

Geographies of Interest: Waste and Public Life

Waste is always in motion: moving on trains and trucks but also changing states as it decomposes or is reused and recycled. As matter in motion, it encounters architectural, social, and legal thresholds that throw into crisis the terms of its containment, provoking a significant reconceptualization of the public content of these thresholds. Public life is, in this context, not so much a space as a constellation of interests, ranging from those

affected by the deleterious consequences of toxic leachate to a range of actors invested in the potential economic and cultural value of wasted matter. “Waste management” is the problematic of managing this instability and giving it order, not only in the United States but also increasingly around the world, seeking to capture and control the circuitry¹ of waste disposal for the further accumulation and centralization of capital in the hands of private entities—a fact witnessed by the plummeting number of landfills and the growing size of those that remain.² Recalling Mary Douglas’s argument that the labor of extermination is also a way of giving order to the world, the paradigm of disappearance of waste is a way of giving order to the space of the city. Privatization relegates the by-products and mass of waste to an ever-shrinking periphery of urban life and consciousness, relying on technology, the expertise of engineering, and the moral order of responsibility to assure its safe containment.

Discourses such as antilittering campaigns, the recycling movement, and sustainability reinforce the spatial logic of privatization by construing interest in waste making as an agonistic failure of individual, moral responsibility. Widely publicized campaigns such as Keep America Beautiful and countless exposés meditate on this question, focusing their critique on the responsibility of individuals over the waste stream, wittingly or unwittingly reinforcing the idea that waste is a private dilemma from source to disposal. Critique thus focuses its attention on the causes, not the consequences, of waste making. The material and social dilemmas of how and where waste becomes a matter of collective interest are thus too often overlooked, rendering the material expression of landfills and other forms of infrastructure as monuments to society’s forgetfulness and bad behavior.

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In contrast, infrastructures such as the landfill are dynamic, unpredictable machines of containment and seepage, interacting with populations and other life forms far beyond the visible boundaries that comprise their monumentality. Learning from John Dewey and his recent interlocutors, including Noortje Marres, I argue that public life turns around interest in these consequences and is contingent on the capacity to sense issues that are of common concern such as the unintended consequences of waste management. The space and materiality of urban experience play a crucial role in making possible or extinguishing this capacity, positioning architectural inquiry as a critical protagonist in reimagining the conditions under which public life emerges around large-scale infrastructural dilemmas such as waste.

EXPOSURE PATHWAYS

An issue-oriented model of public life proposes that to feel and to be affected are constitutive features of political life. I would add here that to smell is also a constitutive feature of political life. The wafting odors of waste and decomposition unsettle managerial efforts to contain waste as a private dilemma. In contemporary architectural discourse and other fields, infrastructure is often cited for its subliminal qualities. Arguing that the organizational capacities of infrastructure were as potent as or more potent than architecture in encoding a modern urban subject, Albert Pope underscores that, unlike architecture, "infrastructure leaves us largely unaware of the mechanisms of social organization that surround and define it. It allows us the very necessary fiction of unfettered agency that most modern societies require."⁴

Indeed, infrastructures such as the landfill are designed to operate in the background of everyday experience. Historically, landfilling and other means of disappearing waste en masse were messy operations, as when ocean dumping of the early twentieth century would inevitably lead to its reappearance on the Atlantic shoreline. Much of the access and porosity associated with early municipal dumping practices was replaced by increasing containment and decreased access by the public during the 1970s and '80s, due to a combination of market trends toward private ownership agglomeration, processes of suburbanization, and increasing government regulation, including the Resource Conservation and Recovery Act of 1976 and its Subtitle D amendment, which enforced stricter standards about landfilling.

