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## *Splintering Urbanism* and Climate Breakdown

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## *Splintering Urbanism* and Climate Breakdown

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### ABSTRACT

On the anniversary of the publication of *Splintering Urbanism*, climate breakdown heralds a new era in public investment in infrastructure. However, current proposals for infrastructure overlook two decades of work in infrastructure studies. For example, both the Green New Deal advanced by activists in the United States and the European Green Deal, proposed by the European Commission, establish a dual logic between investments in centralized systems and off-grid systems that reinforce, rather than challenge, the infrastructure models critiqued in *Splintering Urbanism*. The lessons of *Splintering Urbanism* debates, such as the rise of post-networked conditions of living in dialogue with everyday practices of living with and against infrastructures, are still missing from the policies that will likely shape urban futures.

### KEYWORDS

*Splintering Urbanism*; Green New Deal; European Green Deal; climate urbanism

## Introduction

There are some signs that we may be entering a new era of green infrastructure spending in 2021. The climate breakdown increasingly calls for an infrastructure response. Flooding, rising sea levels, heatwaves, droughts, and insect outbreaks—all possible climate change results—will directly affect infrastructures (IPCC, 2018). Infrastructures in sectors like energy and transport are also central to addressing climate change, both by reducing overall carbon emissions and increasing the resilience of current ways of living. Public spending is a condition to deliver robust responses to climate change.

Spending, however, is unlikely to lead to a radical rethinking of current infrastructure models. Current infrastructure systems drive the rise of carbon emissions. The IPCC (2018) has called for infrastructure-based measures to leapfrog towards less carbon-intensive technologies and decouple economic growth from energy demand and CO<sub>2</sub> emissions. Maintaining societies and economies within planetary limits requires an infrastructure transformation (Fazey et al., 2018). New infrastructural models are also needed to enable large-scale responses to avoid the lock-in of carbon emissions, address cascading risks, and facilitate mitigation through synergistic effects of interventions in multiple sectors. Yet, radical proposals to rethink infrastructure are few and far between. For

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example, the International Energy Agency's last report on renewables shows that climate change concerns have encouraged sizeable energy-related investments (IEA, 2020). However, according to the IEA estimates, over half of the energy-related funds in stimulus packages announced by governments (US \$470 billion globally plus USD \$840 billion within the European Union) are relief funds. The remaining funds prioritize energy efficiency and transport improvements over renewable and network investments, hardly creating opportunities for an infrastructure overhaul.

## The Return of “The Modern Infrastructure Ideal”

*Splintering Urbanism* departed from an analysis of the construction of the modern networked city from 1850 to 1960, as a process in which fragmented infrastructure islands were joined up, integrated, and consolidated in standardized, regulated networks. The promise of dependable systems providing predictable services was central to the constitution of an infrastructure integration ideal that informed nation-building projects worldwide—the modern infrastructure ideal. The spread of privatization and liberalization logics at the end of the twentieth century led to infrastructure unbundling and fragmentation. The book describes different symptoms of such splintering urbanism, such as the proliferation of premium infrastructure spaces and residential housing enclaves or the enforcement of securitization practices and exclusion mechanisms. Graham and Marvin (2001) warned against reducing their argument to a normative choice between coherent, standardized infrastructure and splintering and fragmentation. They portrayed infrastructure systems as heterogeneous socio-technical arrangements that result from both hegemonic and resistance logics. While the book focuses on hegemonic logics, their conclusion tracks resistance strategies embedded, for example, in social movements, quotidian practices, or local governance.

*Splintering Urbanism* also tracked infrastructure landscapes characterized by the fragility of networks, often sustained in precarious interconnections and the insertion of such networks in places where they may or may not belong. In a later volume, Graham and McFarlane (2014) advocated for analysis of the infrastructure experience showing the multiple ways in which infrastructures are known, managed, and experimented on by all kinds of people while also documenting exclusion experiences. The arguments of *Splintering Urbanism* have indeed informed analyses of the multiplicity of the infrastructural practices that shape urban lives (see, for example, Baptista, 2019; de Bercegol and Gowda, 2019; Furlong, 2014; Guma, 2019; Schramm and Thi Thanh Mai, 2019; Silver, 2014). Lawhon et al. (2018) explain that the “heterogeneous infrastructure configurations” that shape service provision in many cities—emphasizing those in the so-called global south—rarely achieve any universality aspirations. Turning attention to how infrastructure works in practice reveals them as dependent on overlapping formal and informal arrangements (Furlong et al., 2017). Moreover, infrastructure provision is shaped by ecological excesses not accounted for in standard infrastructure accounts (Furlong and Kooy, 2017).

