

# The potential politics of the porous city

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## Abstract

This article discusses the concept of porosity and what it might offer critical urbanism. It engages recent scholarly and practical writing on the “porous city,” outlining three sets of contributions that porosity offers in analyzing contemporary urbanization patterns and in orienting planning, policymaking, and knowledge production. First, the porous city offers a critical epistemological lens focused on flow and relations, which supports mobile and infrastructural ways of viewing and knowing the city. Second, the porous city suggests the ontological features of interpenetrating geographies and temporalities, which take the urban to be a topological space of potential politics. Third, the porous city entails an ideal to which planning practice should aspire, particularly in relation to forms of urbanism and city-building that are open to multifunctionality, difference, and dynamism over time. While each of these represents a promising direction in critical urban praxis, we argue that porosity also has its limits. The porous city is conceptually malleable and normatively ambiguous and it risks overreach as well as recuperation within exclusionary and exploitative urban development agendas. We claim that the porous city should not be treated as a comprehensive global ambition, but rather, is most valuable when used to discern and build discrete architectures of power.

## Keywords

Porosity, infrastructure, critical urban theory, urban planning

## The potential politics of the porous city

In recent years, the concept of porosity—as a quality of openness to passage—has increasingly appeared in spatial discourses to connote the provisional, processual, and interpenetrated nature of urban phenomena and urban forms of life.<sup>1</sup> Initially used in a short essay by Walter Benjamin and Asja Lacis in 1925 to describe the then subaltern city of Naples,

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porosity has now entered the mainstream as a key feature of contemporary global urbanism (Amin and Thrift, 2002). Across architecture, design and urbanist discourses more generally, porosity is emerging as a generative metaphor for the urban age and its socio-ecological and socio-technical composition (see, for example, Wolfrum et al., 2018). Yet, despite this popularity, the various and often divergent uses of the term are not well elaborated and the value of porosity to urban politics and to critical urban theory has remained largely under-explored. This article aims to animate that work.

Given the growing popularity of porosity in urban research and practice, it is timely to consider the stakes of the concept, and what, if anything, the notion might add to the pursuit of more socially and ecologically just processes of urbanization. Doing so, however, is a challenging endeavour, not least of which because the term porosity is multivalent, conceptually stretched, and normatively ambiguous. Indeed, one helpful reviewer of this article referred to the notion as “a box of frogs, all leaping in different directions.” As we chase and corral these slippery frogs, we do not seek to provide a total theory of contemporary urbanism, or to make any general claims about the porous city as such. Rather, we offer more provisional reflections on porosity’s affordances for thinking about urban and infrastructural politics today. To that end, this article investigates the extent to which porosity can be a useful concept for understanding and orienting contemporary urbanism.

We start from two initial premises. On the one hand, porosity has evidently provided a fertile alternative vocabulary and vision from which urban scholars and practitioners can draw. Against sclerotic forms of 20th-century urban planning and urban thought, porosity is appealing for recognizing the many holes, voids, and passageways that comprise urban life and for valorizing incompleteness, indeterminacy, and interdependence (Sendra and Sennett, 2020). Furthermore, in refusing to treat the urban as a definite and complete thing working according to coherent and predictable logics, it enables more immanent critiques and interventions. This has particular promise as a means to understand and respond to the logistical and infrastructural forms of urbanization through which cities are being configured and reconfigured today (Graham and Marvin, 2001; Guma, 2022; Lawhon et al., 2018, Wiig and Silver, 2019).

On the other hand, there remains uncertainty regarding porosity’s meaning and its value to the future of urban development. As a concept, porosity is imprecise and vague, leading to convoluted and contradictory applications. The notion is wide ranging, even chaotic, and can be utilized for a variety of political purposes. Porosity as endless flexibility and mixed-used urbanity, for example, can be mobilized to justify the pervasive pro-growth logics of market urbanization under late neoliberalism.<sup>2</sup> Moreover, the more literal conditions of openness, vulnerability and flow may be desirable in the abstract, but porous structures of connection in practice can just as easily entail prolonged and spectacular violence with “negative connotation depending on the dimension, distribution and scale of the pores” (Laux, 2018: 88). Urbanists must thus also grapple with the more unruly politics of pores and the ongoing and vexing negotiations between deficit and surplus, openness and closure, autonomy and relationality.

