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The Syntax of Sites:

Art and United States Urban Infrastructure, 1956-1980

A dissertation submitted in partial satisfaction of the  
requirements for the degree Doctor of Philosophy  
in Art History

by

Nicholas Kenji Machida

2017

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ABSTRACT OF THE DISSERTATION

The Syntax of Sites:

Art and United States Urban Infrastructure, 1956-1980

by

Nicholas Kenji Machida

Doctor of Philosophy in Art History

University of California, Los Angeles, 2017

Professor Miwon Kwon, Chair

Through chapter-length studies of works by Isamu Noguchi (Chase Manhattan Plaza, 1956-64), Robert Smithson (Dallas/Fort Worth Regional Airport, 1966-67) and Mierle Laderman Ukeles (New York City sanitation system, 1977-80), this dissertation proposes a dialogic relationship between the historical emergence of site-engaged artworks and the "mega-project era" in U.S. urban policy, a surge of federally-funded infrastructure projects that dramatically reimagined and reshaped U.S. cities. Contemporary artworks are typically marginalized within the historical understanding of large-scale urbanist schemas, narrated as either decorative addenda to the cityscape or reactive counterproposals to planning projects. This dissertation argues that both these dominant art historical models have not gone far enough to examine art's multimodal engagement with the materials, sites and processes of urbanism during the 1950s-1970s, a period in which urban

infrastructure emerged as a new arena for advanced art practice and discourse.

The study thus presents a rejoinder to art historian Rosalind Krauss' influential concept, as outlined in her 1979 essay "Sculpture in the Expanded Field," that post-1960 sculpture began to share its logical structure with those of architecture and landscape, broadly-defined. By presenting a selective history of urbanism alongside analysis of exemplary artworks by Noguchi, Smithson and Ukeles, this dissertation grounds art's "expanded field" in the representational systems and material output of urban planning and civil engineering, fields that were simultaneously undergoing systemic change related to federalist programs of urban reconstruction.

The dissertation asserts that well-known categories such as site-specific art, systems art, and Land art should be seen as various means of comprehending a historically-specific project of urban transformation. At the same time, urbanism sought new terms of engagement with art, as planners and architects contracted "artist consultants" on the means of producing the future of US cities. And, finally, this embedded position within urbanism enabled art's epistemological inquiry into the era's infrastructure as a new "syntax of sites."

The dissertation of Nicholas Kenji Machida is approved.

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## INTRODUCTION

In 1956, Japanese-American sculptor Isamu Noguchi began design work on a seventy thousand-square-foot plaza for the Chase Manhattan Bank headquarters in New York's Wall Street district, a project meant to set a new urban template for the area of sheer modernist skyscrapers offset by expansive open space. Having been engaged by the building's architect, Gordon Bunshaft of the firm Skidmore, Owings & Merrill, at an early stage in the development of this paradigm-making project, Noguchi conceived the urban plane of the plaza as both the site *and* material of his work, laying out the spatial and circulatory organization of the entire space rather than designing a discrete sculptural object to be installed on a particular area of the plaza. Against the ground of Lower Manhattan's comprehensive postwar restructuring, Noguchi thus acted as both sculptor and urban designer, setting the groundwork for a model of public art integral to late-capitalist urban redevelopment [Fig. 0.1].

A decade later, in 1966, American artist Robert Smithson was contracted by the New York-based architecture and engineering firm Tippetts-Abbett-McCarthy-Stratton (TAMS) as consultant on the master plan for the largest airport ever conceived at the time, to be located halfway between the Texas cities of Dallas and Fort Worth. In this capacity, although short-lived, Smithson encountered and engaged with an advanced graphic language of civil engineering keyed to the expanded scale and logic of 1960s air infrastructure. The artist in turn reconceived the conceptual and material space of TAMS' master

plan as a new type of artistic site: In a series of approximately fourteen "airport drawings,"<sup>1</sup> he took up the engineers' blueprints, diagrams, and infrastructure studies as a unique zone for visually registering the era's incommensurable states of space, an idea that would go on to strongly inform his famous Land artworks and sculptures in subsequent years [Fig. 0.2].

And then in 1977, amidst one of the severest financial crises in U.S. history, the American artist Mierle Laderman Ukeles entered the ranks of the New York City Department of Sanitation, intent on producing artworks engaging the Department's eighty-five-hundred-man workforce. She repositioned urban maintenance work as cultural work, initially in order to help secure alternate means of financial support for the embattled Department, while at the same time advancing her concept of "Maintenance Art" (set forth in 1969) as a critical investigation of the social infrastructure of institutions and cities. Ukeles went on to define an enduring, and ongoing, position at the Department of Sanitation as its first and only artist-in-residence. And as a lone actor embedded in an immense bureaucratic apparatus, the artist inaugurated her long-term commitment to New York's urban system

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<sup>1</sup> The term "airport drawings" describes a loosely-related set of drawings that Smithson created during the period of his consultancy with TAMS, all of which make direct reference to the D/FW Airport master plan. Though I introduce the term here in order to demarcate a body of work within Smithson's oeuvre, these drawings as a group have not been comprehensively studied by scholars up to this point. Chapter Two of this dissertation endeavors, in part, to address this gap in the writing on Smithson.

with *Touch Sanitation Performance* (1977-80),<sup>2</sup> a multi-format mapping of the social and spatial architecture of the city organized around the face-to-face offering of thanks to each sanitation worker, amidst the living field of urban maintenance work [Fig. 0.3].

\* \* \*

The above episodes in 1950s-1970s U.S. art history are cases in which art established a structural role in large-scale schemas of urban transformation. Although contemporary artworks are often marginalized within the historical understanding of such projects--narrated as minor, decorative addenda to the built environment or reactive counterproposals to planning schemas--this dissertation argues that art rigorously engaged the forms, systems, and practices of urban infrastructure during these decades. Moreover, art's engagement with the "expanded field"<sup>3</sup> of the city was historically specific:

"Infrastructure" emerged into US cultural discourse as a keyword during the 1950s-60s, moving beyond its original, technical usage in engineering and military operations to connote broader concepts of spatial, economic, and political (re-)development.<sup>4</sup> Undertaking a close

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<sup>2</sup> The longstanding (and original) dating of the work spanned the years 1977 to 1980. However, in the recent retrospective of Ukeles' work at the Queens Museum in New York ("Mierle Laderman Ukeles: Maintenance Art," September 18, 2016-February 19, 2017), *Touch Sanitation Performance* was re-dated to 1979-1980, to reflect the timespan of one component of the work (and the most famous component), the "Handshake Ritual," which was initiated on July 24, 1979 and ended on June 26, 1980.

<sup>3</sup> This is Rosalind Krauss' famous term for the broader spatial condition of 1960s sculpture, and is discussed further throughout this dissertation. See Rosalind Krauss, "Sculpture in the Expanded Field," *October* 8 (1979): 30-44.

analysis of three art historical episodes, this dissertation proposes a dialogic relationship between the historical emergence of site-engaged artworks and postwar transformations in urban infrastructure, foregrounding the representational systems and material output of civil engineering and urban planning as key interlocutors of 1950s-70s advanced art.

On the one hand, artists' critical attention to the widespread re-planning and reconstruction of space brought on by postwar "mega-projects," a surge of federally-funded urban expansion singular in scope and coherence of coordination,<sup>5</sup> led to fundamental analysis of an

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<sup>4</sup> H. William Batt, "Infrastructure: Etymology and Import," *Journal of Professional Issues in Engineering* 110.1 (1984): 1-6. Batt discusses, in particular, NATO's use of the term in 1950s war mobilization reports, and, shortly thereafter, the broader use of the term to describe "the huge investments in a material infrastructure before the threshold, or 'take off,' of economic development could be expected." The author observes that by 1960 infrastructure "had gained sufficient academic currency that it was no longer defined with each use or put in quotations," Batt, 3. English usage of the word "infrastructure" is derived from French usage of the same word, beginning in the 1870s, to describe--in a physical sense--the installations that form the underlay of an operation or system. The first modern utilizations of the term in English, during the late-1920s, appear primarily connected to railroad construction and military installations. See "Infrastructure," C.T. Onions, ed., *The Oxford English Dictionary of Etymology* (New York: Oxford University Press, 1996) and "Infrastructure," *The Oxford English Dictionary Online*, accessed 28 May 2017, <http://www.oed.com/view/Entry/95624?redirectedFrom=infrastructure#eid>. For broader discussions of infrastructure in the twentieth-century cultural context, see Matthew Gandy, *The Fabric of Space: Water, Modernity, and the Urban Imagination* (Cambridge, Mass.: MIT Press, 2014); Paul N. Edwards, "Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems," in Thomas J. Misa, Philip Brey, and Andrew Feenberg, eds., *Modernity and Technology* (Cambridge, Mass.: MIT Press, 2003), 185-225; and Colin McFarlane and Jonathan Rutherford, "Political Infrastructures: Governing and Experiencing the Fabric of the City," *International Journal of Urban and Regional Research* 32.2 (2008): 363-374.

artwork's spatio-historical bearings, its "site" [See APPENDIX I for an overview of this era in U.S. urban policy]. On the other hand, art newly conceived the era's planning and engineering discourses and documents as arenas for the speculative conception of space as much as technical practices driven by economic, political and social exigencies. This dissertation's artists took stock of the mega-project era's effects at two registers simultaneously: the phenomenal (redevelopment of central business districts, slum clearance, jetport and intra-urban expressway construction, in the artists' midst) and the syntactical (the land use proposals, engineering studies, and municipal reports that visually projected and organized these transformations).<sup>6</sup> Their artworks articulated a new field of production as a synthesis of these two registers at which urban space is deduced and reconstructed.<sup>7</sup>

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<sup>5</sup> The term *mega-project* is borrowed from Alan Altshuler and David Luberoff's study *Mega-Projects: The Changing Politics of Urban Public Investment* (Washington, DC: Brookings Institution Press, 2003). It refers to public initiatives at a massive physical scale that require substantial capital investment (Altshuler and Luberoff propose a threshold of approx. \$350 million in inflation adjusted year 2017 dollars) and involve the creation of structures, equipment, or development sites. The term dates to the late-1970s, when it was adopted by the Canadian government to describe massive energy development projects and the Bechtel Corporation to describe that corporation's portfolio of large-scale civil engineering works. Altshuler and Luberoff, 2.

<sup>6</sup> Beyond the three artists at the center of this study, other prominent U.S. artists engaged (to varying degrees) with the interchange between physical urban transformation and the graphic/informational representation of these transformations during this era include Mel Bochner, Walter De Maria, Dan Graham, (German-American) Hans Haacke, Michael Heizer, Nancy Holt, Douglas Huebler, Patricia Johanson, Gordon Matta-Clark, Robert Morris, Dennis Oppenheim, Adrian Piper, and Tony Smith.

This mode of working was distinct from the notion of the city as an imagistic field for re-appropriation into art practice, a modernist conception of the artwork's relationship to the urban environment. Yet it was also at a distance from the postmodernist concept of the artwork as a purely negative critique of or reactive counterproposal to the administrative planning and oversight of urban space. Rather, the artworks under consideration here seized the postwar re-conception and reconstruction of the urban environment as an opening onto the logic of *infrastructure*, a concept of space as both systemic and material, networked and sited, as a field of their work.

This dissertation thus asserts that categories such as site-specific art, systems art, and Land art should be seen as various means of comprehending a historically-specific project of urban transformation at the levels of engineering, planning and municipal policy. At the same time, urbanism sought new terms of engagement with art, as planners and architects contracted "artist consultants" on the means of producing the future of U.S. cities. And, finally, this

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<sup>7</sup> In analyzing 1960s U.S. urbanism, this dissertation foregrounds the term "mega-project era" over the better-known term "urban renewal era" in order to emphasize both the destructive and constructive impulses of this period. The discourse on urban renewal focuses on massive federal projects of slum clearance, many of them centered on Title I housing schemas, that dramatically reshaped the spatial and social dynamics of cities such as New York, Detroit, and St. Louis. Less central to the urban renewal discourse is the role of infrastructure networks in simultaneously redefining the relationship between cities and the interconnection between urban and extra-urban sites (as much a focus of the "mega-project era" concept as the Title I housing projects). The classic account of urban renewal's socio-historical context and impact is Jane Jacobs, *The Death and Life of Great American Cities* (New York: Penguin Books, 1965).

embedded position within urbanism enabled art's epistemological inquiry into the era's infrastructure as a new "syntax of sites."<sup>8</sup>

### I. *Art Historical Frame: Grounding the Expanded Field*

As such, the dissertation engages Rosalind Krauss' influential proposition, as outlined in her essay "Sculpture in the Expanded Field" (1979), that post-1960 sculpture had come to share its logical structure with those of architecture and landscape, to the point of sculpture's partial dispersion into these other categories, a tendency Krauss located in the work of such U.S. artists as Smithson, Carl Andre, Alice Aycock, Mary Miss, and Robert Morris.<sup>9</sup> In this essay, Krauss countered the vague Minimalist genealogy by which site-engaged artworks had typically been narrated, with this typical narration based on the idea of Minimal art as three-dimensional object whose meaning depended upon the co-presence of a viewing subject (as a dynamic relation of scale, material, and siting), rather than on the artwork's internally-oriented composition.<sup>10</sup> She proposed instead a

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<sup>8</sup> Robert Smithson, "Towards the Development of an Air Terminal Site" Jack Flam, ed., *Robert Smithson: The Collected Writings* (Berkeley: University of California Press, 1996), 55.

<sup>9</sup> Krauss, *Passages in Modern Sculpture* (Cambridge, Mass.: MIT Press, 1977), 243-287.

<sup>10</sup> The bifurcation of course here is also internal to Krauss' scholarship--elsewhere, Krauss herself advances and elaborates upon this phenomenological reading of twentieth-century sculptural history. See Krauss, *Passages in Modern Sculpture*. For another advanced version of the phenomenological reading of Minimal art and related practices, see Hal Foster, "The Crux of Minimalism," in *The Return of the Real* (Cambridge, Mass.: MIT Press, 1996 and James Meyer, *Minimalism: Art and Polemics in the 1960s* (New Haven: Yale University Press, 2001). See also the theorization of Minimal art's spatial sensibility by the



redefinition of sculpture according to structuralist relations between the cultural/historical categories of sculpture, architecture, and landscape, which she axially mapped in a Klein group diagram in order to demonstrate the basic formula "sculpture = not architecture + not landscape" [Fig. 0.4]. Krauss' structuralist field in turn yielded at its outer limits a set of new relations between architecture and landscape, as well as between these two terms' logical negations, "not architecture" and "not landscape" (for example, landscape + non-landscape = marked sites, such as Smithson's *Spiral Jetty* [1970] and Michael Heizer's *Double Negative* [1969]). Yet, in this medium-specific formulation, both "architecture" and "landscape" were put forth as fixed and abstract categories, underlining ontological changes in the sculptural medium, when in fact these other categories of spatial production were also in deep historical flux during the 1950s-70s.<sup>11</sup>

Through works by Noguchi, Smithson, and Ukeles, this dissertation offers an in-depth analysis of the "expanded field's" social, economic, political and technical dynamics. On the one hand, it asserts that

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protagonists of Minimal Art themselves: Donald Judd, "Specific Objects," *Arts Year Book* 8 (1965), reprinted in *Complete Writings* (New York and Halifax: The Press of the Nova Scotia School of Art and Design, 1975), 181-189; and Robert Morris, "Notes on Sculpture, Part I," *Artforum* 4.6 (1966) and "Notes on Sculpture, Part II," *Artforum* 5.2 (1966), reprinted in *Continuous Project Altered Daily: The Writings of Robert Morris* (Cambridge, Mass.: MIT Press, 1995).

