, and Ute Tellmann. 2012. "Global Territories: Zones of Economic and Legal Dis/Connectivity." *Distinktion: Scandinavian Journal of Social Theory* 13, no. 3: 261–82.
- Peters, Deike. 2003. "Cohesion, Polycentricity, Missing Links, and Bottlenecks: Conflicting Spatial Storylines for Pan-European Transport Investments." *European Planning Studies* 11, no. 3: 317–39.
- PricewaterhouseCoopers. 2011. *North-South Interconnections: Market Analysis and Priorities for Future Development of the Electricity Market and Infrastructure in Central-Eastern Europe under the North-South Energy Interconnections Initiative*. Report for the European Commission. ec.europa.eu/energy/infrastructure/doc/2011_wg_north_south_interconnections.pdf.
- Schipper, Frank, and Johan Schot. 2011. "Infrastructural Europeanism, or The Project of Building Europe on Infrastructures: An Introduction." *History and Technology* 27, no. 3: 245–64.
- Schipper, Frank, and Erik van der Vleuten. 2008. "Trans-European Network Development and Governance in Historical Perspective." *Network Industries Quarterly* 10, no. 3: 5–7.
- Schmitt, Carl. 1941. *Völkerrechtliche Großraumordnung—mit Interventionsverbot für raumfremde Mächte: Ein Beitrag zum Reichsbegriff im Völkerrecht (The Order of Greater Spaces in International Law—With a Prohibition of Intervention for Alien Powers: A Contribution to the Notion of 'Reich' in International Law)*. Berlin: Duncker and Humblot.
- Scott, James. 1998. *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT: Yale University Press.
- Simone, AbdouMaliq. 2012. "Infrastructure: Introductory Commentary by AbdouMaliq Simone." Curated Collections. *Cultural Anthropology Online*, November 26. www.culanth.org/curated_collections/11-infrastructure/discussions/12-infrastructure-introductory-commentary-by-abdoumaliq-simone.
- SFOE (Swiss Federal Office of Energy). 2013. "Electricity/Energy." www.europa.admin.ch/themen/00499/00503/00563/index.html?lang=en.
- Sörgel, Herman. 1931. "Europa-Afrika: Ein Weltteil" ("Europe-Africa: A Continent"). *Sozialistische Monatshefte* 37, no. 10: 983–87.
- Sörgel, Herman. 1932. *Atlantropa*. Zürich: Piloty and Loehle.
- Tribe, Keith. 1995. *Strategies of Economic Order. German Economic Discourse, 1750–1959*. Cambridge: Cambridge University Press.
- Vleuten, Erik van der, et al. 2007. "Europe's System Builders: The Contested Shaping of Transnational Road, Electricity, and Rail Networks." *Contemporary European History* 16, no. 3: 321–47.
- Walters, William, and Jens Henrik Haahr. 2005. *Governing Europe: Discourse, Governmentality, and European Integration*. New York: Routledge.
- Weber, Eugene. 1976. *Peasants into Frenchmen: The Modernization of Rural France, 1870–1914*. Stanford, CA: Stanford University Press.
- Winner, Langdon. 1980. "Do Artifacts Have Politics?" *Daedalus* 109, no. 1: 121–36.