As such, while generative, porosity is not unconditionally positive when it comes to the design and construction of urban space and infrastructure. Taking stock of recent interventions in both urban development and contemporary urban theory, we argue that the porous city is a theoretically malleable and politically ambivalent concept. Rather than use the porous city in the abstract as a global ambition, we argue that its analytical and political potential lies in its ability to discern and intervene in discrete architectures of power that regulate urban flows and movements. In what follows, we build this argument first by briefly outlining the development of the porous city concept, and second by unpacking

how the term is used today as an epistemological lens, materialist ontology, and planning ideal.

### **The porous city: Between periphery and centre**

Although the term had been used prior, most invocations of porosity in urban discourses trace back to the essay “Naples” written by Walter Benjamin and Asja Lacis. For Benjamin and Lacis, the Southern Italian city of Naples, in contrast to Northern German cities, was not ordered by individual buildings or structures, but by the passageways between them. Crucially, it was the conduits, gateways, thresholds, and interstices in which urban life was lived, and through which it flowed. The term porosity thus emerges in reference to interpenetrating cultural and infrastructural forces:

As porous as this stone is the architecture. Building and action interpenetrate in the courtyards, arcades, and stairways. In everything they preserve the scope to become a theater of new, unforeseen constellations. The stamp of the definitive is avoided. No situation appears intended forever, no figure asserts its ‘thus and not otherwise.’ (Benjamin and Lacis, 1978: 165–166)

In this narrative, the term porosity refers both to the morphology of the city and to its lived sociality. In Naples, Benjamin and Lacis find an enchanting “intermingling” of lifeworlds resulting in the blurring of inside and outside, public and private, day and night. Rather than a rigid separation of self-contained sites and spaces, the city is comprised of “tightly packed multiplicity” (170) flowing with “streams of communal life” (171). Porosity, accordingly, captures not only the leakage between diverse urban material but also the aleatory hum of complex and collective urbanity.

Enamoured with these pulsating rhythms, Benjamin and Lacis see the porous city as the antithesis of modern capitalist and bureaucratic society. Yet, notably, they do not understand Naples to be an emancipatory prototype. The incompleteness of state and market apparatuses enable multiple informal authorities that rule the city—including the Church and the Camorra—to operate through pervasive forms of coercion and stratification. Similarly, although “poverty has brought about a stretching of frontiers that mirrors the most radiant of free thought,” there is still “no hour, often no place for sleeping and eating” (Benjamin and Lacis, 1978: 171). In the porous city, liberty and precarity hew close to one another. Benjamin and Lacis’ work on Naples, like Benjamin’s observations of Moscow and Paris, is underwritten by an analysis of the urban as a site of capitalist relations, dreams, desires, logics and, above all, contradictions (Buck-Morss, 1989). They seek, not to valorize porosity in the abstract, but to explore how heterogeneity and incompleteness challenge the presumed homogeneity and totality of accumulation dynamics, and how the ordinary comingling of urban life can traverse class, time, and space distinctions creating emancipatory, if fleeting, spaces of hope. Their work attends to that which escapes modern systems of control, efficiency, reification and calculation, not as a romanticized outside, but as partially materialized fragment of life otherwise.

For Ernst Bloch who used the term just a year later, porosity is a more expansive idea capturing the heterogeneity and Baroque nature of Italian culture writ large (see Smith, 2021). Bloch marshals the Orientalist language of Benjamin and Lacis to emphasize the differences in form and culture between a civilized Northern Europe and chaotic South. Notably, these broad strokes arguments about the incomplete and latent development of Naples (and/or Italy) are used to criticize, but also to naturalize Northern Europe. Indeed, with Naples as the symbol of alterity, porosity throughout the 20th century has been

a pointed repudiation of modernist planning norms. As this articulation gets taken up in contradistinction to the rational zoning and spatial separation of the Athens Charter, it carries with it these tacit imperial assumptions. The porous city is thus a powerful counter-discourse of modernity, but with complicated roots.