<sup>11</sup> To the extent that the dissertation is a revisionist engagement with Krauss' essay, it joins a substantial body of literature in art and architectural history with similar stakes in the "expanded field" as a generative concept for contemporary theory and practice in art and architecture. See, for instance, Spyros Papapetros and Julian Rose, eds., *Retracing the Expanded Field: Encounters Between Art and Architecture* (Cambridge, Mass.: MIT Press, 2014) and Anthony Vidler, "Architecture's Expanded Field," *Artforum* 42.8 (2004): 142-147.

artists co-produced this expanded field alongside engineers, planners, and city bureaucrats, through specific instances of cross-disciplinary exchange. At the same time, it argues that the historical emergence of site-engaged artworks was not only an epistemological challenge internal to the sculptural medium, but also an interrogation of the changing material and historical terms of spatial production, launched from the arena of art.

This concept of a multimodal expanded field--a cultural transformation in 1960s space more directly informed by systems theory, the military-industrial complex, and global exchange networks--was registered by Jack Burnham's concept of "systems aesthetics" (1968), another key art historical signpost for this dissertation. Burnham argued that 1960s artists had reset art as a functional and intellectual field by engaging the processes and materials of disciplines such as architecture, engineering, urban planning, computer science, and cultural anthropology.<sup>12</sup> Taking stock of the historical development of art practices that would ultimately be categorized as conceptual art, performance art, or the "dematerialization of the art object" more broadly,<sup>13</sup> Burnham proposed an interest in the process of information gathering, organization and

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<sup>12</sup> Jack Burnham, "Systems Esthetics," *Artforum* 7.1 (1968). For updates to Burnham's theory, see Caroline Jones, "System Symptoms," *Artforum* 51.1 (2012); Eve Meltzer, *Systems We Have Loved: Conceptual Art, Affect, and the Antihumanist Turn* (Chicago: University of Chicago Press, 2013); and Edward Shanken, "Art in the Information Age: Cybernetics, Software, Telematics, and the Conceptual Contributions of Art and Technology to Art History and Aesthetic Theory," Ph.D. diss., Duke University, 2001.

<sup>13</sup> See Lucy Lippard, *Six Years: The Dematerialization of the Art Object from 1966 to 1972* (New York: Praeger, 1973).

representation as the central paradigm of 1960s art. "Systems," itself a transdisciplinary keyword of the era, connoted for Burnham a means of rethinking artistic concepts of site, process, and material not in relation to sculpture, but in relation to such practices as Hans Haacke's diagrammatic representation of New York real estate speculation [Fig. 0.5] and Mierle Laderman Ukeles' resituating of everyday maintenance systems into visual/informational art formats.<sup>14</sup> Though systems aesthetics has not had the traction of Krauss' "expanded field" in contemporary art scholarship, Burnham's theory provides a framework for grounding site-engaged artworks of the 1960s in contemporaneous reexaminations of the specific means of representing and managing space undertaken in planning, engineering, and government agencies.

The dissertation claims, in line with Burnham's notion of a systemic connection between various categories of spatial production, that the very idea of art opening onto architecture and landscape during the 1960s necessitates a deeper art historical interrogation of the real-time dynamics of spatial development and maintenance. In focusing on the city, it asserts that urban transformation was a conceptual and literal nucleus of these broader historical dynamics. This study is thus engaged with Rosalyn Deutsche's *Evictions: Art and*

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<sup>14</sup> See Chapter Three of this dissertation, which focuses on Ukeles' work. Also see Jack Burnham, "Problems of Criticism IX: Art and Technology," *Artforum* 9.5 (1971). In the curatorial context, see Kynaston McShine's highly influential *Information*, exh. cat., (New York: Museum of Modern Art, 1970). Notably, Ukeles' most famous written work, "Manifesto for Maintenance Art!" (1969), was first published in Burnham's "Problems of Criticism IX: Art and Technology." Ukeles' sent copies of her manifesto to Burnham, the Whitney Museum of American Art, and the American Craft Museum soon after drafting it.

*Spatial Politics* (1996) and Miwon Kwon's *One Place After Another: Site Specific Art and Locational Identity* (2002),<sup>15</sup> both of which examined the expansion of site-specific practice into the fields of community-based projects, institutional critique, and citywide exhibitions, alongside advanced readings of the socio-cultural dynamics of contemporary urbanism.<sup>16</sup> In addition to these writings on the epistemological challenge posed to the artwork by its deep engagement with the spaces and institutions of the city, the discourse on public art has tracked in more detail the production of artworks as a function of oversight bodies (architecture firms and municipal agencies, i.e.), federalist funding structures tied to large-scale urban renewal schemas, and the political economy of the artwork as public domain. Kate Linker and Harriet Senie, for example, have worked in this vein to describe "site-specific" public sculpture as an attenuated negotiation with the political and social contracts constitutive of any urban design proposal and any artwork participant in the city's transformation.<sup>17</sup>

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<sup>15</sup> Rosalyn Deutsche, *Evictions: Art and Spatial Politics* (Cambridge, Mass.: MIT Press, 1996) and Miwon Kwon, *One Place After Another: Site Specific Art and Locational Identity* (Cambridge: MIT Press, 2002).

<sup>16</sup> Other historians have developed in-depth studies of particular contemporary artists through the lens of urban theory: Pamela M. Lee's writing on Gordon Matta-Clark, for instance, or Joshua Shannon's on Robert Rauschenberg, Claes Oldenburg, and Donald Judd. See Pamela M. Lee, *Object to be Destroyed: The Work of Gordon Matta-Clark* (Cambridge, Mass: MIT Press, 2000) and Joshua Shannon, *The Disappearance of Objects: New York Art and the Rise of the Postmodern City* (New Haven: Yale University Press, 2009).

<sup>17</sup> See Kate Linker, "Public Sculpture: The Pursuit of a Pleasurable and Profitable Paradise," *Artforum* 19.7 (1981) and "Public Sculpture II: Provisions for the Paradise," *Artforum* 19.10 (1981); Harriet Senie,

These scholars address urban space in the context of the art historical paradigm shift from a formalist premise of medium-specific development to a postmodernist or post-Minimalist frame in which an artwork engages the social, cultural, or political constitution of its site. Their work presents the city as a primary context for the playing out of this conversion, an arena in which the pressures of spatial politics on art are perhaps most acutely registered. Yet less clearly addressed in the extant scholarship on art and the city is the extent to which urbanism itself was in physical and conceptual flux during the lead up to site-specificity's historical emergence.<sup>18</sup> Federalist schemas of infrastructural expansion, as well as the influential urbanist theories of writers such as Kevin Lynch and Jean Gottmann,<sup>19</sup> compelled reframing of the city in systemic terms, as a

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*Contemporary Public Sculpture: Tradition, Transformation, and Controversy* (Oxford: Oxford University Press, 1992). See also Erika Doss, *Spirit Poles and Flying Pigs: Public Art and Cultural Democracy in American Communities* (Washington, DC: Smithsonian Institution Press, 1995).

<sup>18</sup> This dissertation's focus on the postwar urbanist context of the mega-project era is a key point of distinction from Deutsche's *Evictions*, the most influential work of scholarship on contemporary art and the city to date. Written in response to New York urban planning and urban design of the 1980s-90s, Deutsche focuses on a dynamic of exchange between art and the city that largely postdates the mega-project era and the historical emergence of site-specific practices out of Minimal art. The projects of urban restructuring addressed in the most famous chapter of Deutsche's book, "Uneven Development: Public Art in New York City," are specific to the 1980s, with its particular emphasis on the tourist economy and residential gentrification. Furthermore, the interurban dynamics of infrastructure development are mostly absent from Deutsche's account.

<sup>19</sup> See Kevin Lynch, *The Image of the City* (Cambridge, Mass.: MIT Press and Harvard University Press, 1960) and Jean Gottmann, *Megalopolis: The Urbanized Northeastern Seaboard of the United States* (Cambridge, Mass.: MIT Press, 1961).

meeting of visible and invisible networks. At the same time, massive revisions of land use were physically transforming urban grounds, leading to a new phenomenological experience of the city. Which is to say the production of space itself became an "expanded field" during the 1950s-70s, with infrastructure serving as a primary zone of negotiation between the built environment and the projection of its future state, *site* and *plan*. With the production of space thus largely defined as an open problem of representation, art responded with its own schemas of site selection, land reuse, circulation through and between cities. Practices conventionally associated with urbanism became part of the procedural orbit of art. So Noguchi, working with a major protagonist of corporate architectural modernism (Bunshaft), conceptualized the layout of a vast corporate plaza, a category of urban design then without many historical models in the U.S., amidst an urban district in profound spatial flux.<sup>20</sup> So Smithson took up the graphic projection of an airfield of unprecedented scale, planned through the use of newly-developed technological systems, as a potential site for art. So Ukeles engaged the New York City Department of Sanitation against the specter of municipal maintenance's potential breakdown, thus proposing a new model of art embedded in the urban system even as that system was itself undergoing fundamental restructuring.

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<sup>20</sup> As, notably, Bunshaft had done a few years prior in Midtown Manhattan with his Lever House, the most famous prototype for the postwar model of the International skyscraper in the plaza, along with Mies van der Rohe's Lever House. See Chapter One of this dissertation. See Carol Krinsky, *Gordon Bunshaft of Skidmore, Owings & Merrill* (Cambridge, Mass.: MIT Press, 1988).

As introduced above, each chapter of the dissertation is structured as a triangulation of artwork, administrative apparatus (architecture/engineering firm or municipal agency), and urbanist schema. Chapters center on a single project in order to examine art's meeting with a particular infrastructure or land use system. In the case of Noguchi's work on Chase Manhattan Bank plaza, the focus is on *zoning* as a technical practice of alignment between the two-dimensional urban plane and the three-dimensional zone of urban airspace. The second chapter takes up *transportation* as the context of Smithson's engagement with the diagrammatic projection of infrastructure networks. Finally, Ukeles' investigation of the everyday urban system reveals the repetition of urban *maintenance* as a precondition of any city's persistence in time. The dissertation further develops the terms of these three urban systems into specific definitions of the "expanded field," thus describing the complex technical, political, and social constitution of this field in its historical situation. The expanded field of Noguchi's work is finance-driven physical redevelopment; in the case of Smithson's work, it is the airport master plan; and in Ukeles', the real-time urban system.

In taking account of the expanded terms of art's engagement with urbanism during the 1950s-70s, this study examines both diagrammatic representations of space and the physical transformation of the city (hence each chapter's twinned accounts of systems and sites). It foregrounds the term *infrastructure* as a way of thinking the dynamic between these two conceptions of space, following the artists' own investments in the same interchange within their work. Infrastructures

are defined broadly in the dissertation as the visible, invisible or pseudo-visible networks of energy, people, and materials that make possible the production of urban space (with the prefix "infra" here connoting not only under or below, but also *within*).<sup>21</sup> Put another way, in the context of this study infrastructure is the materialization of systemic relations between sites. At the same time, these three episodes give the concept of infrastructure historical specificity: The field of 1960s spatial production was, to a significant degree, a period defined by contention with expanding and complexifying infrastructure networks, whether in systems-based practices of urban management, the construction of globally-oriented jumbo jetports, or the overlay of the interstate highway system onto the U.S. landscape. To varying degrees these artworks sought to produce something like an X-ray of 1960s urbanism (to repurpose a phrase of Walter Benjamin's),<sup>22</sup> revealing, even if provisionally, the informational skeleton or historical code within space.

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<sup>21</sup> The prefix *infra-* comes from the Latin, originally connoting "below, underneath, or beneath." In medieval Latin, the prefix also came to connote "within." "Infrastructure," *The Oxford English Dictionary of Etymology* and "Infrastructure," *The Oxford English Dictionary Online*.

<sup>22</sup> Benjamin writes of Edgar Allen Poe's famous story "The Man of the Crowd" (1840) that Poe's work is "something like an X-ray of a detective story. It does away with all the drapery that a crime represents. Only the armature remains: the pursuer, the crowd, and an unknown man who manages to walk through London in such a way that he always remains in the middle of the crowd. This unknown man is the *flâneur*." In so doing, Benjamin reconceives Poe's story as a concise spatial metaphor for modernist urbanism. Walter Benjamin, "The Paris of the Second Empire in Baudelaire," in Howard Eiland and Michael Jennings, eds., vol. 4 of *Walter Benjamin: Selected Writings* (Cambridge, Mass.: Harvard University Press, 2003), 27.



## II. *Urbanist Frame: The Mega-Project Era and Its Aftermath*

In order to analyze the specific socio-geographical coordinates of these artworks, the dissertation mobilizes Henri Lefebvre's writing on urban space as a social product, as outlined in *The Production of Space* (1974, English translation 1991), a highly influential study of planning's material impact on the lived experience of the twentieth-century city.<sup>23</sup> Lefebvre's theory of spatial production has prompted discussions in art history of the urban environment as a space of active contestation between individual and collective protagonists, rather than a neutral container or geometrical quantum. These art historical claims (often in extra-disciplinary dialog with the cultural geography of David Harvey, Neil Smith, Edward Soja and Manuel Castells) have centered on Lefebvre's argument that capitalism has produced a widespread condition of "abstract space" in contradistinction to the pre-twentieth century organization of space into such dominant categories as city square and domestic dwelling, commercial zones and leisure areas, town and country. With their "logic of homogeneity" and "strategy of the repetitive," the bureaucratic spaces of capitalism have, in Lefebvre's thinking, effectively fragmented the city, "the center of historical space," into a series of financial, political, and informational exchange networks without unique social use values.<sup>24</sup>

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<sup>23</sup> Henri Lefebvre, *The Production of Space* (Oxford: Blackwell, 1991).

<sup>24</sup> Henri Lefebvre, "Space: Social Product and Use Value," in J.W. Freiberg, ed., *Critical Sociology: European Perspectives* (New York: Wiley, 1979), 289.