The last decade of global austerity has further accelerated some of the processes first described in *Splintering Urbanism*. For example, under austerity, governments have mobilized alternative financing sources beyond public finance (Mell, 2020). Difficulties in financing infrastructure have generated complex territorial relationships across

different sub-national authority levels to maintain infrastructure arrangements (Hall and Jonas, 2014). However, new projects of infrastructure development are emerging as alternatives to austerity policy. According to Bear (2017), governments' promises to build infrastructure rarely attract criticism because they echo a consensus on national reconstruction ideas, something made explicit in the extended use of the label "Green New Deal"<sup>1</sup> (GND) (Elliot et al., 2008; Pettifor, 2019). In that sense, this new infrastructure development era suggests a return to ideas of integrated, publicly funded infrastructure. Responses to climate change in a post-pandemic context may play like a reprise of the "modern infrastructural ideal."

Coutard and Rutherford (2016) have hypothesized that the networked city model animating the modern infrastructural ideal may be waning. New models of post-networked urbanism point towards the growing diversity of drivers and contexts of infrastructure development. However, post-networked infrastructure has not yet provided a clear-cut alternative to the modern infrastructural ideal—at least not an alternative that could translate easily into environmental policy. Coutard and Rutherford explain that infrastructure delivery continues to be shaped by network ideologies and conceptions of relatively homogenous, standardized infrastructure spaces. In a climate change-concerned context, these infrastructural debates are taking a new shape.

### **The Infrastructure Imaginaries of the "Green New Deal"**

Climate change concerns have generated a growing interest in industrial and financial plans to reduce fossil fuel dependence. Many such ideas put infrastructure investment at the center of those plans, in mammoth, centralized, and publicly led efforts referred to as the "Green New Deal" or GND. Economist Ann Pettifor (2019) describes the constitution of a "carbon army" that will construct a new generation of infrastructures and industry in the United States, where a GND Resolution was sent to the US Congress by Rep. Alexandria Ocasio-Cortez and Sen. Ed Markey on February 5, 2019.

Pettifor is a member of the Green New Deal Group that in 2008 proposed a GND in the United Kingdom to deliver "joined-up policies to solve the triple crunch of the credit crisis, climate change, and high oil prices" (Elliot et al., 2008). The report showed significant concern with rising inequality levels under the shadow of the 2008 economic crisis. The core of their proposal was "the investment of billions of dollars in a wide range of infrastructural projects ... to get people back to work and generate business opportunities" (Elliot et al., 2008: 35). The 2008 GND's focus was infrastructure, for example, decarbonizing the electricity supply with massive investments in renewables. Finance, employment, and renewables were the pillars of the GND. At the time, Luke (2009) described it as a manifestation of green statism and mocked the proposal. This appeal to green statism, however, seems to increase the appeal of the GND. Pettifor has renewed her proposals grounding the GND in a steady-state economy, promoting self-sufficiency and financial control. In another proposal from political commentators Aronoff et al. (2019), the GND's crux is to deliver climate austerity while tackling social inequality. They praise "the original New Deal" because it created "a positive feedback loop between public spending on collective goods and mass mobilization" (Aronoff et al., 2019: 7). Mass mobilization is central to an understanding of the GND that puts labor at its center: it is green statism with a

popular participation core, based on a just, economic transition “that doesn’t make workers pay” (Aronoff et al., 2019: 72).

The European Green Deal (EGD) has become the first example of GND ideas’ potential policy impact (from Pettifor’s [2019] financial controls to Aronoff et al.’s [2019] just transitions). The European Commission announced the EGD in December 2019 as a flagship policy marking Ursula von der Leyen’s ambitions as president of the Commission to make Europe the first carbon-neutral continent. The EGD entails an original communication on its principles (European Commission, 2019) alongside a sequential plan for regulations across social policy, food, transport, industry, investment, and public communication. Overall, the EGD is a strategy to reimagine dominant economic growth ideas and integrate them into social welfare-state-style policies that rely on resilient infrastructures. The immediate need to respond to the COVID-19 pandemic may have compromised some aspects of the EGD (Elkerbout et al., 2020), but the program is proceeding forward so far.