It is primarily as an anti-modernist foil that the term has resurfaced across social and spatial disciplines in recent years (see, for example, Alma Maré, 2008; Amin and Thrift, 2002; Carvalho, 2013; Harms, 2015; Le, 2020; Stevens, 2020). While different authors place varying emphases on social or spatial dimensions, scholars have found in porosity a language to describe and to attend to urban life—particularly in the Global South—that resists and exceeds conventional norms. In their companion ‘non-manifesto’ manifesto to Habitat III, for instance, Richard Sennett et al. (2018) feature the “porous city” as one of the central theoretical principles that should guide the United Nations’ (UN) New Urban Agenda of the 21st century and serve as a model for global sustainable development. The so-called ‘Quito Papers’ (published as a book in 2018 as *The Quito Papers and the New Urban Agenda*) invoke porosity to repudiate the rational, zoned, efficient, and imperial modes of master-planning codified in the Charter of Athens and concretized around the world through overdetermined planning paradigms (Sennett, 2006). Instead, authors call for complex, synchronous, incomplete, and eccentric forms of *porous* city-building more appropriate for the urban age (UN Habitat et al., 2018). Drawing inspiration from informal experiments and arts of urban living across the Global South, the Quito Papers presents a utopianism of provisionality and process, where diversity and disorder are valued and put in the service of anticipatory human flourishing through both policy and the built environment.

Other prominent urban visions and reflections foreshadow and echo this call. In their 2009 plans to reconstruct Grand Paris, architects Bernardo Secchi and Paula Viganò used the overarching idea of “*La ville poreuse*” (the Porous City) to frame new scenarios that would correct Paris’ existing segregated, polarized, and disconnected metropolitan region.<sup>3</sup> Emphasizing the social, economic, and ecological dimensions of porosity, they apply the term to various infrastructural arrangements that regulate urban metabolism, and in particular, as an orienting ideal to imagine a universally accessible city connected by a dense network of public transportation. Qualities of integration, equality, and accessibility are also front and center of the ongoing “Porocity” research project of the Dutch Why Factory in partnership with architects Winy Maas and MVRDV, and in the Porous City Network (<http://porouscity.org>) founded in Bangkok in 2017 by landscape architect Kotchakorn Voraakom. In these applications to housing and green space respectively, porosity is not simply an ideal, but it is an approach to the research and design of more dense and resilient urban environments. Indeed, for many working on sustainable urbanism, porosity is not metaphorical, but a more literal measure of hydrological metabolisms (Redeker, 2018; Viganò 2009).

Growing in prominence and ubiquity, the porous city has in the last decade shifted from a more provisional description of discrete dynamics within and against hegemonic architectures of power, to a guiding norm of global urbanism. Across the examples described here and the many contemporary invocations, the porous city and porosity have multiple and proliferating meanings, referencing in various degrees and approaches the improvisational, informal, and interpenetrating constructions of contemporary urban space and urban ways of life. In their attempt to make sense of these discourses and the integration into the urban mainstream, Wolfrum et al. (2018: 17) identify a veritable “panopoly” of contemporary connotations:

- interpenetration, superimposition, and multilayering of spaces
- integration, overlapping, and communication of spatial elements

- ambiguous zone, inbetween space, and threshold
- permeability, spaciousness, and ambiguity of borders
- coexistence, polyvalence, and sharing
- blurring, ambivalence, and even weakness
- provisional, incomplete, and even kaput
- openness of processes concerning coincidence, rhythm, and time
- the flaneur's perspective and a performative approach to urban architecture

These manifold uses are, in some ways, logical extensions of Benjamin and Laci's formulation, but as the concept has gained a more prominent foothold—particularly within the hegemonic systems it was meant to confront—it has been stretched and applied in divergent ways. With these manipulations, the term has been beset by confusion, overcomplication, and underspecificity that threaten to diminish its analytical and political traction.

Whereas in some cases porosity refers to fundamental features of cities everywhere, in other uses it is an instrumental metaphor to highlight particular inadequacies. Sometimes it references cultural and social dynamics, and at other times technical and ecological ones. For some, it is an example of trendy design terminology, while for others it is an urgently needed political ethic. In other words, the term porous city has come to express a rather loose set of overlapping activities, attributes, and ambitions that may or may not serve as a progressive foundation for urban practice and theory. In the remainder of what follows, we explore the politics of the porous city across the realms of epistemology, ontology, and normativity. In clarifying the treatment of porosity in these three distinct but related arenas, we seek to clarify the various ways in which porosity may resonate (or not) with critical urbanism as an interdisciplinary project.

### *An epistemological lens*

From political economy through feminist, postcolonial, and queer theory, many urbanists have called for new concepts and theoretical frameworks adequate to the challenges that cities face in the urban age (e.g. Brenner and Schmid, 2015; Oswin, 2018; Rickards et al., 2016; Roy, 2016a). The revival and experimentation with the term 'porosity' should thus be understood, at least in part, as one of a number of new grammars for making sense of the city and the global urban condition (Lancione and McFarlane, 2021). If 'knowing' the urban today demands new conceptual and material tools, then porosity may be "a fertile instrument in nourishing ideas, interpretations, and projects for the city and the territory" (Viganò, 2018: 50) usefully included in a broad lexicon of terms for understanding the social and spatial world literally and figuratively shifting beneath our feet.