Lefebvre has thus argued that the overarching logic of capitalist development is the displacement of locational specificity by transnational infrastructure--a theory that art historians such as Deutsche and, more recently, Julian Myers and Emily Eliza Scott, have used to claim contemporary art as an active interlocutor of these structural transformations in space, often by positioning artworks as contestations of or lacunae within abstract spatial schemas.<sup>25</sup> Such advanced transdisciplinary scholarship is for the most part sided with Lefebvre's claims that certain social practices--art among them--resist and problematize the technocratic framework of the planned city, even if this scholarship also remains rigorously resistant to any notion of art as a simple antidote to the dominant urbanist logic of capitalism. Other art historians, however, have drawn the line between art and urbanism more bluntly, assigning artworks the role of de-facto critiques of urbanism while suspending their studies of the city at an abstract register (anxiety about art's possible collusion with capitalist spatial management, at the level of institutions and the city, is in fact present in much contemporary art history, at varying degrees of self-awareness).<sup>26</sup>

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<sup>25</sup> Though, unlike Deutsche's writing, Myers's and Scott's scholarship has focused on Land art, understanding remote sites as dialectically linked to urban space, as what Myers has called "backlots" or "staging grounds" for contemporary cities. See Julian Myers, "No-places: Earthworks and Urbanism Circa 1970," Ph.D. diss., University of California, Berkeley, 2006 and "After the Production of Space," in Emily Eliza Scott and Kirsten Swenson, eds., *Critical Landscapes: Art, Space, Politics* (Oakland, Calif.: University of California Press, 2015); and Emily Eliza Scott, "Wasteland: American Landscape in/and 1960s Art," Ph.D. diss., University of California, Los Angeles, 2010.

Yet this dissertation argues that contemporary art history has not gone far enough in describing art and urbanism (and particularly infrastructure, urbanism's systemic underlay and overlay) as interrelated "expanded fields." Nor has the discipline adequately narrated the historical specificity of this convergence between art production and urban spatial production, as it manifested in art's "spatial turn" toward the physical, functional, and sociopolitical coordinates of site during the 1960s.<sup>27</sup> Contemporary art's relationship to the city is reducible to neither a formalist dynamic of representation nor a reactive dynamic of "detonation," to invoke Lefebvre again.<sup>28</sup> Alongside a history of art, this dissertation necessarily takes up a selective history of urban planning and civil engineering during the 1950s-70s. In investigating the precise characteristics of the urbanist conditions that Noguchi, Smithson, and Ukeles engaged in their work, the study traces a historical trajectory specific to the twentieth-century production of space.

This trajectory begins with the "culture of planning" during World War II, in which the federal government, corporations, and media organizations co-produced an anticipatory apparatus of social, economic, and spatial control, calling upon diagrams and isotypes as visual arguments for efficient postwar reorganization [Fig. 0.6] while

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<sup>26</sup> See, for example, Thomas F. McDonough, "Situationist Space," *October* 67 (1994): 58-77 and Lee, *Object to be Destroyed*.

<sup>27</sup> On this multimodal definition of site, see Kwon, *One Place After Another* and James Meyer, "The Functional Site," *Documents* 7 (1996): 20-29

<sup>28</sup> See Myers' writing on Lefebvre's use of the term "detonation in "After the Production of Space," 25.

at the same time articulating the scope of the military industrial complex, on the ground, in projects such as the Japanese-American internment camps of the American West and Arkansas.<sup>29</sup> It then goes on to encompass the corporate architecture and urbanism of the 1960s (embodied, for instance, in SOM's Chase Manhattan Bank headquarters), with its linking of International Style architecture and systems thinking, technological expediency, and organized flows of people and capital [Fig. 0.7]. The trajectory finally extends to the globalized geoeconomics of the late-1970s, centered around deep territorial conceits to transnational financial exchange and real estate speculation, as well as an urban design emphasis on the spaces of the experience economy [Fig. 0.8].<sup>30</sup> Reading these periods of U.S. urbanism differentially, the dissertation examines the particular dialectic between physical urban transformation and techniques of spatial representation endemic to each. The study thus attempts to disaggregate the politico-spatial field of the 1960s into a set of specific transformations in the experience and understanding of space, transformations that the era's artworks registered at the level of process, material, and site.

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<sup>29</sup> See Andrew Shanken, *194X: Architecture, Planning, and Consumer Culture on the American Home Front* (Minneapolis: University of Minnesota Press, 2009).

<sup>30</sup> On the development of Special Economic Zones, see Keller Easterling, *Extrastatecraft: The Power of Infrastructure Space* (London: Verso, 2016). On the proliferation of festival malls, Disneyland-esque urban spaces, and the experience economy, see Michael Sorkin, ed., *Variations on a Theme Park: The New American City and the End of Public Space* (New York: Hill and Wang, 1992).

The dissertation's three cases furthermore reveal that the expanded field (as an art historical concept) is inextricably linked to the "mega-project era" in U.S. urban policy, as well as to this era's direct prehistory and aftermath. As an episode in the history of U.S. federalism, the mega-project era was marked both by economic aspirations to dramatically expand the scale and density of national infrastructure and by the reality of massive upheaval of urban grounds. This dissertation's artists took up the implications of both these historical transformations. More broadly, "site" emerged as an art historical concern against the index of the mega-project era's real-time impact on urban systems *and* live space. Noguchi's work of the 1930s through the 1960s was, for instance, deeply involved in the dynamics of federalist funding, as this financial apparatus transitioned from the social welfare programs of the New Deal era to the massively destructive projects of "urban renewal" launched in the 1950s. On the other hand, Smithson's work on the D/FW Airport was both a direct manifestation of federal investment in new airport construction against the index of financial globalization and a project that came too late in the mega-project era to realize the full scale of its spatial ambitions (TAMS' master plan projected an airfield more than twice the size of the D/FW airport as built in 1974). Finally, Ukeles' engagement with the mid-1970s political and fiscal breakdown in New York could be seen as a registering of the mega-project era's fallout or aftermath--its instigation of uneven development, its blueprinting of a segregated and precariously-held together city, the social upheaval (both on the streets and within

municipal agencies) that came after the mega-project campaigns, a dialectical phenomenon of massive urban destruction embodied in the specter of Pruitt-Igoe [Fig. 0.9a and 0.9b].<sup>31</sup>

### III. *Methodology*

At another register, the dissertation asserts that contemporary art's situation in an expanded field is a methodological challenge to conventions of art historical research. The study takes Noguchi, Smithson, and Ukeles' engagements with the materials, practices, and bureaucracies of urbanism as a prompt to rethink the bounds of the "artwork" and the objects of art historical scholarship. This is an imperative rooted in the artworks themselves: Close reading of materials such as master plans, blueprints, government reports, engineering diagrams, and municipal procedural manuals, alongside "realized" artworks, is necessitated by the extent to which these materials intervene into the works' production and siting. In particular, the master plan (as a category of planning document) assumes a key place in the dissertation's theory of the relationship

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<sup>31</sup> And yet destruction was also a phenomenon of the mega-project era itself, as embodied most prominently in slum clearance projects such as those under Robert Moses in New York and in the eminent domain practices used to build interurban expressways, part of the broader project of the Interstate Highway System. See Hillary Ballon and Kenneth T. Jackson, eds., *Robert Moses and the Modern City: The Transformation of New York* (New York: Norton, 2007) and Tom Lewis, *Divided Highways: Building the Interstate Highways, Transforming American Life* (New York: Viking, 1997). On the real-time politics of large-scale redevelopment projects, see Dana Cuff, *The Provisional City: Los Angeles Stories of Architecture and Urbanism* (Cambridge, Mass.: MIT Press, 2001) and Rem Koolhaas Bruce Mau and Office for Metropolitan Architecture, *S, M, L, XL* (New York: The Monacelli Press, 1998).

between artworks and urbanist production. This study reads the master plan as what land use scholar Charles Haar has called an "impermanent constitution," whose language is space *relative to* circulation, exchange, bodies, growth, infrastructure in time.<sup>32</sup> Put another way, the master plan functions in the dissertation as something like a map of the expanded field as it is proposed and re-proposed through specific urbanist schemas of the 1950s-70s.

To differing degrees, each of the artworks under consideration challenges the traditional boundaries between preparatory work, documentation (archival objects), exhibition context, and the actual work operative in art historical writing, curatorial practice, and the market.<sup>33</sup> At the same time, they pressure even more fundamental subcategories within our understanding of the actual work: Those between site, process, and material. Conceiving of the "earth as a modern medium" and his sites as "the space which has itself become a sculpture," Noguchi, an artist typically addressed in terms of the formalist development of abstract modernist sculpture, imagined his landscapes as integral to their ground, blurring the boundary between work and context decades before such procedures were recognized as artistic practice. Moreover, Noguchi's definition of "ground" was multimodal, so that to make a sculpture out of the earth was also to

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<sup>32</sup> Charles M. Haar, *Land-Use Planning: A Casebook on the Use, Misuse, and Re-Use of Urban Land*, 2<sup>nd</sup> Edition (Boston: Little, Brown and Company, 1971), 707.

<sup>33</sup> For an analysis of how these problems operate at the levels of art historical writing, curatorial practice, and the market, see Miwon Kwon and Philipp Kaiser, "Ends of the Earth and Back," in Kaiser and Kwon, eds., *Ends of the Earth: Land Art to 1974* (Munich: Prestel, 2012).

make a sculpture out of land use, infrastructure, and urban development. Smithson, on the other hand, engaged with TAMS' site plans as if the documentary output of engineering had itself become a medium of art, with the master plan figuring both a site and a metaphorical diagram of the spatial *Zeitgeist* for the artist (an implication worked out in his later Earthworks).

Moreover, although Ukeles' *Touch Sanitation Performance* has been commonly understood as consisting solely of the "Handshake Ritual," in which Ukeles personally shook hands with and thanked each of New York City's eighty-five-hundred sanitation workers in the widely dispersed sites of their daily labor, this is only one component of a multipart artwork. Ukeles' time in the field, moving through the city and documenting her encounters with sanitation workers, was both enabled and sustained by her long-term engagement with the people, routines, documents, procedures, and sites that constitute the urban system's pseudo-visible bureaucracy. For instance, other components of *Touch Sanitation Performance* are based on Ukeles' material re-appropriation of the Departments' management and communication documents into "art objects" coextensive with the "Handshake Ritual" performance [Fig. 0.1]. And yet such documents exist now, as then, in a zone distinct from the standard presentation of the artwork, mostly beyond public visibility, within the Ukeles studio/office that is also a DSNY administrative space, which is to say already part of New York's municipal infrastructure. Analyzing Ukeles' work is thus a process of *infra*-research, a tracing of the circuits through which art must move in its meeting with the spaces and procedures of urbanism. At the same



time, more generally, to let the materials of urbanist production into the study of contemporary art is also to produce a theory of the artwork's own infrastructure, prone to vicissitudes in space and time, an impermanent constitution with which the historian contends again and again.

Having examined art's move into the expanded field of urbanism, the dissertation goes on to offer, in the form of a coda, a retroactive rereading of the art-city nexus' deeper history, before the 1960s and the moment of "contemporary" art. The coda casts the urbanist and artistic insights of Noguchi, Smithson and Ukeles back onto the paradigms of "critical spatial practice" that have become givens in advanced discourses on contemporary art--generally in reference, still, to artworks as counterproposals to planning whose presence in the city is primarily insurgent.<sup>34</sup> It suggests that closer attention to the various registers at which art practice engages the urban system might complicate these paradigms. And it asks, what is the prehistory of art's epistemological inquiry into urban sites? To what extent has the deeper history of art desired contact with the city's infrastructure, its interior, the structural depths of its logic? Ending, speculatively, with Walter Benjamin's writing on nineteenth-century Paris, the coda puts forward a concept of the city as a series of thresholds at which the unknown zones of space, the

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<sup>34</sup> The terms "critical spatial practice," "spatial politics," and "critical landscapes" have recently become buzzwords for architecture and urbanism discourse, and are clearly indebted to scholarship on site-specific art. See, for example, Nikolaus Hirsch and Markus Miessen, eds., *What is Critical Spatial Practice?* (Berlin: Sternberg Press, 2012) and Scott and Swenson, eds., *Critical Landscapes*.

infra-logic of collective social production, might become legible in a flash.

CHAPTER ONE:  
THE SPACE WHICH HAS ITSELF BECOME A SCULPTURE

Under the heading "Post War Construction," a 1958 schematic street plan of Lower Manhattan sets the ground for projections of future building sites and arterial roadways [Figs. 1.1a and 1.1b]. Keyed by color according to type of use and degree of completion, its diagrammatic forms represent the convergence of disparate redevelopment projects of the era: At the bottom left of the plan, marking Manhattan island's southern terminus, is an expanded and reformatted Battery Park, one of the first major urban renewal projects realized in postwar New York. Directly to the east of Battery Park is a two-block site slated for a middle-income residential project under the auspices of the Title I Housing program, a key provision of Harry Truman's 1949 Fair Deal.<sup>35</sup> At top, traced in a thick yellow line, is the proposed Lower Manhattan Expressway linking the Holland Tunnel and the Manhattan Bridge, a manifestation within the city of federally-funded highway expansion.<sup>36</sup> And in the center area,

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<sup>35</sup> Title I of the National Housing Act of 1949 was the major driver of slum clearance projects as part of urban redevelopment schemas in the postwar U.S. The law assisted municipal governments in carrying out slum clearance by providing federal loans, thus allowing cities to attract private investment in such rebuilding campaigns by offering write-downs on the cost of demolition. See "Title I Slum Clearance Report, April 16, 1956." Robert Moses Papers, New York Public Library Manuscripts and Archives Division, Box 116, Folder: 1956 Robert Moses' Library Correspondence from Housing Files, 2 of 3.

<sup>36</sup> Proposals by New York City city municipal planners in the 1940s included cross-Manhattan expressways at 125<sup>th</sup> Street, 97<sup>th</sup> Street, 47<sup>th</sup> Street, 4<sup>th</sup> Street, and Houston Street (the Lower Manhattan Expressway described above), which were never built as planned. On the relationship between these schemas and the growth of the federal

between Broadway and Water Street, is yet another demarcation of vast, in-process transformation: a scattering of numerous red shapes indicating the footprint of skyscrapers to be built for banks, stock and commodity exchanges, and insurance companies, all evidence of the spatial prioritization of the finance industry within this projection of Lower Manhattan's future form. Thus, although the geographic parameters of the map are tightly delimited, everywhere there are signs that its contents are in flux, opening onto and constellating the broader conditions of U.S. urbanism circa 1958. The map reflects the physical re-patterning of entire urban districts in anticipation of ascendant population density,<sup>37</sup> the socioeconomic reorientation of the city towards global financial and information exchange, and the coordinated rerouting of inter- and intra-urban transportation systems. These spatial imperatives localize here, in a map that is both a historical record of a particular place and an aspirational visualization of transnational and global infrastructure.