Though Subtitle D and the privatization of ownership of waste infrastructure have, in large part, resulted in the cloaking of waste disposal from urban experience, waste infrastructure remains anything but subliminal to those who are affected by it. Smell and other less visible by-products leak from landfill sites, for instance, comprising lines of contamination that extend far beyond the boundaries of the landfill property line, entangling regional geographies and geologies in their consequences. In bureaucratic language, these routes are referred to as "exposure pathways," a term also used to describe the vectors of contamination associated with radiation and other ills. An example of a common exposure begins at the landfill, where leachate contaminates groundwater, which in turn pollutes the soils of

locally grown crops, which then contaminate nearby residents by ingestion. This chain of events is what is termed an exposure pathway, describing the spatialization of exposure and the route by which pollution from the waste facility can reach receptors. If any part of this source-pathway-receptor chain is missing, risk of exposure is eliminated, implicating different strategies of containment across a regional terrain.

Landfills labor to operate within this chain, containing at source (the landfill) potential vectors for harmful substances to travel. The architecture of the landfill synchronizes a large membrane designed to contain and collect leachate and a series of distributed points that mitigate the release of gases into the air. It is routinely lined with a roughly six-foot membrane composed of a geocomposite membrane (itself composed of a geotextile fabric and geonet), two feet of compacted clay, a watertight protective membrane, another geocomposite membrane, two feet of gravel, and a network of pipes that collect accumulated leachate. Typically (and opportunistically), the liner is also buttressed by regional geologies, relying on clay deposits or bedrock and a lower elevation in relationship to water catchment basins in order to assure that leachate will not contaminate groundwater or surface water.

The interaction of landfill contents with air is more difficult to control. Particulate matter, odors, and volatile organic compounds can travel up to a number of kilometers from the site and can travel farther when picked up by birds or the complicated chain of exposure pathways. Where the consequences of the landfill stop is unpredictable at best, assuring that soft boundaries of toxic or odorous intensity are constantly shifting and occupying a terrain well beyond the property line or containment systems of the landfill. Here, the larger assemblage of the landfill occupies an equally regional and local terrain, tying together communities and life forms that bear no direct ownership over the landfill. The space of the landfill is thus much larger than its earthen expression suggests, drawing in interest through its wide-reaching consequences. If there is a public of the landfill, it is a public of strangers and distant communities.

For these communities, smell is the most familiar by-product of landfill decomposition. A number of companies in the United States attempt to fortify the formal periphery of the landfill with a boundary line of perfume, though the battle is Sisyphean in nature given the dynamism of air velocity, heat, and humidity. The by-product of smell, of course, is not in and of itself harmful. If not effectively controlled, the air around landfills is thick with invisible volatile organic compounds (VOCs), harmful particulate matter, and greenhouse gasses. Pipes bore deep into the landfill in order to harvest gasses from the recesses of the landfill, sending the gasses to what regulatory agencies call "control devices."

Control devices are an artifact of the environmental regulation of industry. They are the last line of defense in the case of an explosion or release of chemicals into the air. As part and parcel of any control device, industry (and landfills) is required by regulatory agencies to produce a "start-up-shutdown-malfunction-plan" (SSMP) that will effectively shut down the "plant" in the event of malfunction. Landfill owners are charged with shoehorning



processes that can never be shut down (how do you shut down a landfill?) into an effective plan for the control of harmful gasses. In the case of landfills, control devices comprise methane flares and electrical plants and are coupled with air quality-monitoring devices set around the periphery of the landfill. Ambient air quality monitoring is not required around a landfill and does not occur within the regional territory that surrounds it, thereby assuring that the aforementioned atmospheric space of the landfill is undocumented between periodic air quality monitoring and is unknown beyond the immediate proximity of the landfill. Importantly, these regulatory processes of control devices and air quality monitoring illustrate a map of ideas about space, imagining the volatile, porous system of the landfill through the performance criteria of an enclosed building and property line.

In these and other ways, what is sensed and seen from the periphery of landfills is always already an artifact, recorded and construed as information that is largely, though not always wholly, enclosed in the discourse of the landfill owners and their exchanges with the EPA and other state-level regulatory agencies in the United States. Furthermore, the landfill is traversed by electrical signals, monitoring devices, liquid leachate, changes in grade, and the collecting of methane for the production of electricity or burning on a flare. It is alive with motion. It is an immense infrastructure of information as much as a brute artifact and is, as such, inaccessible to those populations and life forms that it affects.