In this melee of urban theorizing, however, scholars are not wrong to be wary of the way porosity has been attached to all sorts of conceptual and political projects. In the social sciences, it is not a term that is marked by rigour and uniformity. Certainly, its broad and non-standardized application across sites and literatures can lead to false equivalencies, confusion, and vagueness. And, as an epistemological orientation, the porous city is not particularly novel or original. Many aims of porous city thinking can be achieved—even better achieved—through other means, for example, critical mobilities, political ecological, or postcolonial approaches. Yet, at the same time, porosity in its many guises provides a useful set of ideas for how to think cities relationally and dynamically across multiple processes, scales, and sites. For its advocates, porosity invites an attention to processes and movements and it enables a way of tracing the complex engagements through which urban life is continually composed and performed. It focuses on multiple interpenetrating

movements and connections, thus replacing concepts and theories of boundedness and fixity with more dynamic ones. Moreover, it situates these within more-than-human ecological dynamics and the political economic flows of capital. As Viganò (2018: 50) argues, it thus “provides a means of apprehending concrete spatial, social, and environmental qualities” holistically and through multiple vantages.

Following Benjamin and Lacis’s articulation, many celebrate porosity as a lens that makes it possible to see objective phenomena that are paradoxical: being here and there, superimposed spaces, asynchronous temporalities; life that is both individual and collective, public and private, oppressive and emancipatory, divided and convivial. Porosity is “a conceptual-theoretical tool with which to grasp otherwise elusive phenomena” (Detering and Beesley, 2018: 296). Particularly notable here is the way porosity thus resists treating the urban as a simple unfolding of any definitive logic of spatial production. Anthropologically, this might entail treating urbanization as a lived and living thing, what Simone (2021) calls “a continuous processes of undoing and redoing, of intersecting things despite their geographic or temporal positioning and constituting new things from that which is intersected and undone.” Historically, thinking through the porous city resists the temptation to understand history in a way which flattens its multiple layers and inheritances into a simple causal narrative, framing cities instead as the collection of interpenetrating, yet discontinuous trajectories (Carvalho, 2013: 8). To think through the lens of porosity is to understand the complexity of the urban field shaped by “competing power relations, discourses, interests and desires” (Kling and Kurbasik, 2018: 238).

While broadly unsettling sedentary and siloed ways of seeing, porosity also indicates more specific points of attention and intervention that are instructive for identifying prevailing relations of power. Porosity identifies approaches to urban research and praxis that pay attention to boundaries and thresholds, to peripheries and edges, and to flows and mobilities. It draws attention to the social and spatial realms where competing forces meet, and to the processes of differentiation through which they diverge. It is through the construction and conflicts over pores, and the bordering practices of urbanization that one can read the messy and conjunctural ways space is assembled and transformed (Carvalho, 2013). Indeed, much important work in urban studies today is precisely about the nature and operation of particular pores, answering questions such as what flows where, why, and for what purposes?; who decides on the pace and direction of flows? how are these flows experienced? and who benefits and loses from different configurations of conductivity?

Others still look to porosity as an expression of “peripheral” and eccentric modes of seeing and knowing that look to a variety of sites of urban articulation and that refuse totalizing realities built on life in the European metropole (Carvalho, 2013; Le, 2020; Sennett, 2006). This would of course, include more cosmopolitan ways of conducting urban scholarship (Robinson, 2002) and engaging in postcolonial urbanism and theory (Roy, 2016b). Just as porosity notes how division and connection are inherently linked, it invites seeing the co-constitutive nature of socio-spatial and knowledge inequalities across geopolitical divides (Carvalho, 2013: 13). Although Benjamin and Lacis’ idea of porosity was developed, surprisingly, without substantive engagement with discussions of the “Southern Question” (i.e. the economic and ideological context of an underdeveloped Italian South and developed North, see Smith, 2021), scholars today would do well to ensure that as this idea travels and is put to new uses, it is provincialized and contextualized within ongoing relations of colonialism and dependency.