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highway system, see Owen D. Gutfreund, "Rebuilding New York in the Auto Age: Robert Moses and His Highways," in Hillary Ballon and Kenneth T. Jackson, eds., *Robert Moses and the Modern City: The Transformation of New York* (New York: Norton, 2007). See also Triborough Tunnel Authority, *Triborough Tunnel Authority Arterial Facilities*, 1955, Robert Moses Papers, New York Public Library Manuscripts and Archives Division, Box 157 ["Green Books"].

<sup>37</sup> At the level of urbanist trends, the opposite of population density was taking place: The service economy workers for whom this redesign of the Lower Manhattan into a "live/work" district was intended had left for the suburbs. In this sense, Title I programs such as the Battery Park development were socioeconomic programs meant to incentivize the return of such service economy workers to the city--a project with an implicit yet inarguable desire to reverse the phenomenon of "white flight." See Owen D. Gutfreund, *Twentieth-Century Sprawl: Highways and the Reshaping of the American Landscape* (New York: Oxford University Press, 2004).

For our purposes, this plan is also more than a mere tabulation of sites within a half-imagined urban landscape. Although obscured by the basic abstraction of the diagram's visual vocabulary, one particular glyph is unique in its status as driver, nucleus and model of Lower Manhattan's transformation during this era [Fig. 1.2]. The red, L-shaped form of Number Twenty-Six marks the future headquarters of Chase Manhattan Bank, which served as an archetype for the area's broader spatial and municipal-economic restructuring.<sup>38</sup> Set on a "superblock" formed by the elimination of Cedar Street between William and Nassau Streets (the superblock itself was a key aspect of the Chase headquarters master plan), the project established a template for this district, as well as U.S. cities more broadly, of modernist, strictly vertical skyscrapers offset by expansive plazas [Fig. 1.3]. It would prove a reference point for such key urbanist programs as the zoning law amendment of 1961, the first comprehensive revision to New York City's zoning rubric, which propelled the "plaza generation" in skyscraper design by incentivizing the development of open space amidst the urban grid.<sup>39</sup> The Chase Manhattan Bank headquarters also secured the centrality of the Wall Street neighborhood within the

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<sup>38</sup> Chase Manhattan's status as a "driver" of socioeconomic development in Lower Manhattan is emphasized in numerous Downtown Lower Manhattan Association Reports from these years. See, for example, in addition to the report that opens this chapter, "Second Report of the Downtown Lower Manhattan Association," 1964, Rockefeller Archive Center, IV3B24 DLMA, Inc., Series 2.4, Box 197, Folder 1809.

<sup>39</sup> A primary urban design goal of the era was to bring natural light into the streetscape by counteracting the proliferation of bulky "wedding cake" skyscrapers. See Clifford L. Weaver and Richard F. Babcock, *City Zoning: The Once and Future Frontier* (Chicago: American Planning Association, 1979), 59.

geo-economics of New York City and global finance more generally, just as the area seemed at risk of losing this status to midtown Manhattan and thus becoming a sidelined place within the constellation of information-age cities.<sup>40</sup> Which is to say, Chase Manhattan headquarters occupied a privileged place both within the architectural reconstruction of postwar Lower Manhattan and the infrastructural re-positioning of New York City's economy in the context of multinational finance. These two states of spatial transformation constitute the "infra-landscape" imaged in the map as a whole.

Yet Chase Manhattan headquarters marks not only an urbanist threshold, for the reasons outlined above, but also a major art historical one. In 1956, Japanese-American artist Isamu Noguchi was engaged by architect Gordon Bunshaft of the firm Skidmore, Owings, and Merrill (SOM) to consult on a preliminary version of Chase Manhattan plaza's design. This episode, path-breaking in its emphasis on artist-produced urban design as opposed to the artist's proposal of a freestanding sculptural object, marked the convergence of two historical trajectories within art and architectural history. On the one hand, Noguchi had, since the early 1930s, been deeply engaged with the physical impact of land use schemas on the U.S. landscape, through proposals for artworks structurally tied to agricultural policy, military installations, and urban park design.<sup>41</sup> In their conception of

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<sup>40</sup> Alongside the Chase Manhattan headquarters project, a centerpiece of this broader urbanist schema was the initial plan for a World Trade Center complex to be located in Lower Manhattan along the East River. See Section III of this chapter.

large-scale form as the aesthetic domain of sculpture, these proposals were linked to the formalist/modernist notion of space as a sculptural material, embodied for instance in Constantin Brancusi's designs for monuments (Noguchi had apprenticed at Brancusi's Paris studio for five months in 1927) [Fig. 1.4]. At the same time, the particular definition of space operative in Noguchi's 1930s-1950s works was not entirely aesthetic or symbolic--which is to say, abstract--as would be implied in the standard scholarly narrative of the artist as a modernist sculptor.<sup>42</sup> Noguchi's works also anticipated a postmodern conception of space as social, political, and historical production. His model of sculpture as a fulcrum between phenomenological and social definitions of space came decades before Krauss' re-identification of sculpture as implicated in the "expanded field," which set the groundwork for later writing on 1960s site-specific art as radically invested in the social and historical specificity of its site. Detailed analysis of Noguchi's urban design and land

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<sup>41</sup> For a comprehensive overview of Noguchi's realized and unrealized works, see Nancy Grove, *Isamu Noguchi: A Study of the Sculpture* (New York: Garland, 1985). See also the in-process Isamu Noguchi Catalogue Raisonné, "The Isamu Noguchi Catalogue Raisonné: Artworks," accessed March 29, 2017, <http://catalogue.noguchi.org/index.php/Landing/artwork>. As discussed in subsequent sections of this chapter, Noguchi proposed two major works of spatial design in 1933: *Play Mountain* and *Monument to the Plow*. During the 1940s, he would go on to develop further land use proposals, such as *Contoured Playground* (1941), proposed for Central Park in New York; *Park and Recreation Areas at Poston, Arizona Blueprint* (1942); and *Jefferson Memorial Park* (1945) in St. Louis, Missouri, a proposed collaboration with architect Edward Durrell Stone.

<sup>42</sup> See, for example, Sam Hunter, *Isamu Noguchi* (New York: Abbeville Press, 1978) and Dore Ashton, *Noguchi East and West* (Berkeley: University of California Press, 1992).

(re-)use proposals thus gives terms to a prehistory of the "expanded field" rooted not just in an ontology of sculpture, but also in art's increasing access to land use practice and discourse during the 1930s-50s. At the same time, it complicates the notion that those interdisciplinary practices that Rosalyn Deutsche has named "spatial-cultural" or "urban-aesthetic" are the exclusive reserve of post-1960 art produced in the cultural context of postmodernism.<sup>43</sup>

This chapter argues for the centrality of urban design practices and concepts to Noguchi's model of sculpture, by taking account of the entire Chase Manhattan plaza as the arena of his work. Noguchi's consultancy on the Chase Manhattan plaza design is inseparable from Bunshaft's (and SOM's) unique role in the postwar development of the urban plaza as a space of intersection between art, architecture, and urbanism. An executive figure operating within an architectural office that had modeled its structure and culture on postwar corporations, Bunshaft disidentified with the notion of the architect as designer of aesthetic form. Instead, he proposed SOM's work for corporations and government, amidst the building "surge" of the mega-project era [See APPENDIX I], as based in diagrammatic comprehension of corporate-governmental power and information structures, and the translation of these structures into a viable architectural program.<sup>44</sup> Within this

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<sup>43</sup> Deutsche, xi.

<sup>44</sup> "Surge of industry" is Bunshaft's characterization of the mega-project era from the perspective of an SOM partner serving as lead designer of several representative projects of the era. See audio cassette tapes of the interview between Gordon Bunshaft and Arthur Drexler, Gordon Bunshaft Architectural Drawings and Papers, 1909-1990 (Bulk 1950-1979), Avery Architectural & Fine Arts Library, Dept. of



framework, Bunshaft came to see art as operating systemically within SOM's set of programmatic responses to a given site, so that the artist was understood as a "consultant" (in service economy terms) rather than an autonomous creator of aesthetic form (as in the modernist paradigm).<sup>45</sup> This was Bunshaft's particular, information-age version of thinking art and architecture as "in the same world," engaged in a relationship of "cross-influence."<sup>46</sup> Indeed, during this era both fields aimed at developing a new site condition (the corporate plaza) that was neither architecture per se nor the streetscape grid, but integral to both. And beginning in 1951/2, with Noguchi's unrealized plaza design for Bunshaft's Lever House in Midtown Manhattan, Noguchi was Bunshaft's primary interlocutor on this concept of the postwar plaza as a sculptural space and an urbanist problematic.<sup>47</sup>

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Drawings and Archives, Columbia University, Box 20, Folder 2. There is a striking resemblance between Bunshaft's characterization of his work during this era and the concept of "systemic architecture" put forth by Ernst Schwiebert, partner at Tippetts-Abbett-McCarthy-Stratton, another major architecture and engineering firm of this era. Schwiebert's writing on this concept in connection with TAMS' master plan for D/FW Airport, on which Robert Smithson served as artist-consultant, is discussed in Chapter Two of this dissertation.

<sup>45</sup> See Carol Krinsky, *Gordon Bunshaft of Skidmore, Owings & Merrill* (Cambridge, Mass.: MIT Press, 1988), William H. Hartmann, "SOM Organization," *Bauen and Wohnen* 11.4 (1957) and Reinhold Martin, "The Bunshaft Tapes: A Preliminary Report," *Journal of Architectural Education* 54.2 (2000): 80-87.

<sup>46</sup> Audio cassette tapes of interview between Gordon Bunshaft and Carol Krinsky, Gordon Bunshaft Architectural Drawings and Papers, 1909-1990 (Bulk 1950-1979), Avery Architectural & Fine Arts Library, Dept. of Drawings and Archives, Columbia University, Box 20, Folder 1.

<sup>47</sup> Noguchi consulted on several realized and unrealized plazas for Bunshaft/SOM during the 1950s-60s. In addition to Lever House and

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Both the expanded field explored in Noguchi's prewar and World War II-era works and Bunshaft's concept of a systemic art/architecture integration are reflected in the design of Chase Manhattan plaza. In 1964, at the time of the plaza's completion, Noguchi's most visible contribution to the space was a sixty-foot diameter sunken rock garden in the northwest section of the plaza, a geometric depression in the ground ringed by a glass curtain wall and paved in small grayish-white Vermont granite blocks (animated by three fountains during summer) on which were installed seven large, irregularly-shaped black basalt rocks from the bed of the Uji River south of Kyoto, with each rock weighing one to seven tons [Fig. 1.5]. The granite-paved surface of the garden is irregular, rising into mounds underneath the basalt boulders, which in turn appear to subtly float [Fig. 1.6]. Though visible from the plaza above and (through glass) from the Chase bank branch at level with the rock garden's floor, the garden area is uninhabitable, underlining its phenomenological distinctiveness from the plane of the plaza even as it visually counterpoints the vertical mass of Chase Manhattan tower, choreographing a spatial relationship

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Chase Manhattan Plaza, these include the courtyard garden of the Connecticut General Life Insurance Company in Bloomfield, Connecticut (1956-57); the sunken garden of the Beinecke Rare Books Library at Yale University, New Haven, Connecticut (1960-64); and the courtyard garden of the IBM Headquarters in Armonk, New York (1964). In addition, Noguchi produced freestanding sculptures for two prominent designs by Bunshaft: *Sculptures for First National City Bank Plaza* in Fort Worth, Texas (1960-61) and *Red Cube* for the Marine Midland Building in Lower Manhattan, adjacent to Chase Manhattan plaza (1968).

between "underground," at ground, and above ground space at this site [Fig. 1.7].<sup>48</sup>

In much of the writing on Noguchi's work at Chase Manhattan headquarters, this sunken garden is narrated as the extent of the artist's involvement in the project schema.<sup>49</sup> Yet in 1956, only a few months after SOM was awarded the contract for this project, Noguchi had begun consulting on the layout of the entire plaza space--seventy-thousand square feet overall, covering approximately seventy-three percent of the Chase Manhattan site.<sup>50</sup> The defining axial relationships and landscape elements within the plaza are very likely Noguchi's work: According to both his historical account and Bunshaft's, Noguchi determined that primary access to the elevated plaza, via a monumental, broad staircase on Pine street, should lead directly to the plaza's largest unfettered expanse of pavement; that a linear arrangement of

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<sup>48</sup> That said, Noguchi's rock garden is not truly "underground," as it is situated within a plaza that is itself elevated above street level by approximately one level. The implications of this reintroduction of the ground plane in the plaza's midst are explored in later sections of this chapter.

<sup>49</sup> For the most comprehensive accounts of the Chase Manhattan Plaza Sunken Garden, see See Bert Winther-Tamaki, *Art in the Encounter of Nations: Japanese and American Artists in the Early Postwar Years* (Honolulu: University of Hawaii Press, 2001), 156-168 and Ashton, 186-192.

<sup>50</sup> Matthew Postal, "One Chase Manhattan Plaza" (New York Landmarks Preservation Commission, 2009), 6-7. This figure includes both the primary plaza facing Pine St. in which Noguchi's garden is located and smaller plazas around the perimeter of the Chase tower. As a comparison in terms of scale, another famous corporate plaza from this era, that of the Seagram Building at 375 Park Avenue, measures approximately 29,000 square feet (according to the author's own calculations based on data from New York City Buildings Dept.) and extends across 52% of the total Seagram site. See David M. Breiner, *Seagram Building, Including the Plaza, 375 Park Avenue* (New York: Landmarks Preservation Commission, 1989).

trees and benches should define the plaza's eastern edge along William Street; and, finally, that the sunken section of the plaza, as a landscape element as well as a light well, should be a self-contained, inaccessible space (rather than serving as an entrance to the banking floor below the plaza), situated within the space's northwest quadrant yet vertically un-integrated with the plaza ground plane [Figs 1.8a and 1.8b].<sup>51</sup>

This chapter furthermore draws a structural link between Noguchi's Chase Manhattan project and the broader, zoning- and land use-based reorganization of Lower Manhattan during the 1950s-60s (as illustrated in the projective map introduced above). It defines the site of Noguchi's work as constituted in the conjunction of physical urban redevelopment (on the two-dimensional surface of the city) and the abstract urban system of zoning (as a three-dimensional modeling of urban space). Beginning in the early-1930s,<sup>52</sup> Noguchi conceived of the ground plane of a site, whether earth or concrete or stone, as

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<sup>51</sup> I refer to Noguchi's and Bunshaft's narratives here because blueprints produced by Noguchi for the Chase Manhattan plaza or photographs thereof do not exist, to my knowledge. See Isamu Noguchi, *A Sculptor's World* (London: Thames and Hudson, 1967) and Oral history interview with Isamu Noguchi, 1973 Nov. 7-Dec. 26, Archives of American Art, Smithsonian Institution, online transcript, accessed April 5, 2017, <https://www.aaa.si.edu/collections/interviews/oral-history-interview-isamu-noguchi-11906>. See also audio cassette tapes of interview between Gordon Bunshaft and Carol Krinsky, *Gordon Bunshaft Architectural Drawings and Papers, 1909-1990 (Bulk 1950-1979)*, Avery Architectural & Fine Arts Library, Dept. of Drawings and Archives, Columbia University, Box 20, Folder 1.