Two opposing models of infrastructure development permeate discourses around the EGD. On the one hand, the EGD emphasizes the need for a coordinated, centralized effort to increase the efficiency and interconnectivity of infrastructures. The EGD provides increased support to decentralized, off-grid infrastructures that harness digitalization’s advantages to develop more flexible, resilient, and nimble infrastructure models. These two approaches echo Aronoff et al.’s (2019: 107) vision of infrastructure in a “rebuilt world” in the United States: “the most efficient system for a big country like the United States is a sprawling, fully integrated grid with microgrids nested into the system—able to detach but normally plugged in.” The EGD advances industrial and urban electrification as the cornerstones of decarbonization and investments in renewable generation capacity and improved efficiency in transmission and distribution networks. The EGD also provides windows of opportunity for off-grid electricity models, particularly with the deployment of tools to facilitate peer-to-peer power trading through, for example, blockchain technologies. Like the GND proposals, this two-model vision seeks to strengthen both on-grid and off-grid proposals without undermining either.

However, the ambiguity emerges because the EGD lacks an infrastructural vision for a zero-carbon economy, at least one that recognizes the heterogeneity and variability inherent to infrastructures and their complex relations with different geographies, as explained in *Splintering Urbanism* and the body of work that followed it. The lack of infrastructural, rather than financial, vision compromises the Green Deal-inspired proposals to deliver a just, low-carbon economy for Europe (cf. Pianta and Lucchese, 2020). Instead, the EGD reinforces existing infrastructure models. The complex relations that embed infrastructure in existing economic models remain unchallenged. Despite the effort to deliver a just transition alongside the EGD (for example, with investments in regions affected by the move away from fossil fuels), the EGD—and the GND—plays to the tune of existing development models. These augment existing models with a new green flavor, but they are hardly conducive to a radical transformation. The analytic tools that led to the analysis of *Splintering Urbanism* and green statism can provide a new angle on infrastructure debates under climate change, moving from the geographical analysis of the network society to the geographical analysis of the climate society. The lessons of *Splintering Urbanism* debates, such as the rise of post-networked conditions

of living in dialogue with everyday practices of living with and against infrastructures, are still missing from the policies that will likely shape urban futures.

## From “Splintering Urbanism” to “Climate Urbanism”

Climate urbanism marks a new moment in which climate change has become a central concern for local governments and other urban actors, influencing all policy areas in a transversal manner. From flooding to heatwaves, climate change will have devastating impacts on current infrastructures. Notions of cascading risks further highlight the interconnectedness of infrastructure systems, not just in terms of infrastructure networks, but also in their connections to places and geographies (Pescaroli and Alexander, 2015). At the same time, climate change is an intervention narrative. As a narrative, climate change justifies and facilitates infrastructure-based responses (Hodson and Marvin, 2013). As climate change shapes new thinking on infrastructure delivery, it becomes a reference to claim and re-organize the city. Settlements and infrastructures are changing under climate change and because of climate change. Thus, climate change becomes something that justifies an urban life at a given historical moment, a historical moment that we can define as climate urbanism (following McCann, 2016; see Castán Broto and Robin, 2020). Climate urbanism demands the deployment of critical analysis, a critical gesture that has much to learn from debates on splintering urbanism.

Spatial analyses of the impacts of Climate Urbanism focus on the new inequalities generated in current mitigation and adaptation responses (Long and Rice, 2019). Evidence is mounting on the impacts of green and climate interventions in cities fostering debates about climate gentrification and parallel urban exclusion processes (Keenan et al., 2018; Shokry et al., 2020). Such processes echo the concerns first presented in *Splintering Urbanism*. Critical infrastructure scholars can bring two decades of lessons about splintering infrastructural processes into debates about the growing urban inequalities under climate change.

There is a pressing need for this analysis beyond critical infrastructure studies. The challenge of addressing climate change in urban areas and the inequalities associated with it have been discussed in high-level reports such as the *World Cities Report 2020* (UN-Habitat, 2020). Critical infrastructure scholars cannot miss the opportunity to intervene in such international and policy-oriented debates. Infrastructural-based solutions in mainstream debates about climate change responses such as the GND still reproduce network-based models that hardly reflect the subtle analysis of those networks' embeddedness in the urban fabric. *Splintering Urbanism* alongside the nuanced responses to the book that have emerged in the subsequent two decades provide analytical tools to refine that analysis. This can inform a critique of Climate Urbanism that maps the geography of infrastructure beyond the network society and follows the complex assemblages that constitute urban lives under climate change. Climate Urbanism involves imaginative work alongside critical work because, as White (2020) argues, just transitions have to be built, fabricated, coded, and created. After *Splintering Urbanism*, Climate Urbanism is the next frontier in critical infrastructure studies.

## Note

1. The New Deal refers to the range of policies enacted by Franklin D. Roosevelt from 1933 to 1939 to recover from the Great Depression. The program embraced the concept of a government-regulated economy and had a strong influence on the constitution of the welfare state policies in Europe.

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