While each variation of the porous city carries distinct methodological challenges, they also invite novel and unconventional forms of knowledge generation. Accessing the aforementioned features of porosity demands understanding the urban through a variety of

techniques of immersion, participation, and observation that document the structures, patterning, tempo, and causes of urban passages. Rather than assuming an external and neutral point of observation, porosity might entail a way to observe and understand urban phenomena from within, as a transient and productive collection of processes that are “all around us” (Kling and Kurbasik, 2018: 239). Scholars, practitioners, and activists have pursued porosity through mobile fieldwork, surveys, cartography, participation and artistic intervention that push the boundaries of what counts as urban research (Wolfrum et al., 2018). Indeed, “to investigate porosity obliges to explore other worlds, to look for what is not in the maps and is not in the statistical data” (Viganò 2009: 106). Porosity as a method may thus combine both *pas à pas* (step by step) and *à vol d’oiseau* (bird’s eye) analyses (Viganò 2009: 106) or it may entail collaborative mapping exercise that follow “circumstantial evidence, field-work, close reading and story-telling” (Viganò, 2009: 106). For others still, porosity guides self-building experiments such as ConstructLab’s (Römer, 2018: 119) performative reflections on place as an “applied public research laboratory, an in-between of artistic experimentation and public action research.” In these examples, porosity is the means and not the end of spatial, performative, and participatory actions.

Porosity has shown itself to be ambitious, enabling creative experiments to focus in on spatial relations of movement and to think the city as such in ways that exceed the status quo. As it moves, however, from a minor to major concept (see Katz, 1996, 2017) and becomes incorporated into the mainstream, it becomes less able to do this incisively. If urban studies today have impoverished understandings of urbanization, the contribution of thinking through porosity is partial and qualified. While Haenni (2020) warns that starchitects and global urban policymakers risk “declar[ing] porosity as a new norm of Western Authority (once again erasing non-Western histories and knowledge),” the next two sections will also demonstrate the risk of sanitized and stylized appropriations and the recuperation of porosity into conventional paradigms of city knowing and making.

### *An ontological feature*

More than a tool to see and comprehend urban processes, porosity is also proposed as a fundamental feature of the urban condition. In the natural sciences, from which the term is borrowed, porosity is a measure of how much of a material (e.g. a rock) is open space. This space can exist between grains or within larger cracks or cavities, providing shape and form to individual objects by way of its negative contrast. Materials such as wood and sandstone contain many ‘void’ spaces through which water might pass. When translated from the natural sciences into the “typomorphological considerations” (Viganò, 2018: 51) of urbanism, porosity might entail socio-natural metabolic processes of water flow as well as infrastructural networks of mass mobility or information and communications which are essential conduits of people, capital, labour, opportunities, and resources across the fabric of space. An urban environment might be more or less porous depending on how it facilitates passage and how passageways are distributed.

Foregrounding these flows over the forms that unfold from them has several established benefits for how we understand urbanization and urban life. First, with porosity as its essence, space is not so much physical as procedural. A porous city suggests an ontology of the city defined by its relations of movement and rest, which operates against hegemonic conceptualizations of the city as a collection of delineated objects to be measured, categorized, and coordinated according to their extension in space and time (Viganò, 2018). Delineating marks and borders instead become the so-called “threshold spaces” (Stavrides, 2007) marked by interpenetration and co-dependence. It is a matter, as Harms (2015) says, of the

“interpenetration of life worlds.” By drawing attention to these co-constitutive spaces and relationalities, foregrounding conditions of porosity escapes the vexing spatiotemporal dualisms of distance and proximity, presence and absence, visibility and invisibility, exclusion and inclusion. It also invokes the fundamental interpenetration of collective life and the essential interrelation of subjectivity and the environment.

In terms of urban form then, porosity emphasizes not just the permeation between pre-existing neighborhoods, but the co-constitutive and cross-contaminating processes by which these divisions are articulated and maintained. As Andrew Benjamin (2005: 39) writes, “edges and borders [are] held in place by the movements through them.” In this, porosity is not so much mobility between a priori categories but the navigation of an unstable but disciplined border between created spaces. Movement is reimagined as not only the leakage between parts of an already-compartmentalized city but, rather, as the procedural condition by which these divisions are made and maintained in the first place. “To exist . . . is a collective matter,” write Benjamin and Lacis (1978: 171). Each relies not only on others but on shared material infrastructures which render vulnerability an existential condition. The porous city is thus one of socio-natural-technical assemblages and co-existent relationalities (see, for example, Mengying, 2020).