<sup>52</sup> In 1933, Noguchi developed concepts for two earthworks, *Play Mountain* and *Monument to the Plow*, that would go on to serve as reference points for his later, better-known spatial designs. According to the in-development Noguchi catalogue raisonné, these two projects are the artist's first in the realm of spatial design. See Section I of this chapter.

itself a medium to be reworked, as an expanded field under the sign of sculpture, rather than the pre-given context on which a discrete sculptural object might be installed. Yet the artist also saw sculptural production as relative to the social production of space, rather than as a neutral or universal container. His engagements with land use systems such as agriculture, military installations, and city zoning compelled him to see the three-dimensionality of space in such socio-historical terms.<sup>53</sup>

The idea that Noguchi was invested in the production of space as a function of land use syntax has been explored to a very limited degree in the extensive writing on the artist, who is still primarily understood as a modernist abstract sculptor, and has not been rigorously applied to his well-known urban designs of the 1950s-70s.<sup>54</sup>

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<sup>53</sup> Here I am referring to the work *Monument to the Plow* (1933), *Park and Recreation Areas at Poston, Arizona Blueprint* (1942), and to Noguchi's overall plaza design for Chase Manhattan headquarters, 1956-64.

<sup>54</sup> Amy Lyford is the only art historian to write seriously on Noguchi's relationship to land use practices and political aspects of spatial production. However, Lyford's path-breaking scholarship focuses on Noguchi's 1930s-40s works, such as *Monument to the Plow* and *Park and Recreation Areas at Poston, Arizona Blueprint*, and does not address the relationship of these works to the broader systems of land use management encompassing urban space. Furthermore, Lyford's work on Noguchi does not include analysis of the artist's postwar plaza and garden designs, which are among his most famous works. See Amy Lyford, *Isamu Noguchi's Modernism: Negotiating Race, Labor, and Nation: 1930-1950* (Berkeley: UC Press, 2013).

Bert Winther-Tamaki, on the other hand, has written the sole fully-realized scholarly analysis of Noguchi's sunken garden for Chase Manhattan plaza. Winther-Tamaki does not address the urban design aspects of the plaza in any depth. However, he does offer a sharp analysis of the extent to which Noguchi's half-Japanese racial identity, as ornamentally manifested in his garden design, was part and parcel of the globalizing ambition of Chase's corporate enterprise during the postwar period. Winther-Tamaki furthermore emphasizes the

Yet, in the Chase Manhattan plaza project, Noguchi brought his longstanding interest in the idea of sculpture as both spatial production and re-sculpturing of the ground plane to the context of large-scale urban redevelopment.<sup>55</sup> At the same time, he invented with this project a version of the "expanded field" constituted in the specific social and spatial dynamics of urban redevelopment,<sup>56</sup> with its linking of transformations of city grounds and revision of the urban system's codes, zoning in particular. Writing on the Chase Manhattan project in 1963/4, Noguchi narrated a desire to increase the stakes of sculpture's investment in the production of space amidst the broader material fluctuations of 1960s cultural grounds:

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concept of material "transfer" operative in Noguchi's Chase Manhattan project between the downtown New York site and the basalt rocks' original "site" near Kyoto. Using the framework of geopolitics (here read literally), he characterizes the transfer of rocks from Kyoto to New York as an "international transaction." See Winther-Tamaki, 156-168.

<sup>55</sup> Another substantial category of Noguchi's work in the category of "spatial design" would be his stage sets, many of them made for productions choreographed by Martha Graham. See Noguchi, *A Sculptor's World*, 123-155.

<sup>56</sup> Noguchi's work is strikingly absent not only from Krauss' landmark essay but also from the category-defining exhibitions of *Land or Earth art: The 1968 "Earthworks" show at Dwan Gallery, New York*, the 1969 "Earth Art" exhibition, curated by Willoughby Sharp at the Andrew Dickson White Museum of Art at Cornell University, and Gerry Schum's television broadcast "exhibition" *Land Art* (also 1969). As discussed in the introduction to this dissertation and in the following sections of this chapter, there appears to be a widespread suppression in contemporary art history of the pre-1960s development of artworks engaged with their sites on deep levels of space's cultural, social, and political dynamics. However, such practices do exist, beyond the well-known discourses on monuments and murals, which already have their own place in art history.

I am not concerned here with monuments or embellishment but with gardens, by which I mean that self-contained sculpturing of space with whatever medium, be they trees, water, rocks, wire, or broken down automobiles. The totality of the experience so controlled adds up to more than the sum of its parts. It is this larger entity that I prefer to call a garden, rather than a "sculpture court," for instance, which would imply sculpture in a space, rather than the space which has itself become a sculpture.<sup>57</sup>

Though Noguchi lands here on the idea of "the space which has itself become a sculpture," a phrase that might at first read as a modernist statement on the aesthetic design of environment, there are also cues that indicate the location of his sculptural model in the expanded field of postmodernist art practice. Noguchi elides natural and manmade versions of medium (water, rocks...wire, broken-down automobiles), and indicates that both are capable of "sculpturing space" as a "controlled" experience. In thinking the production of space as a management project implicating both artificial and natural materials, Noguchi articulates an uneasy dialectic between manmade grounds and natural objects/surfaces, a dialectic made literal in the situation of his Chase Manhattan rock garden amidst the massive, artificial "rebuild" of postwar Lower Manhattan. In the ambitions of

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<sup>57</sup> Isamu Noguchi, "Two Stone Gardens," c. 1963-64, unpublished essay, Isamu Noguchi Archives, New York, "Writings and Speeches: *Two Stone Gardens*, c. 1963-64."

this urban redevelopment project, Noguchi sensed the production of urban space morphing into and coalescing with what geographer Neil Smith has called "the production of nature." Writing in 1984, Smith observed of the late-capitalist era that "the progress of capital accumulation and the expansion of economic development" have transformed the cultural status of nature from "a material substratum of daily life" to "the product of social production."<sup>58</sup> Noguchi named this historical transformation in more concretely phenomenological terms, again in direct reference to the Chase Manhattan plaza: "Can it be that nature is no longer real for us or, in any case, out of scale?"<sup>59</sup>

Writing against the historical index of the increasing administration of "natural grounds" to serve the infrastructural needs of U.S. urbanization, Noguchi registered "control" as a key operation of the postmodern production of space.<sup>60</sup> A garden (and, we might assume, a plaza) was not merely a quantum of open space counterpointed by the built environment, but rather "the totality of [an] experience thus controlled." Echoing the systems thinking of Bunshaft's architectural paradigm, Noguchi described sculpture here as an effective intervention into broader historical processes of spatial production,

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<sup>58</sup> Neil Smith, *Uneven Development: Nature, Capital, and the Production of Space* (New York: Blackwell, 1984), 32.

<sup>59</sup> Noguchi, *A Sculptor's World*, 66.

<sup>60</sup> See, for example, Denis Cosgrove, "An Elemental Division: Water Control and Engineered Landscape" in Cosgrove and Geoff Petts, eds., *Water Engineering and Landscape* (London: Belhaven Press, 1990) and Matthew Gandy, *The Fabric of Space: Water, Modernity and the Urban Imagination* (Cambridge, Mass.: MIT Press, 2014).



more than an inert object in space. The reference to "space" within Noguchi's sculptural model extended to another, more internal or subterranean, register at which any site operates: the invisible or half-invisible administration of space, the ways in which one site relates to another as a component within a culturally-administered pattern of development. "The space which has itself become a sculpture" was, even if implicitly, an address to the unsettled ground of postwar theories of the production of space, not only in material terms (as in the sculptural medium), but also in socio-political terms. For Noguchi, "sculpture" was not only formal, autonomous, irreducible--a conventionally modernist understanding of the medium--but also plastic, manmade, malleable, constructed, contingent, in proximal flux, a relation of three-dimensional form with ground-space (as is urbanism).<sup>61</sup>

#### I. *The Ground is a Modern Medium (Works by Noguchi, 1930s-1940s)*

What did the idea of sculpture as a ground/space relation mean to Noguchi in the decades before his large-scale plaza designs of the 1950s-70s? In what ways did the development of this sculptural paradigm engage the two definitions of spatial production (material and sculptural on the one hand, social and historical on the other) discussed above? This section provides a historical return to

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<sup>61</sup> An important set of art historical counterpoints to Noguchi's practice exists in the discourse of Minimal art, particular in Carl Andre's concept of "sculpture as place," an abstract/categorical definition of the relationship between artwork and site more directly in keeping with Krauss' spatial models in "Sculpture in the Expanded Field." See Carl Andre, qtd. in David Bourdon, "The Razed Sites of Carl Andre," *Artforum* 5.2 (1966): 15.

Noguchi's prewar and World War II-era spatial design projects in order to establish the sculptural program the artist brought to the Chase Manhattan headquarters in 1956. As initially developed during the 1930s, Noguchi's conception of sculpture coalesced around dialectical links between the artwork and its site, and even more so around a belief that the transformation of the earth's surface into a "site" entailed a stratigraphical reading of the use and re-use of the ground beneath an artwork. At the same time, the artist read spatial production (whether by sculpture or otherwise) as particularized by a set of historical, social, and political conditions offered by a site. Alongside Noguchi's discrete sculptural objects, "nomadic" in the modernist sense of being transportable from one exhibition context to another [Fig. 1.9],<sup>62</sup> the artist proposed from his career's beginning an open interlocution between sculpture and the multimodal conditions of its on-site production, something like what historian Hal Foster has called, in another context, the "un/making" of sculpture, a process in which the medium is "forever proposed, tested, reworked, and proposed again."<sup>63</sup>

In addition, "site" connoted for Noguchi, from at least the 1930s onward, both a physical plot of geographic earth and the socio-cultural overlay of land use.<sup>64</sup> Territorialization, the material

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<sup>62</sup> This is Krauss' term. See Krauss, "Sculpture in the Expanded Field," 34.

<sup>63</sup> Foster is referring to the work of Richard Serra here. See Hal Foster, "The Un/Making of Sculpture," in Foster and Gordon Hughes, eds., *Richard Serra (October Files)* (Cambridge, Mass.: MIT Press, 2000), 176.

manifestation of this overlay, thus in part constituted the spatial and historical context of Noguchi's art. His work was a progenitor of postwar Land art and art-as-public space (i.e., artworks from the 1960s-70s that variously took up earth, rocks, water, sand, flora, earthmoving machines, urban land plots, architecture, etc. as their medium) [Fig. 1.10]. Yet, in contradistinction to the abstract spatial categories of the "expanded field," Noguchi's understandings of space and the ground plane were never exclusively formal/categorical. This chapter thus aims to situate Noguchi's work discursively in terms of advanced art historical studies on space as a social, political, and technical production.

These writings, by scholars such as Julian Myers and David Gissen,<sup>65</sup> follow the cues of Marxist geographers in understanding space as a category of exchange-value whose non-urbanized zones are dialectically linked to the city (with the city serving as a nucleus of spatial management and control): Though the city manifests the techno-discursive production of space most visibly, the urban system nonetheless encompasses deserts, prairies, forests, bodies of water as the expanded material terrain of its development. In particularly close dialogue with Henri Lefebvre's influential theory of modern space as produced in the dialectic between city and country,

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<sup>64</sup> Furthermore, as mentioned in the introduction to this dissertation, Noguchi's "critical" site-engaged artworks came three decades before this version of site-specificity became an acknowledged art historical concern.

<sup>65</sup> See Julian Myers, "Earth Beneath Detroit," in Philipp Kaiser and Miwon Kwon, eds., *Ends of the Earth: Land Art to 1974* (Munich: Prestel, 2012) and David Gissen, "The Architectural Production of Nature, Dendur/New York," *Grey Room* 34 (2009): 58-79.

urbanization and agricultural industrialization, such writings furthermore dismiss the possibility of empty or pre-cultural ground within the context of twentieth-century geography.<sup>66</sup> Yet the focus of this criticism has been on the spatial modes of late-capitalism, those global cultural phenomena of the 1960s-70s that Lefebvre has described as natural space's "reduction to materials on which society's productive forces operate."<sup>67</sup>

More broadly, the concept of the 1960s as the watershed moment of space's total abstraction by the forces of multinational capitalism, to which advanced art in the "expanded field" of its competence is a riposte, has recently become central to advanced scholarship on site-specific art, public art, Land art, and systems art. And yet certain 1930s-40s projects by Noguchi demonstrate the extent which his art was keyed to the land use practices and discourses of pre-World War II decades as well, potentially drawing a deeper link between public art projects of the New Deal era and the "critical" site-specificity of the 1960s.<sup>68</sup> Positioned in urban studies, architecture, and sociology as a period during which "planning" became a keyword connoting the

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<sup>66</sup> See Henri Lefebvre, "Industrialization and Urbanization," in *Writings on Cities*, eds. and trans. Eleonore Kofman and Elizabeth Lebas (Cambridge, Mass.: Blackwell, 2006), 65-85. See also Julian Myers, "The Earth Beneath Detroit."

<sup>67</sup> Lefebvre, "Space: Social Product and Use Value," in by J.W. Freiberg, ed., *Critical Sociology: European Perspectives* (New York: Wiley, 1979), 286.

<sup>68</sup> Among the important exceptions to the predominant focus on post-1960 practice in advanced discourse on the art-city nexus are Michele Bogart, *Public Sculpture and the Civic Ideal in New York City, 1890-1930* (Washington, D.C.: Smithsonian Institution Scholarly Press, 1997) and Rosalyn Deutsche, "Representing Berlin," in *Evictions: Art and Spatial Politics* (Cambridge, Mass.: MIT Press, 1996), 109-158.

widespread deduction and reconstruction of both urban and non-urban space (particularly during the early-1940s, in anticipation of the dramatic economic restructuring of the postwar period),<sup>69</sup> the 1930-40s set in place several new contexts for U.S. land use policy. Among these were the establishment of the National Resources Planning Board (NRPB),<sup>70</sup> a New Deal program responsible for setting forth the agenda of nationalized planning discourse; new agricultural legislation meant to curtail overproduction, and thus eventual economic devaluation, of crops; federally-funded urban renewal projects, most famously in Robert Moses-era New York, under the guise of "slum clearance"; and, in the American West and Arkansas, the military reapportionment of non-urban spaces in order to lay the groundwork for the federal program of Japanese-American "relocation" and internment.