THE AGENCY OF COMPLEXITY

Given this complicated network of information, technologies, and increasingly large organizations, how is interest to be generated? After all, the landfill is nothing more than an object of curiosity to those who are not immediately affected by it. Furthermore, as Mira Engler notes, it is no longer a space of social engagement, a social and technical shift inscribed in the transition from the term “dump” to the term “landfill,” the latter being a less accessible and more technologically regulated version of the former.⁵

Writing in the teens and 1920s, John Dewey, together with Walter Lippman, proposes that complexity actually enables political contestation to come into being.⁶ Dewey and Lippman wrote in a time of rapidly growing infrastructures of movement and media, such that everyday life was infiltrated with information about the world. Against a landscape of media not unfamiliar to our own, Dewey and Lippman suggest that politics turns around interest and attention. Dewey proposes a deceptively simple formulation of public life that is premised on interest: “the essence of the consequences which call a public into being is the fact that they expand beyond those directly engaged in producing them.”⁷ Publics come into being around the unintended consequences of action in the world. Interest is grounded in a capacity to be affected and to admit the consequences of being affected.

Dewey’s project is a pedagogical one. There is a process of making and discovery built into public life. It is not in any sense a given and is full of conflict, contradiction, and competing interest. Struggles within the environmental justice movement about waste infrastructure illustrate both the messiness

of issue-oriented politics and the productive conflict that they engender. For instance, in his account of environmental racism in twentieth-century Chicago, David Naguib Pellow describes how many of the policies and infrastructural works that were designed to protect the environment were, in fact, harmful to populations who lived and worked near waste management facilities.⁸ Environmentalist coalitions that agitated against landfills supported incinerators and other facilities that were deleterious to the same minority communities that they sought to protect, setting up considerable conflicts between middle-class environmentalist activism and the environmental justice movement in the city. That the environmental justice movement was largely born out of this friction about the racist and classist underpinnings of the environmental movement suggests that the complex interplay of policy, governance, race, business interests, and progressive consciousness did not hinder the genesis of a public movement but rather made it possible. Rather than diffuse responsibility about waste infrastructure, the complex intersection of new technologies (such as incinerators) and interest groups demanded that responsibility over waste management be located with even greater precision.⁹

Boundaries are also difficult to draw around issues arising from exposure pathways or the siting of incinerators in urban areas. Who, and what, these facilities affect is constantly shifting with the wind and the ever-changing landscape of policy and market forces. Acknowledging the slipperiness of boundaries, Dewey argues that issues bring about spaces of exchange and social friction whose boundaries are drawn around their consequences. In this respect, publics are not confined around preordained spaces of exchange. Public space, as such, is inherently mobile and falls around matters of concern. For instance, who might a public of the Great Pacific Garbage Patch be, and where might we locate it? Trapped by currents in the Pacific Ocean such as the North Pacific Gyre, the Garbage Patch is a dense though mostly invisible floating cloud of chemicals, plastic particulates, and other floating matter. Given its invisibility and considerable expanse—estimates range wildly from the size of an archipelago to the size of a continent¹⁰—through what spatial means is a public of this phenomenon constituted? Where do we draw boundaries around an issue this fluid and deeply entangled in a global economy of consumption and transport?

Issues emerge in the waste stream when smell is sensed or bodies are diseased (bodies that, in the case of the Pacific Garbage Patch, may not be human). Publics emerge around these issues, implicating issue-driven movements such as citizen air quality monitoring in spaces ranging from the street to the interiority of the domestic sphere. Though discourses of transparency and “rights to information” seek to make visible this complicated world of information, more or better information is not as important for our purposes as is the recognition of shared exposure.¹¹ Much as the landfill cannot be enclosed like an industrial building or within the proprietary enclosure of a fence, this recognition irritates the map of public and private space that is embodied in the peripheral architecture and urbanism of landfills and other forms of waste disposal.