Second, in reframing interpenetration as symptomatic of how urban space is delineated and valued, porosity complicates the relationship between urban politics and notions of movement more generally. On the one hand, porosity begs the question of composition: of the shape and size and constitution of pores and of the surrounding urban material. “If pores are media”, writes Haenni (2020), “which absorb material, through which material passes, and which have a function in a larger organism, it is worth asking ourselves what specific organisms and what materials we are talking about.” On the other hand, it also raises the challenge of using the fragility of human and non-human interconnection signaled by porosity as an unstable ground of identity, belonging, and communal action. While this includes a sensitivity to the way particular types of movement are disciplined and rejected, it also necessitates attention to the types of flow and permeability that are both allowed and encouraged.

Indeed, many writing about porosity have highlighted this ambivalence of such interpenetration and vulnerability. Some porosities can be understood and accentuated in seemingly direct ways. In Hong Kong, for example, automated drainage systems render the concrete jungle more porous, regulating the flow of water for the sake of a more sustainable and environmentally friendly city (Keung et al., 2018). Other porosities are more troublesome. Writing about the London Docklands, for example, Sabine Haenni (2020) argues that ports, especially, have embodied the utopic and dystopic elements of porosity simultaneously, operating as sites of both a globalizing hope and a heavily racialized xenophobia. Carrie Rentschler (2020) similarly highlights the ways in which porous infrastructures are frequently differentiated by gender, noting how for women, pores can “shape the conditions for violence and provide its materials.” Dell’Aria (2020), moreover, highlights the ways in which ideals of porosity have activated the ongoing marketization of urban space through the use of public film screenings and projections, demonstrating that designing for the so-called ‘human scale’ does not escape commodification. Porosity may connect us viscerally to one another and to the world, but through disease (Erben, 2018) or war (Leshem, 2017) it can also be our undoing. As such examples reveal, porosity as the transgression of demarcated spaces is not an unconditional good, but is itself a key horizon of urban politics.

In sum, a porous ontology may help to reposition borders as “a relational space made of territoriality, representations, and different possibilities of mobility and immobility” (Jovchelovitch et al., 2020). Yet, this porosity is complex and multiple. Not only are there



various ways relational space can be configured, but using porosity in a self-evident way, without asking what pores and thresholds are in question and what forces are shaping flows, risks occluding politics and confounding the very distributed agency that porosity assumes. Paradoxically, this can also lead to its own reductive and unhelpful dichotomies framing some cities as porous (e.g. Naples) and others non-porous (e.g. Frankfurt). As cities everywhere are fast becoming more logistical, and as their limits are suburbanized, offshored, and interiorized, porosity is most useful when it enables a nuanced understanding of dispersed borders, liminal lives, as well as the differentiated regimes of statecraft and “extrastatecraft” (Easterling, 2014) through which the increasingly interstitial movements through them are regulated and resisted.

### *A planning ideal*

The idea of the porous city also plays a more instrumental role today in planning and design, poised as a solution to a whole host of oppressive forms of urbanization. For the authors of the Quito Papers, for example, porosity is an ideal that addresses emerging challenges facing cities, ranging from inadequate infrastructure, to mass migration, to social unrest and division, to fragmented forms of planning and governance, to catastrophic climate change (UN Habitat et al., 2018: 1). The Quito Papers uses porosity as a broad counterpoint to rationalist urban planning defined by rigid separation of functions, segregations of populations, homogeneity of culture, and top down masterplanning. The authors write that “it is the role of urban planning and design professions to re-frame the contemporary debate about cities, accepting indeterminacy and embracing incompleteness” (UN Habitat, 2018: 88).

The Quito Papers exemplify how porosity and openness have become a shorthand for several different ideals. In many accounts, porosity is an urban form that valorizes difference, and dissonance. Echoing Benjamin and Lacis, Sennett writes, “The open city feels like Naples; the closed city feels like Frankfurt” (Sennett, 2006). Breaking with the locked-in conformity of the “brittle city” can be achieved practically by building passageways through different territories and facilitating mixed-use urbanism, “disruptions in urban design that can dismantle overly rigid environments” (Sendra and Sennet, 2020: 3). If one of the key progressive features of porosity for Benjamin and Lacis is that it challenged fascist urban forms and resisted all fixed and definitive functionality, this same morphology is celebrated today. Many designers and commentators focus on the cultural implications of openness and the conviviality of interpenetrating difference in daily life (e.g. Carvalho, 2013). Whereas modern planning practices tend to seal neighbourhoods and communities from one another, the porous city instead opens multiple channels between them, encouraging “exchange between different racial, ethnic, and class communities” (Sennett, 2006). The porous city is thus a model for an urban morphology which is productive of heterogeneity, alterity, and diverse forms of life, and which can facilitate proximity and a lived vernacular cosmopolitanism against durable forms of colonialism and racism (c.f. Gilroy, 2004).