Such schemas contributed to the new logic and scale of land use planning, a sense that the ground itself could be "designed" at a national level. In the U.S. context, these decades thus set forth the

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<sup>69</sup> See, for example, Shanken, *194X: Architecture, Planning, and Consumer Culture on the American Home Front* (Minneapolis: University of Minnesota Press, 2009) and M. Christine Boyer, *Dreaming the Rational City: The Myth of American City Planning* (Cambridge, Mass.: MIT Press, 1983). Writing in geography has gone further in this regard, locating a history of the comprehensive reshaping of the earth according to the needs of urban development that extends back to the 19<sup>th</sup>-century at least. See Eric Sanderson, *Manhatta: A Natural History of New York City* (New York: Abrams, 2013) and Stephen Graham, "City Ground," *Places Journal*, November 2016, Accessed 17 Dec 2016. <https://doi.org/10.22269/161107>.

<sup>70</sup> For a comprehensive history of this program, see Patrick D. Reagan, *Designing a New America: The Origins of New Deal Planning, 1890-1943* (Amherst, Mass.: University of Massachusetts Press, 1999). For a specific example of the era's nationalized planning activity, see National Planning Board, *Final Report, 1933-34* (Washington, DC: United States Government Print Office, 1934).

widespread "planning of space" (from above) to which Lefebvre's social production of space (on the ground) was a historical rebuttal. Yet, as architectural historian Andrew Shanken has argued, the prewar and wartime era of technocratic spatial redesign had its own, particular logic of representation, one in which diagrams and isotypes visualized the scale of planning's spatiotemporal ambitions, with an aim towards both systematizing spatial planning at a national level and giving planning a publicly-accessible visibility (concerns that would evolve through the 1960s in the context of systems theory, as we will see in subsequent chapters) [Fig. 1.11].<sup>71</sup> Which is to say one pronounced aim of the period extending from the New Deal through World War II was to make large-scale planning schemas more widely available to cultural, as opposed to purely technocratic or professional, arenas of thinking and production. The 1930s-40s also set up a discursive context for federalist management of U.S. urban and non-urban space, for the concept that both these categories of space were the "material" of social and economic relations at a vast scale. Noguchi's spatial designs of the these decades directly register such deductions and reconstructions of the land, urban and non-urban space's provisionality, placing prewar sculpture in relation to what historian Stephen Graham has named the "human manufacture of geology."<sup>72</sup>

For example, Noguchi's 1933-34 proposal *Monument to the Plow*, an unrealized earthwork to be located on a land plot in the "middle West

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<sup>71</sup> See Shanken, 15-58.

<sup>72</sup> Graham, "City Ground."

Prairie" (perhaps even at the geographical center of the U.S.),<sup>73</sup> could be read both as a formal progenitor of post-studio art practice,<sup>74</sup> discussed in art history almost solely in terms of the legacy of 1960s-70s artists such as Robert Morris, Sol LeWitt, and Daniel Buren, and as an intervention into the land use practices of the New Deal-era U.S. A three-sided pyramid with a twelve-hundred-foot equilateral triangle at its base, the geometric earthwork's three surface areas would each figure a different type of agricultural land use: One side would be covered with "tilled soil in great furroughs radiating" from a corner of the pyramid's base, another planted with wheat, and a third side half-cultivated in tilled soil and half-covered in uncultivated ("barren," in Noguchi's words) soil [Fig. 1.12].<sup>75</sup> At the apex of the pyramid, a concrete cap would support a large-scale, stainless steel model of a plow.

Noguchi unsuccessfully proposed this work twice, anonymously in early 1934 under the auspices of his short-lived design company "Time

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<sup>73</sup> Informational pamphlet for "Isamu Noguchi," exhibition at the Marie Harriman Gallery, New York, 1935. Isamu Noguchi Archives, New York. File: "Exhibitions: Marie Harriman Gallery, New York, Jan.-Feb., 1935."

<sup>74</sup> The work was a progenitor not only of the spatial situation of "post-studio" practice, but also a decentralized model of artistic labor: Noguchi is careful to specify that production of *Monument to the Plow* will "require the work of many men." Noguchi, *Time Design to Sirs*, qtd. in Deborah A Goldberg. "Isamu Noguchi: The Artist as Engineer and Visionary Designer, 1918-1939," Ph.D. diss., New York University, 2000, 289. On the history of post-studio practice, see also Caroline Jones, *The Machine in the Studio: Constructing the Postwar American Artist* (Chicago: University of Chicago Press, 1996) and Helen Molesworth, *Work Ethic*, exh. cat. (University Park, Penn.: Pennsylvania State University Press, 2003).

<sup>75</sup> This description is taken from a reproduction of Noguchi's drawing for *Monument to the Plow* (original now lost), in the collection of the Noguchi Museum, New York.

Design Associates" and, later that year, under his own name to the New York chapter of the Federal Public Works of Art Project (PWAP), itself a manifestation of the New Deal ethos of centrally-planned culture.<sup>76</sup> At the same time, Noguchi's proposal was related to a broader project of land use planning during this era, namely the Agricultural Adjustment Act of 1933, which attempted to secure the "fair exchange value" of farm commodities in response to post-WWI crop surpluses by incentivizing reduction of private farm acreage or production levels.<sup>77</sup>

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<sup>76</sup> Noguchi's proposals for earthworks located outside urban centers were a radical departure from the typical format for artworks supported by the PWAP--namely, murals on non-federal public buildings whose themes clearly registered the "American scene." Such murals belong to the "City Beautiful" concept of public art as aesthetic enhancement of architectural form. For a rigorous and comprehensive study of the PWAP's activities, see Belisario Ramon Contreras, "The New Deal Treasury Department Art Programs and the American Artist: 1933 to 1943," Ph.D. diss., American University, 1967, 1-42.

<sup>77</sup> The situation of US agriculture in the early 1930s is traceable to World War I: Farmers had responded to wartime demand by substantially increasing acreage and production, purchasing equipment, improving farms and buildings etc. At the same time, various factors--wider use of fertilizers, improved seed, and more efficient farm machinery--produced an overall increase in supply. The post-WWI era, on the other hand, saw an alteration in the pattern of demand for crops: Decline in foreign markets for agricultural produce, restrictions on immigration, replacement of horses and mules (major consumers of crops) by tractors, and changes in national eating habits. This is the combination of factors cited in standard accounts of the agricultural "crisis" of this period.

The objective of the Agricultural Adjustment Administration and its bill, the Agricultural Adjustment Act, was "to establish and maintain such a balance between the production and consumption of farm goods, and to regulate and control the marketing of farm goods in such a manner, as to raise the prices of agricultural commodities to a level that would permit them to be exchanged for the same amount of nonfarm goods as in the prewar period from August 1909 to July 1914." Van L. Perkins, *Crisis in Agriculture: The Agricultural Adjustment Administration and the New Deal, 1933*, University of California Publications in History, Volume 81 (Berkeley: University of California Press, 1969) 41. For comprehensive overviews of the relationship between Noguchi's work and 1930s agricultural policy, see Goldberg,



Against the index of a radical reformatting of land use and labor economies at a national scale, and a major threshold in the history of federal legislation as it implicated spatial production, Noguchi planned to construct *Monument to the Plow* on a plot of land impacted by the agricultural curtailment program ("decommissioned" land) and thus to take up earth transformed by land use policy as both his site and medium. The differential treatment of the three surfaces of earth in the work would furthermore underline the provisionality and precariousness of agricultural land circa 1933, by presenting the idea of land use as a simultaneous multiplicity, a field in flux.<sup>78</sup>

Even as the official reception of Noguchi's proposal for *Monument to the Plow* seemed to coalesce around a sense that the work came too early, was untimely relative to sculptural history in its neglect of what PWAP administrators called a "purely sculptural character,"<sup>79</sup> the artist was simultaneously invested in designing spaces-as-sculpture in

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especially Chapter 5, and Amy Lyford, *Isamu Noguchi's Modernism*, especially Chapter 1. This section on Noguchi's artworks from the 1930s-40s is particularly indebted to Lyford's research.

<sup>78</sup> Goldberg argues that Noguchi's investment in the monument typology during this early period in his career is indebted to the work of Constantin Brancusi, who had a longstanding interest in enlarging many of his sculptures as monuments and designed the ninety-six-foot-tall sculpture *Endless Column* in Târgu Jiu, Romania, which was installed in 1937. See Goldberg, 284-292.

<sup>79</sup> Letter from Juliana Force, Director of PWAP, New York Chapter, to Isamu Noguchi, March 2, 1934, Records of the PWAP, Group 121, National Archives, Correspondence of Region 2 Office (New York area) with Artists, 1933-1934, Microfilm Reel DC 114, Frame 85, Archives of American Art, Smithsonian Institution, Washington, DC. See also a full timeline of Noguchi's involvement with PWAP, including his proposals for *Monument to the Plow*, *Play Mountain*, and *Monument to Benjamin Franklin* in Lloyd Goodrich, Memo to Juliana Force, April 13, 1934. Records of the PWAP Microfilm Reel DC 114, Frames 99-100.

the urban context. *Play Mountain*, also from 1933, shares with the above earthwork an interest in using the land as a medium, as well as re-producing the land at the level of both form and use (here a particularly urban use, the precise allotment of a New York city block or fraction of a block for a playground) [Fig. 1.13].<sup>80</sup> Not only does Noguchi's playground design use the urbanist rubric of the city block as its pre-given site condition, but it also appears to contort, re-grade, burrow into, gather up, and exactingly geometricize the land into a sculptural form: Noguchi's plaster model for *Play Mountain* (1933) is itself a sculpture, but also a proposal to re-purpose city ground as sculptural space. Mirroring *Monument to the Plow's* structural connection to New Deal land use policy, *Play Mountain* aims for dialog with the broader re-production of urban space. The development of urban leisure spaces were a major component of New York urban policy under Moses, Commissioner of the New York City Department of Parks from 1934 to 1960 and an influential proponent of urban recreation systems as a function of bureaucratic planning.<sup>81</sup> As an integral part of the rubric of planning during this era (as the corporate plaza would be to 1950s-60s urbanism), new sites of

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<sup>80</sup> Noguchi indicated that *Play Mountain* could be constructed on a "given city lot," though the only formal proposal of the work was to Robert Moses, Commissioner of the New York City Department of Parks, who rejected the concept. See Noguchi, *A Sculptor's World*, 176.

<sup>81</sup> There were one-hundred-and-nineteen playgrounds when the first administration of La Guardia began and Moses was appointed Commissioner of Parks (1934). By 1956, there were six-hundred-and-fifty-three parks, and the acreage of the park system had increased from fourteen-thousand to twenty-eight-thousand. New York City Parks Department Press Release, May 1, 1956, Robert Moses Papers, New York Public Library Archives and Manuscripts Division, Box 160 ["Green Books"].

recreation represented a coordinated project of city transformation during the 1930s, possible futures for urban land deemed by municipal government to be underutilized or misappropriated. *Play Mountain*, in turn, represented Noguchi's attempt to align a major trend in urban land use with a new model of sculpture integral to site.

Noguchi brought several of these landscape-based concerns--the use value of urban and non-urban land, the spatial flux enacted by redevelopment of the earth, the federalist administration of space--to bear on his land use proposals for the Japanese-American internment camp in Poston, Arizona, where he was interned for six months during 1942, initially voluntarily (based in New York during those years, Noguchi lived outside of the Japanese American "evacuation zones" covering much of the American West).<sup>82</sup> Though in the period extending from the attack on Pearl Harbor in December 1941, through

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<sup>82</sup> Though a great deal of the writing and curatorial work on Noguchi's time in Poston describes his internment as "voluntary" (see, for instance, the exhibition "Self-Interned, 1942: Noguchi at Poston War Relocation Center," Isamu Noguchi Museum, January 18, 2017-January 7, 2018) this description is misleading and not entirely accurate. As recent research by Lyford has uncovered, Noguchi was deeply implicated in the development of the Bureau of Indian Affairs Relocation Center Project at Poston, to the point that he was listed as a policy maker on documents related to the project. Lyford analyzes this information to suggest that Noguchi's role relative to the U.S. government and the camp administration was understood by those agencies in ambiguous terms, that they perhaps had positioned him as allied with their efforts, an impossible position that would leave him open to the strong criticism of his fellow internees. Noguchi did volunteer to enter Poston on May 12, 1942. However, by July 27, 1942, he was lobbying to be released, citing lack of companionship and failure of the camp administration to support his planning and community-organizing projects. His request for release was not granted until November 11, 1942, when he departed Poston for New York under the auspices of a temporary pass, though he never returned. Noguchi was thus interned *involuntarily* from July to November 1942. See Lyford, 107-129.

implementation of Executive Order 9066<sup>83</sup> in February 1942, and up to his arrival at Poston on May 12, 1942, Noguchi's engagement with the sociopolitical landscape of World War II-era America was primarily at the register of community organizing for displaced Japanese-Americans,<sup>84</sup> at some point during his time in Poston the artist turned his attention to the militaristic apportionment and management of space. Indeed, internment camps such as Poston cannot be considered outside of the 1940s culture of planning,<sup>85</sup> in that they were both enabled by and sited within invisible zones of space regulating the movement and exchange of bodies, property, and labor (the "prohibited zones," "restricted zones," "assembly centers" and "relocation centers")

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<sup>83</sup> Executive Order 9066, signed by Franklin D. Roosevelt on February 19, 1942, granted power to the Secretary of War to create military zones from which any persons could be excluded. Movement in and out of these artificial zones would be controlled and surveilled by the military. EO 9066 also granted power to the military to restrict and determine the movements of all West Coast residents of Japanese ancestry and forcibly relocate them to internment camps in the nation's interior. On the implications of this executive action, see Jeffrey H. Burton et al, *Confinement and Ethnicity: An Overview of World War II Japanese American Relocation Sites* (Seattle: University of Washington Press, 2002) and Greg Robinson, *A Tragedy of Democracy: Japanese Confinement in North America* (New York: Columbia University Press, 2009).

<sup>84</sup> See Isamu Noguchi on behalf of the Nisei Artists and Writers Mobilization for Democracy, "A Plan for Government Sponsored Farm and Craft Settlement for People of Japanese Parentage," 1942, National Archives, Washington, DC, John Collier Papers, RG 75, 4. Reprinted in Lyford, 207-214.