TURNING SENSATIONS INTO PERCEPTIONS

Within this complicated mix of information and sensory experience, Dewey offers that the task of public life is to turn sensations into perceptions—in other words, to draw out of the background of daily experience perceptions about issues that are vital and shared. Considering that waste infrastructure operates largely beneath the level of perception, how do we begin to engage with issues that are deliberately buried away? The task is not only to turn sensations into perceptions but also to *sense in the first place*.

During the past few decades, architecture has increasingly undertaken the task of turning sensations about the waste stream into perceptions about its consequences. Architectural responses to the spatial paradigm of privatization have, in large part, sought to unveil the cloak of secrecy about the waste stream, relying on a number of strategies that seek to make visible its infrastructural machinery and the larger systems of consumption that supply this machinery. Together, they presume an already interested public, allowing “the public” to intrude on otherwise invisible infrastructures by allowing laypeople to access facilities such as material recovery facilities or water treatment plants through the program of the visitor center. Projects such as Ennead Architects’ Newtown Creek water treatment facility in New York City (construction ongoing) and Abalos and Herreros’s recycling plant at the Valdemingomez dump on the outskirts of Madrid (2000) situate spaces of circulation and reflection within the sensory world of infrastructural machinery. Each project seeks to address a public in its most abstract sense, inviting interest through the program of a visitor center that is sited at the heart of the section of the recycling plant (Valdemingomez) and a series of viewing platforms set atop a number of multistory digester eggs (Newtown Creek).

Besides the protected exposure of educational programming, the projects seek to generate public interest by exploiting the peripheral status of these facilities. Though situated in the center of New York City, Newtown Creek remains largely off-limits to those who live in proximity to it in the Greenpoint neighborhood of Brooklyn. With the exception of an adjacent creek-side garden, access is limited to occasional educational tours. As architects Gregory Clawson and Richard Olcott explained to me recently,¹² Ennead (then known as Polshek Partnership) initially experimented with a more radical intrusion of circulation through the site, comprising suspended pathways through the entirety of the facility that would allow for greater access to the workings of the plant. They narrated their experience of the project with a mixture of pride and lament, ruminating on their frustration over being circumscribed to operating on the outer skin of the facility premises and the organization of aspects of the plant with respect to the surrounding urban context. Much of the inner workings of the plant and its spaces were off-limits to the architects and were explicitly the domain of the engineering firm entrusted with the design of the facility. Furthermore, schematic experiments about bringing public circulation into the site were deemed to go “too far” to obtain approval from the New York City Public Design Commission. Thus, the architects were relegated to a comprehensive strategy of designing how it will be experienced from the periphery, a

strategy that they refer to as a “kit of parts,” which includes detailing, wall treatments, coloration, and lighting of the machinery and buildings.

Like the Newtown Creek facility, Abalos and Herreros’s recycling plant in Madrid demands attention as a peripheral artifact. Sited on the outskirts of the city, it occupies the space of the hinterland, a space that Abalos and Herreros define in their work as an “area of impunity,” recalling a long tradition of cultural fascination with the “zone,” urban “dross,” and other concepts about the liminality of the urban periphery. If in Newtown Creek the typology of the water treatment facility emerges out of the division of expertise between the architect and the engineer, Abalos and Herreros work within the constructional typology of a typical materials recovery facility (MRF) in order to open it up from within. Besides the aforementioned visitor center, the architects innovate on the section of the building, using gravity to rationalize the machinery of trommel screens and hoppers into gently sloping lines that mirror the pitch of the roof. The outer shell is lifted off of the machinery, and natural light is allowed considerable presence—a stark contrast to the typically windowless architecture of the industrial shed. Materially, the building is imagined by the architects to be easily disassembled, a kit of parts that understands that what is now peripheral will soon be urban territory. Interest relies on the modernist trope of wonder, opening up the otherwise secretive interior of the MRF and closely pairing the circulation of workers and visitors with the movement of machinery.