In other articulations, the key feature of porosity is its anticipatory imaginary of continuous flexibility and provisional futurity. For Ash Amin and Nigel Thrift (2002: 10), this quality is precisely what enables the city to “continually refashion itself.” Design of the porous city thus aims not at future-proofing, but at creating the conditions of possibility for continually becoming otherwise. Against conventional practices of bureaucracy and administration which order spatial objects and functions and “make moral or political value of the concrete” (Massumi, 1998: 16), porosity thus foreshadows a more modular, cooperative, and process-driven agency for urban planning, architecture, and policymaking. The porous

city cannot be conceived through a fixed masterplan in the modernist sense, but through strategies and experiments of animation, activation, and capacity-building. In other words, it demands not only mixed use developments, but fluidity in the relations that compose space rendering form itself dynamic. With a radical openness to different uses and users, the porous city thus begins from the messy realities of where we find ourselves and evokes a future of traversing thresholds where there is no distinction between design and inhabitation (Stavrvides, 2007).

Planners and policymakers also engage particular porosities, for example, in the realm of transportation or information flows, as important targets of intervention to overcome existing problems. The notion of “porosity” was one of the guiding intellectual premises justifying the Grand Paris Express, currently the largest transportation construction project underway in Europe (Enright, 2016). Particularly notable in the Grand Paris Express is the way porosity acts as a challenge to entrenched patterns of privilege and segregation, thus linking to the broader pursuit of social and spatial justice. To achieve a porous city through improved public transit is to adhere to an ideology of what Secchi and Viganò (2011) call “isotropism,” where the same conditions of passage prevail equally everywhere. Providing “continuous centrality” particularly through transit (in all directions, for all spaces, and for all people), a fully porous transit network means that “everyone can travel to any point in the metropolis via a dense network of green routes and public transport services” (Cité de l’Architecture et du Patrimoine, 2009: 19). More generally, isotropic infrastructures pursue redistribution and reconfiguration across fragmented and segregated space, and reorient cities away from pre-ordered distributions of power and toward more multiplicitous overlapping potentials and the right to the city (see also Stavrides, 2007).

In Sidewalk Labs’ (Google’s urban planning subsidiary) now-abandoned proposals for the Toronto waterfront, the porous city also loomed large, with innovations in building design allow for the easy reorganization of existing floorplans to accommodate changing residential and business needs, embedded LED lights which expand sidewalks or create parking according to unfolding traffic patterns within the city, and underground pneumatic tubes which ferry waste from surface receptacles to sorting and recycling facilities below (CBC Docs POV, 2020; Sidewalk Labs, 2019). Indeed, many smart city projects envision cities marked by the persistent flow of residents, material, and environment—in porous spaces that remain open and in flux. Here the free passage of data is assumed to optimize other socio-natural metabolisms and to increase quality of life.

Yet, even as planners and policymakers today would seem to embrace the promise of the porous, the ideal of the sustainable and just porous city remains more circumspect. On the one hand, invocations of the porous city in the abstract offer a rather blunt way to “invoke qualities our cities and their architectural urban fabric desperately lack” (Wolfrum et al., 2018: 17). As critics of the Quito Papers have pointed out, the question of how to create the conditions in which porosity might flourish is not a matter for urban planners alone. Addressing the challenges of cities today cannot be limited to architectural styles and tastes, but fundamentally entails multidimensional ideals and the actualities of urban processes, that is questions of the political and of politics (Lawton, 2020). Mumm (2018) further criticizes the very idea of planning for “indeterminacy, blurredness, permeability, ambiguity, contingency, or adaptability,” arguing that “porosity and planning contradict each other in a fundamental way.” Porosity as a planning ideal must therefore grapple creative capacities of regulation, and the question of how to use limited and limiting legal rules, policies, and zoning in pursuit of equitable and sustainable worlds.<sup>4</sup>