<sup>85</sup> Yet, strikingly, mention of this complex planning effort is absent from most scholarly treatments of World War II-era US planning culture. Writing on Japanese-American internment instead occupies a separate discursive position, in specialized works of political science, sociology, or history, that generally do not deal extensively with issues of planning and the built environment. A remarkable exception that brings these multiple discourses and episodes together is Carol Lynne Horiuchi, "Dislocations and Relocations: The Built Environment of Japanese American Internment," Ph.D. diss, University of California, Santa Barbara, 2005.

that cast Japanese American internment as a rationalized spatial choreography), while at the same time representing self-contained, "instant" cities unto themselves, a singular case of pure planning.<sup>86</sup> Poston in particular was produced under the misleading pretense of serving as a model of "community planning," a concession to the demands of the Bureau of Indian Affairs, which owned the reservation land on which the internment camp was sited and initially resisted the U.S. War Relocation Authority's efforts to "re-purpose" the land, in terms of a racist project, again.<sup>87</sup>

And though the limited writing on Noguchi's Poston-related work has framed his production in terms of recreation and cemetery complexes within the camp site, these received models of discrete, artist-designed spaces within the broader militarized landscape don't convey the precise nature of Noguchi's proposals, which were in fact a revisionist master plan of the entire Poston I complex (the camp in which Noguchi was interned represented the first site along a linear assemblage of three camps--Poston I, II, and III). If we consider Noguchi's blueprint *Poston Park and Recreation Areas at Poston, Arizona* (1942) [Fig. 1.14] alongside the U.S. Government's master plan

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<sup>86</sup> The Poston internment camps (Poston I, II and III) collectively formed the third largest population center in Arizona. Its peak population (in September 1942, during Noguchi's tenure at Poston) was 17,814 internees. The integral place of Poston (along with other Japanese-American internment camps) in WWII-era US planning history is furthermore manifested in Del Webb's overseeing of construction on the Poston project. Del Webb, one of the major construction firms of the day, was also involved in such military-industrial projects as Luke Air Force Base in Glendale, Arizona and Hughes Missile Plan in Tucson, Arizona. See Burton et al, 40.

<sup>87</sup> Robinson, 154.

for Poston I [Fig. 1.15], the extent to which the artist's work is a *land use* document by other means becomes evident. Noguchi's landscape notations and diagrammatic forms are in direct spatial dialog with the primary infrastructure systems of Poston: axial canals connecting oval reservoirs, a grid system of residential blocks, and, at far left, a plot left unbuilt-upon in order to accommodate recreational activities. In his blueprint, Noguchi reproduces not only the trapezoidal outline of the Poston I site, but also this basic syntax of modular, geometric blocks arranged around an L-shaped aqueduct. Furthermore, the scale of this proposed work, intended as a co-production with Poston internees, is commensurate with the scale of the camp as self-contained city: Each rectangular form connotes a residential block consisting of fourteen twenty-by-one-hundred-foot barracks as well as numerous service structures. The overlay of Noguchi's land use proposal, which included sustainable desert gardens, a series of buildings housing "departments" of ceramics, music, painting, sculpture, and a small museum and store, was thus meant as a reconfiguration of this technocratic landscape, *drawn in the language of land use and infrastructure*, as well as a "retreat from the harsh symmetry of Poston."<sup>88</sup>

This is all to say that Noguchi's early sculptural designs were calibrated to multiple states of space at once, engaged with the interchange between the ground plane and the historical development of spatial administration. This aspect of Noguchi's work in turn

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<sup>88</sup> Isamu Noguchi, "Memorandum On: Projected Creation and Recreation Center for Poston," Isamu Noguchi Archives, New York, "Poston, AZ Relocation - 10/14."

intervenes into the traditional art historical narrative of sculpture, most influentially put forth by Krauss, which roughly moves from the symbolic emplacement of the monument to the nomadism of the modernist object to the site-engaged practices of Minimal and post-Minimal art. Noguchi's spatial designs of the 1930s-40s are at a conceptual distance from the traditional logic of the monument, a form of sculpture-in-place whose links to its space of installation are primarily symbolic and/or iconic, whereas Noguchi's landscapes are themselves a form of live land use, integral to the ground rather than a representation of its history or symbolism.<sup>89</sup> At the same time, they are not strictly site-specific in the postmodernist sense of an object that constellates a contained relationship between the artwork, the viewer, and the surrounding space. Both *Monument to the Plow* and *Play Mountain*, for instance, are conceived in relation to a type of site, a condition of land use, and as such their site might be understood as the historical conditions of cultural ground itself.

Furthermore, Noguchi's model of the relationship between sculpture and site can be fully accounted for neither in the phenomenological context of Minimalist discourse nor in the expanded field's structuralist mapping. "The earth is modern, not old-fashioned," Noguchi reasoned towards the end of his career, before stating, "the ground is a modern medium."<sup>90</sup> The "modern medium" of the

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<sup>89</sup> This is Krauss' definition of the monument within her influential history of the transition from modern to postmodern sculpture. See Krauss, "Sculpture in the Expanded Field," 33-34.

<sup>90</sup> Paul Cummings, *Artists in Their Own Words: Interviews* (New York: St. Martin's Press, 1979), 111. Qtd. in Winther-Tamaki, 168.

ground is an addendum to the "space which has become a sculpture," describing the particular definition of "space" operative in Noguchi's model of art. This is not the space denoted by adjacent conceptual categories of sculpture, architecture and landscape. Rather, it is space as a historical and social production, wherein the earth is made continually new, modern, through its status as the material of planned cultural use.

## II. *The Invention of the Urban Corporate Plaza*

Put another way, Noguchi proposed through his art a theory that space and the ground plane are invented and re-invented, in conjunction, with each iteration of use. Often keying his spatial designs of the 1930s onward to moments of broader transformation and flux in the syntax of the land or in the sociocultural status of space, the logic of this work pointed to the fact that every project of land use was also a "sculpturing of space" and the ground, which is to say an instantiation of space's fundamental malleability. This section emplaces the Chase Manhattan plaza within the trajectory of Noguchi's engagements with the "sculptural aspect" of land use, detailing the generative place of his work in the invention of the U.S. corporate urban plaza during the 1950s-60s.

Even as the urban plaza of the this period was a techno-spatial production of zoning and land use laws, as we will see, it was also a particular category of site for art and architecture, a spatial typology implicated in the new political, economic, and cultural configurations of U.S. federalism and multinational corporatism. The



corporate urban plaza was the spatial domain of a newly dominant category of client for architecture, as well as a new system of management for large-scale art production tied to the central place of private-public partnerships in postwar redevelopment.<sup>91</sup> Noguchi in particular, through his co-production with Bunshaft of some of the defining exemplars of this building type, established a privileged status for sculpture within this spatial and economic context. The artist's longstanding interest in spatial design converged, in Lower Manhattan circa 1956, with a singularly ambitious schema to re-sculpt the ground plane according to the urbanist priorities of multinational finance (i.e., dominance of corporate modernist architectural headquarters in the built environment of the city).

Yet how did this transformation in the form and use of Lower Manhattan's ground plane actually function? What was its aesthetic, urbanist, and architectural syntax? The first published version of SOM's site plan and model for Chase Manhattan headquarters addresses these questions in setting out a basic grammar, from the perspective of both section and plan, for the redesign of Manhattan's financial district [Figs. 1.16a and 1.16b].<sup>92</sup> Though schematic, the plan outlines the basic spatial situation and organization of the Chase Manhattan plaza site: its scale relative to the skyscraper, with the building

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<sup>91</sup> On this aspect of postwar urban redevelopment, see Gregory D. Squires, "Partnership and the Pursuit of the Private City," in Mark Gottdiener and Chris Pickvance, eds., *Urban Life in Transition* (London: Sage, 1991).

<sup>92</sup> "New Building Project," *The Chase Manhattan Magazine* II.1 (1956): 1-4, Baker Library Historical Collections, Harvard University, Cambridge, Mass.

occupying less than thirty-percent of the overall site; the plaza's elevation above the sidewalk level on all sides of the site; the placement of a primary access point at its southern edge, on Pine Street, via a broad stairway leading up from the street; and--in a nod to the presence of five floors below the plaza surface--a prominent light well cut into the plaza's ground plane.<sup>93</sup> Finalized in the same month that SOM initially filed plans with the New York City Department of Buildings,<sup>94</sup> this first site plan and model notably include the rough sketch of a freestanding sculpture between the square-shaped light court and the skyscraper's south façade.

The location of this object is significant. Not only would it dominate the visitor's sightline towards the skyscraper as she enters the plaza from Pine Street, but it would also stand on-axis with the former line of Cedar Street between William and Nassau Streets, which was removed to create the plaza footprint, and would thus be visible by sightlines spanning the extant sections of Cedar Street to the West and East [Fig. 1.2].

The siting and form of this sculpture, though the object is vaguely defined in the early site plan, sets up a particular relation between artwork, plaza, tower, and urban context that Noguchi's design would eventually subvert. A vertical abstract sculpture placed centrally in the plaza, at the point of convergence between the

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<sup>93</sup> The extent to which these features are also a function of zoning and land use regulation is explored further in the next section of this chapter.

<sup>94</sup> SOM first filed plans with the NYC Department of Buildings on February 8, 1956 (Buildings Department Record Number NB 21-56).

plaza's key axial sightlines, implies a modernist understanding of the plaza as a "podium" for the sculptural object. Here there would be a clear distinction between the verticality of the sculptural form and the horizontality of the plaza surface, which in relation would create a compositional interplay between horizontal and vertical forms from the perspective of the viewer. Furthermore, in relation to the architectural mass of the tower, the sculpture would read as another vertical mass situated upon the plaza, thus implicating skyscraper and plaza alike in an aestheticized spatial composition.

By submerging his "sculptured space" below the plaza plane, and tying it structurally to the overall layout of the plaza and the plaza's spatial relationship to the three-dimensional urban environment, Noguchi proposed a formal and conceptual break with the modernist scenario outlined in SOM's first site schema. In October 1956, at a stage of the architectural design process in which the plaza's footprint was set but its components still in flux, Noguchi received a set of site plans, elevations, and sections from the architects (these likely corresponded to the "second schema" detailed below) [Fig. 1.17].<sup>95</sup> One month later, and five years preceding the "official" dating of Noguchi's sunken garden to 1961-64, the artist drafted a contract with SOM in which he proposed to "consult with you [Bunshaft and SOM] closely on studies for the Plaza as a whole" [Fig. 1.18]. The artist went on to detail the design elements under the purview of his consultancy: "shape and size of the light court, and

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<sup>95</sup> Isamu Noguchi Archives, New York, "Projects: Chase Manhattan Bank-Plaza Fountain, 1961-64."

the pools, fountains, pavement patterns, and any other pertinent features.”<sup>96</sup> Noguchi’s references here to disparate and vaguely-defined landscape elements, some of which bear only a general relationship to the final layout of the plaza, emphasize the distinctiveness of this preliminary work as “artist consultant” from the directed commissioning of Noguchi’s sunken rock garden a few years later. Indeed, a separate and more detailed contract from 1962 undergirds the execution of “sculptural treatment of the circular garden in the Plaza,” the discrete and limited surface that contemporary art history has thus far understood as the extent of Noguchi’s artwork and contribution to the site.<sup>97</sup>

Moving on to comparison of SOM’s models for a second schema, also from 1956, [Fig. 1.19] and a revised, third schema from sometime in 1957 [Fig. 0.1] indicates the extent of Noguchi’s impact on the plaza layout plan, its relationship to the Chase Manhattan tower, and its connectivity to the surrounding cityscape.<sup>98</sup> Indeed, in Noguchi’s interventions into SOM’s second, more resolved site plan, we detect the extent to which the artist understood the reshaping of the space

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<sup>96</sup> The contract also specifies that Noguchi will be paid \$3,500 for this consultancy work. Isamu Noguchi Archives, New York, “Projects: Chase Manhattan Bank-Plaza Fountain, 1961-64.”

<sup>97</sup> The later contract indicates that Noguchi will receive \$15,000 for specific work on the circular rock garden: \$10,000 “after selection of the stones and the completion of design drawings necessary for construction” and \$5,000 “on completion of your [Noguchi’s] work in connection with the construction of the garden pool.” Isamu Noguchi Archives, New York, “Projects: Chase Manhattan Bank-Plaza Fountain, 1961-64.”

<sup>98</sup> Photographs of models and plans viewed by the author in the firm archives of Skidmore, Owings, and Merrill, New York, October 7, 2015.

of the plaza as a "sculptural" process. In the second schematic model, a sunken rectangular reflecting pool occupies the center of the plaza plane, directly in front of the primary entrance staircase on Pine Street (with the same general siting and dimensions as the light well in the first schema). Now this sunken space is accessible to pedestrians via a spiral staircase leading to a large platform at water-level: It is another entrance to the interior, a node of circulation rerouting access to the Chase Manhattan bank branch below while at the same time retaining the first schema's circulatory disconnect (a literal void) between Pine Street and the tower's primary entrance points. Furthermore, in this second model, the edge of the plaza along William Street, where the elevated plaza plane cantilevers slightly over the sidewalk plane below, providing perhaps the most dramatic visual and spatial dialog between plaza and streetscape from the perspective of the plaza inhabitant, is indistinct. And yet in the third site model, as impacted by Noguchi's consultancy, this eastern edge is a key zone of planning activity, the location of an axial array of trees and benches that marks this space as the primary zone of gathering and inhabitation, while also creating a horizontal, linear counter-mass to the 60-story tower looming above [Fig. 1.20].

Yet it is not only in this zone, at the plaza's eastern edge, that Noguchi's urban design work directly impacts sightlines and circulation patterns within the plaza. Even more striking in the third schema is a sense that the sunken space within the plaza has itself become a sculpture, inaccessible, a landscape apart, with vertical

sculptural elements rising from a pool one level below the plaza, some of these forms reaching above the plaza ground plane in turn [Fig. 1.21].<sup>99</sup> In this early iteration of his spatial design for the sunken garden, Noguchi retains a trace of modernist sculpture's traditional verticality, giving his artwork a visual and physical presence relative to a projected viewer standing upon or circumambulating the plaza. One can imagine approaching the plaza from Pine Street, and, in registering an abstract sculptural form emerging from the plaza's sunken court, becoming aware of this "subterranean space" as the site of an artwork. In the total disappearance of these vertical elements from Noguchi's final design for the sunken garden [Fig. 1.5], however, this sculptured space becomes more completely a function of the various horizontal planes operative in the plaza schematic, of the plaza ground plane as a zone of negotiation between the skyscraper and the invisible layering of the site belowground, of the downward-upward dynamic of sightlines now at play in the plaza visitor's circumambulation of the site.

In this third schema (as in the second), a space on the plaza has been reserved for a vertical sculpture, which retains its east-west orientation on the former line of Cedar Street but has been repositioned, off center, towards the plaza's eastern edge. Though Noguchi expressed a strong interest in siting a sculpture of his own design on this area of the site (and claims to have had a hand in choosing this particular location for the siting of a prominent

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<sup>99</sup> Noguchi briefly describes his modifications to the preliminary site plan of 1956 in his oral history interview with Paul Cummings for the Archives of American Art. See note 17.

vertical form),<sup>100</sup> French artist Jean Dubuffet's 43-foot-tall *Group of Four Trees*, installed in 1971 and dedicated in 1972, is now permanently sited here, abutting the plaza's east entrance on William Street [Fig. 1.22].<sup>101</sup>

The Dubuffet work, although installed on the plaza some fifteen years following Noguchi's first engagements with this site, provides a counterpoint to the Noguchi garden's operations within the plaza environment [Fig. 1.8a]. Dubuffet's work embodies, in the prominence of its visibility both from the primary south entrance to the plaza and from the east-west urban axis running along the extant sections of Cedar Street, the modernist spatial premise of the sculptural object situated discretely on the "ground" of an architectural or landscape podium. Furthermore, though it is visually dense with the entanglement of painted biomorphic forms, the work is essentially a post-and-lintel construction (which is to say, premised on a basic architectonic language). It thus functions as a coherent, freestanding object both visually and structurally, its composition functioning *pictorially* to produce, in Krauss' words, "a single instant of clarity by which the elements are fused with their meaning."<sup>102</sup>

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<sup>100</sup> Noguchi, oral history with Cummings, Archives of American Art. See note 17. This claim, however, is difficult to support in relation to the development of SOM's schemas for the plaza. By the time of the second schema, which predates Noguchi's involvement in the project, the general location of the freestanding, vertical sculptural element (in the end, the Dubuffet work), seems already established.