Still, as in Newtown Creek, interest rests on an already captivated citizenry. If the visitor center seeks to turn the visual awe of machinery into educated perceptions about the larger context of waste making in Madrid, the agenda of where and how one senses in the first instance is predetermined by the normative siting of the facility on the periphery of the city. Whether embedded in the city or located at its periphery, projects such as these work within a presumption of public interest that is already constituted by the agencies or companies that plan and fund them. Architecture is charged with the task of functioning as an emblem or icon rather than a participant in identifying where waste is already affecting forms of life, positively or negatively. This role was underscored in my conversation with Ennead Architects, where they explained how the very fact of their participation in the design of the facility was seen by the Department of Environmental Protection (DEP) as a way to assuage understandable concerns on the part of the surrounding community and environmental activists about the coming expansion of an existing facility that had long been associated with various forms of contamination of the surrounding urban and littoral context.

The architectural project of iconicity is, in this context, an artifact of the conditions of patronage that make architectural intervention into these forms of infrastructure possible in the first place (challenging us to critically rethink and contest the content of generative platforms such as RFPs). It asks that design practice “see like a state,” to borrow from James C. Scott’s¹³ compelling indictment of twentieth-century planning. Whether in the context of large-scale commissions or in the context of university-based design studios about infrastructure, the who and what that make





large-scale interventions into infrastructures such as waste possible is all too frequently overlooked. Rather than continue to draw an often-unacknowledged alliance with planning agencies or waste management corporations, I suggest that architectural inquiry, as a form of both research and design speculation, look to other forms of collaboration and investigation within an already active field of political contestation over issues pertaining to the management of waste.

Such an inquiry is premised on the notion of architecture as a form of social agency (even as a profession—I am not relying here solely on architecture as activism), where design draws alliances with affected publics in addition to admittedly nascent relationships of patronage that are linked to the gatekeepers of waste management. Rather than compromise architectural autonomy, it suggests that architectural practice and thought define themselves even more precisely as agents that may or may not be adequate to the task of collaboration or collusion. By opening up and rethinking the material, economic, and technocratic enclosure of waste infrastructure, design will need to engage seriously with how control devices, geofabrics, and volatile organic compounds intersect with interest groups and other affected forms of life. Though social movements continue to bear the burden of this task, architecture has a significant role to play in recentering the issue as one about how the space of the city is imagined and in whose interest it serves. ♦

ENDNOTES

1. Vinay Gidwani and Bharati Chaturvedi, "Poverty as Geography: Motility, Stoppage and Circuits of Waste in Delhi," in *Urban Navigations, Politics, Space and the City in South Asia*, ed. Jonathan Shapiro Anjaria et al. (Delhi: Routledge, 2010), p. 50.
2. The amount of MSW generated has increased by around 100 million tons since the late 1980s, but the number of landfills has dropped considerably in the same time, from more than 7,000 to around 1,700 by 2005.
3. This section is drawn from research conducted in collaboration with students at the Buffalo School of Architecture and Planning, as well as an interview with Mark Marsack, an engineer with Modern Corporation in Lewiston, NY. I am grateful to Whitney Van Houten, Timothy Boll, and Mark Nowaczyk for their work on the issue.
4. Albert Pope, "Terminal Distribution," in *Architectural Design* 78(1), January 2008: 17.
5. Mira Engler.
6. See also Noortje Marres, "Issues Spark a Public into Being," in *Making Things Public*, eds. Bruno Latour and Peter Weibel (Cambridge: MIT Press, 2005), pp. 208-217.
7. John Dewey, *The Public and Its Problems* (Athens: Swallow Press, 1954), p. 27.
8. David Naguib Pellow, *Garbage Wars: The Struggle For Environmental Justice in Chicago* (Cambridge: MIT Press, 2002).
9. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2010), pp. 20-38.
10. "Great Pacific Garbage Patch," Wikipedia.com.
11. Noortje Marres, "Issues Spark a Public into Being," in *Making Things Public*, eds. Bruno Latour and Peter Weibel (Cambridge: MIT Press, 2005), pp. 208-217.
12. Gregory Clawson and Richard Olcott. Interview by author. Written transcription. New York, July 23, 2012.
13. David C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998).