On the other hand, even when interventions are undertaken in and through specific porosities, there is a risk of recuperation into conventional paradigms of urbanization

which are driving the challenges porosity is meant to address. As much as they may take conceptual inspiration from the more progressive valences of porosity, transit-oriented megaprojects such as the Grand Paris Express have been complicit in the privatization of space, the segregation and displacements of racialized populations, and a rise in land values, thus continuing with hierarchical and exclusionary modes of urbanism (Enright, 2016). Porosity here is the very grounds for connecting priority growth zones and for opening up land and real estate markets as new accumulation frontiers. Similarly, the emphasis on the interpenetrating nature of urban phenomena in digital decision-making, has extremely uneven effects. While there is no question that, for many, technology is allowing for more interconnected forms of communication, mobility, and city building (Kitchin, 2018), yet supposedly porous smart cities have also tended to intensify surveillance and outsource valuable city services and responsibilities to technologists in the private sector (Söderström et al., 2014; Zwick and Spicer, 2021) and to replicate existing inequalities along gendered, racialized, colonial, and economic lines (Clark, 2020; Datta, 2019; Eubanks, 2018; Kurwa, 2019; Mohamed et al., 2020). The smart city is selectively permeable and frictional (Wood and Graham, 2006). These challenges point to how porosity is particularly at risk of being assimilated into bourgeois styles and idealist uses, operations which maintain an exclusive urban experience for the affluent few while perpetuating the marginalization of disenfranchised groups. Moreover, they also suggest that optimizing pores is itself insufficient unless urban planners and policymakers can disaggregate and contextualize what is flowing where, how, why, and for what purposes.

## Conclusion

In this article, we have traced the meaning of the porous city across various articulations and evaluated the promise and limitations of marshalling this concept in contemporary city knowing and city building. We outline three modest sets of contributions that porosity offers for urban thought. First, the porous city offers an epistemological lens focused on flow and relations, which supports mobile and infrastructural ways of viewing and knowing the city. Second, the porous city suggests an ontology of interpenetrating geographies and temporalities, which takes the urban to be topological space of potential politics. Third, the porous city entails an ideal to which planning practice should aspire, particularly in relation to forms of urbanism and city-building that are open to multifunctionality, difference, and dynamism over time. Porosity thus suggests multiple ways of thinking about cities, how they are made, and how they change.

We also claim, however, that these politics of porosity remain conceptually ambiguous and politically ambivalent. While there is undeniable value to a term that can invoke cultural, ecological, architectural, and social processes simultaneously, the manifold meanings of porosity also make it difficult to pin down exactly what is at stake in its use. The same fungibility that makes it attractive for identifying and criticizing capitalist logics enables its recuperation within market and bureaucratic discourses. These risks become even more pronounced as porosity becomes more widely used and as the porous city is positioned as a global developmental ideal. Furthermore, as the fact of being porous indicates little about the forces directing or resisting various flows and connections, focusing on porosity can obscure political concerns, while pursuing a porous city can replicate socio-spatial hierarchies. We suggest that the most useful articulations of the porous city are ones attuned to these limitations and ambivalences. Porosity, in other words, should be recognized as a partial and temporary tool of analysis and not as a comprehensive or totalizing theory or goal. When used in tandem with other critical approaches, porosity can be used to

interrogate particular relations of power and privilege that pertain to urban flows and passages, and thus to reveal urban dynamics in their complexity.

Given its limitations, it is unlikely that the porous city will definitively break through the many impasses and *a-porias* (literally “without passage”) of contemporary urbanism. That said, acknowledging the urban world as porous can be an important cue to seek the holes in the seemingly smooth spaces of hegemonic relations. It reminds us that the ground of the urban today is far from solid. When embedded within the longstanding project of critical urban research, it can be used to traverse the distances between here and there and to dwell in the gaps between what is and what might be.

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### Notes

1. This meaning of porosity has also been used alongside correlates such as “permeability” (Wood and Graham, 2006), “openness” (Sennett, 2006), “the surrounds” (Simone, 2020) to name just a few.
2. Porosity is now a highly profitable spatial aesthetic in its own right. When Norman Foster describes his latest Apple Store as “porous,” for example, he invokes glass facades which render transparent the border between public and private, but not the permeability of space that enables consumer access, or the uneven relations of value that condition its existence (Crook 2020).
3. Secchi and Viganò (2009) have used the notion of porosity extensively in their research and practice across Europe, including in Lecce, Antwerp, and Moscow. Indeed, theirs is one of the more prominent and in-depth contemporary articulations.
4. Keller Easterling’s (2021) notion of “medium design” does not speak explicitly in terms of porosity, but has resonance here as a means to navigate these predicaments.

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