<sup>101</sup> The Dubuffet sculpture was a gift of David Rockefeller, then Chairman of the Chase Manhattan Bank. Rockefeller's commissioning of the work in 1969 followed an unrealized proposal for this site by Swiss sculptor Alberto Giacometti.

On the other hand, Noguchi's sunken garden as executed in 1964 functions primarily *spatially*, both in terms of the ground plane and the three-dimensional interplay of the plaza, the tower, and sub-plaza space. One must pass through a series of changing alignments between these spatial factors (either as visitor to the plaza or to the banking floor below) before confronting Noguchi's sculptural space. And even as one comes into visual contact with the sunken garden, it in turn enacts another set of relationships with Bunshaft's architecture, the plaza ground plane, and the city. Even more strikingly, the garden's subterranean setting, though invisible from the plaza's surface, nonetheless asserts its presence by impacting circulation through the plaza to a significant degree. Noguchi's work, off-axis relative to the entrance sequence between Pine Street and the Chase tower, a space-to-be-viewed only, rather than traversed, reroutes circulation patterns between the plaza and the urban grid, reconstructs the visual and phenomenological choreography of moving through the plaza space, and amplifies one's sense that this plaza is a remarkable, singular expenditure of urban space in the 1950s context--a "public" urban plane under the sign of sculpture.<sup>103</sup>

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<sup>102</sup> Krauss, *Passages in Modern Sculpture*, 200.

<sup>103</sup> Noguchi's Chase Manhattan garden was furthermore developed alongside a "sibling" garden, the sunken garden for Bunshaft's famous Beinecke Rare Books Library at Yale University. Though, like the Chase project, the Beinecke garden is conceived as a coherent sculptural surface with a strong connection to the architectural parti, its broader spatial context is more formalized and tightly controlled (an urban college campus as opposed to downtown New York). Therefore the relationship between sculpture and site at Beinecke is more traditional in its highly disciplined sightlines. See Noguchi's own writing on the comparison between the two gardens: Isamu Noguchi, "Two



Noguchi's urbanist and artistic work on Chase Plaza predates, by more than a decade, well-known sitings of monumental abstract sculptures by artists such as Alexander Calder, Henry Moore, and Pablo Picasso on corporate and governmental plazas throughout the U.S., many of them enabled by federal percent-for-art programs based on a notion of abstract sculpture as aesthetic antidote to the formal modularity of International Style modernism [Fig. 1.23].<sup>104</sup> These artworks from the late 1960s and 1970s participated in the production of the corporate urban plaza even as they ostensibly maintained a fundamental modernist sculptural tenet, that the work be formally autonomous, "sited" upon a given surface condition beyond the artist's ambit. It is this very surface into which Noguchi's spatial designs, beginning in the 1950s (and arguably earlier), materially intervene, and in so doing set the path for a rupture between sculpture and site, an expanded field of art production, in the following decades.

At the same time, Noguchi's work precedes by more than two decades the emergence in urban space of a more spatially radical version of public art, namely, the late-1970s, NEA-led response to the perceived aesthetic excesses of this earlier "corporate bauble" model of freestanding abstract sculpture, in the mode of promoting artist-designed "landscapes" or "environments" with an integral relationship

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Stone Gardens," Noguchi Archives, New York, "Writings and Speeches: *Two Stone Gardens*, c. 1963-64."

<sup>104</sup> Though the narrative here is hardly diachronic: Noguchi's abstract, freestanding sculptures are a part of this late-1960s/1970s art historical moment as well.

to urban space.<sup>105</sup> These later artworks-as-public space by artists such as Nancy Holt, Scott Burton, and Michael Heizer, pressured the formal and functionary boundaries between art, landscape and architecture, coalescing into something like a historical antithesis to the abstract sculptural object sited upon the urban plaza [Fig. 1.24]. Noguchi's designs for the Chase Manhattan plaza not only set the stage for these later developments in the history of public art, but also provoke a more precise discourse on the historical coincidence of the expanded field of sculpture and the invention of the corporate plaza as an architectural typology.

Noguchi's work with Bunshaft on the site design of SOM projects, extending from 1951/2-1964,<sup>106</sup> made possible this historical and disciplinary crossing on several levels: On the one hand, Bunshaft was a key protagonist in the formal linking of International Style modern architecture and the systems-based programmatic ethos of postwar corporations, re-presenting modern architecture as a perfect instrument of the headquarters-as-informational nucleus model. Yet even more so, in his simultaneous engagements with scions of corporate-governmental power (in addition to David and Nelson Rockefeller, Bunshaft had close personal affiliation with such clients as Lyndon B. Johnson and banker Baron Leon Lambert) and top-down

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<sup>105</sup> Kwon, *One Place After Another*, 67. See also Senie, *Contemporary Public Sculpture: Tradition, Transformation, and Controversy*.

<sup>106</sup> There is some discrepancy in Noguchi's own accounts of the dating of the unrealized Lever House garden design, his first project with Bunshaft. The Noguchi catalogue raisonné and SOM records date the collaboration to 1952-4, but in his autobiography Noguchi mentions that he first discussed the project with Bunshaft during the "winter of 1951-52." Noguchi, *A Sculptor's World*, 33.

cultural administration (he was a member of the U.S. Commission on Fine Arts from 1961 to 1972, and involved in the governance of the Museum of Modern Art from 1962 to 1990), Bunshaft brought together the arenas of federal and state government, national cultural policy, and architectural/urban design.<sup>107</sup> To the extent that Bunshaft engaged Noguchi in the particular arena of the urban plaza, perhaps the clearest point of intersection between these cultural phenomena as they impacted city form, it was with a radical conception of sculpture as spatial production (Bunshaft's contribution to the history of contemporary art in this vein is dramatically under-recognized). Which is to say, Bunshaft's invention of the "artist consultant" role was a significant historical interlocutor with Noguchi's invention of the "space which has itself become a sculpture." Both models registered, in different ways, the new syntax of urban space.

To underline the coincidence of these two spatial developments, one in art and one in architecture, and so to complicate the conventional narrative of postwar public art as an abstract bauble on a modernist plaza, it seems worthwhile to go back now to one of Bunshaft's first experiments with the urban plaza typology. With his designs for Lever House (1950-52) [Fig. 1.25] on Park Avenue in Midtown, Bunshaft effectively set the groundwork for the postwar tower-in-a-plaza model

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<sup>107</sup> See Arthur Drexler, *Buildings for Business and Government*, exh. cat. (New York: Museum of Modern Art, 1957), 7. Also noteworthy is Drexler's mention of the integral role of sculpture in this new model: "Merely to install a sculpture, however large, is not enough. Its successful relation to the building...must depend on the exact coincidence of the architect's and the sculptor's intentions," 6.

in the U.S. context (a call for open, formally-laid out urban space quickly answered by Mies van der Rohe in his Seagram building [1954-58] across the street) [Fig. 1.26].<sup>108</sup> Bunshaft's innovative treatment of the Lever House site is based around a horizontal-vertical dynamic between two interlocked masses: A three-hundred-and-seven-foot-tall streamlined tower rising over the north section of the site and, passing under the tower and covering the entire site, a two-story, low-lying structure with an enclosed second floor supported by an open colonnade below. To the south of the tower, within this colonnade and below a large light well cut into the horizontal structure's mass, Bunshaft designed an open plaza, level with the streetscape--in the postwar New York context, a dramatic re-conception of the spatial dynamic between the urban grid and the architectural rubric of privately-owned public space.<sup>109</sup>

As one of Bunshaft's first engagements with the surge of industry in the postwar city, Lever House looks forward to Chase Manhattan in its desire to be two things at once: The articulation of an

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<sup>108</sup> Mies had innovated the tower-in-a-plaza plan in the residential context with his Lake Shore Drive Apartments in Chicago (1948-51). Less well-known is the fact that Mies was also involved in the proposed Battery Park Title I project, perhaps Moses' key contribution to the DLMA Lower Manhattan land use plans of the 1950s. Mies proposed a series of three International Style towers spaced evenly upon a paved plaza. See Hillary Ballon and Kenneth T Jackson, eds., *Robert Moses and the Modern City: The Transformation of New York* (New York: Norton, 2007), 298-299.

<sup>109</sup> Though of course the concept was not entirely new--elsewhere in Midtown, Rockefeller Center had adopted a similar spatial formula, albeit at an entirely different scale, a decade earlier. Furthermore, the proportions of the Lever House plaza are of a totally different scale than the Chase Manhattan plaza, with the Lever plaza covering approximately ten thousand square feet, including covered areas under the colonnade, according to the author's calculations.

architectural style and a progenitor of urban transformation. And yet having designed the Lever House plaza as a component of the overall design, Bunshaft treated it as a placeholder within his parti, a section of unsettled and outsourced ground: The "entire site" was given over to Noguchi as early as 1951.<sup>110</sup> Unlike the Chase Manhattan project, we have Noguchi's blueprints and models for his unrealized Lever House plaza (though the plaster model is now lost), and through these media the artist's innovation of a sculpture/plaza hybrid registers clearly.<sup>111</sup> Noguchi imagined for the site a raised stone plinth punctuated by shallow depressions, mounds, plantings, and sculptures, something akin formally to one of Alberto Giacometti's famous horizontal sculptures<sup>112</sup> but belonging also, uniquely, to urban design, for the plinth is a monumental bench, the depressions contain pools, and the orientation of the form, as it extends the length of the plaza and into the building interior, is a means of connecting the glazed Lever House lobby to the space of the city [Fig. 1.27].

Furthermore, the plinth's siting binds it to the building's parti: Its

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<sup>110</sup> Audio cassette tapes of interview between Gordon Bunshaft and Arthur Drexler, Gordon Bunshaft Architectural Drawings and Papers, 1909-1990 (Bulk 1950-1979), Avery Architectural & Fine Arts Library, Dept. of Drawings and Archives, Columbia University, Box 20, Folder 2.

<sup>111</sup> Noguchi developed two proposals, the second proposal marked by the strong resemblance of its vertical sculptural elements to Brancusi's *Endless Column*. Both schemes were ultimately rejected by Lever Bros. on financial terms. Audio cassette tapes of interview between Gordon Bunshaft and Arthur Drexler, Gordon Bunshaft Architectural Drawings and Papers, 1909-1990 (Bulk 1950-1979), Avery Architectural & Fine Arts Library, Dept. of Drawings and Archives, Columbia University, Box 20, Folder 2.

<sup>112</sup> On this body of Giacometti's work, see Rosalind Krauss, "No More Play," in *The Originality of the Avant-Garde and Other Modernist Myths* (Cambridge, Mass.: MIT Press, 1986).

horizontality redoubles the structural meeting of the base section with the tower, whereas its orientation beneath the court's light well sculpturally amplifies the passage from covered to uncovered space as one moves through the plaza.

It seems, in other words, that at a point when the particular syntax of postwar corporate modernism was itself in development, a sort of double-vision of the site was possible: The Lever House plaza was a space designed by Bunshaft *and* it was an unrealized sculpture by Noguchi. It could have been both these things. And by the moment of the Chase Manhattan plaza project, only a few years later, this double-vision was actualized according to the expanded terms of Noguchi's art and Bunshaft's model of sculptural design as integral to large-scale architecture projects. Both radically proposed that, as the urban ground is in a state of flux, art and architecture should be conceived as engaged in a structural binding, the space which has become a sculpture or the sculptural material which has become urban space.

### III. *The Production of Space, Circa 1956*

Now that we have examined Noguchi's contention with the material shaping of the ground plane (one version of space operative in his radical sculptural model), we must examine the other state of space operative in this model: The shaping of the social production of space by rules of land use and zoning. Whereas the first version of space is primarily two-dimensional, understood as a surface, the spatial rubric of zoning, which operated at a particularly intense register during

the moment of Noguchi's work on the Chase Manhattan plaza, is three-dimensional, perhaps even four-dimensional. It understands the ground plane in relation to the pseudo-visible and invisible administration of space across time. And the expanded field that Noguchi explored in his work at Chase Manhattan plaza was calibrated to this version of urban space as well.

For the artist's plaza design was metaphorically embedded in a concentric or nested structure extending out from the Chase Manhattan plaza to the broader restructuring of the postwar Manhattan cityscape. This district-wide redevelopment project was driven by a perceived need to give territorial form to a symbolic nucleus of informational and financial management (the *Wall Street District*) and thus to re-instantiate Manhattan as central to the information economy's "space of flows."<sup>113</sup> In examining this key period of physical urban

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<sup>113</sup> "Space of flows" is Manuel Castells' famous phrase for the territorial transformations of the postwar global economy. Castells reasons that this space of flows has superseded "the meaning of the space of places. By this we understand the deployment of the functional logic of power-holding organizations in asymmetrical networks of exchanges which do not depend on the characteristics of any specific locale for the fulfillment of their fundamental goals." Manuel Castells, *The Informational City* (Oxford: Basil Blackwell Ltd., 1989), 348.

Yet historians of contemporary art and architecture have tended to take up the phrase too narrowly, understanding it as a thesis on the "dematerialization" of urban space amidst the rise of the information economy, and later digital infrastructure. In fact, even in his initial articulations of the concept Castells takes pains to emphasize the *material* urbanist dimension of these realignments of the city's function: "The global city epitomizes the contradictory logic of the space of flows. While reaching out to the whole planet second by second and around the clock, it relies on the spatial proximity of its different command centers, and on the face-to-face interaction of its anonymous masters...The global city collapses information flows into social matter" (Castells, 344). Close attention to the impact of the "mega-project era" in U.S. urban policy on the social and spatial

transformation in postwar Lower Manhattan, roughly spanning preliminary planning for the new Chase Manhattan headquarters in 1955 to landfill construction and early development of Battery Park City in the late-1970s (and encompassing in that frame the planning and construction of the World Trade Center), we see that this space of flows had as its physical correlate a vast upheaval of the urban grid, that such flows were not only informational but also physically deductive. In particular, the Downtown Lower Manhattan Association (DLMA),<sup>114</sup> a consortium of corporate executives led by David Rockefeller, then Vice President of Chase Manhattan Bank, and acting as a pseudo-governmental agency to enact policy related to the "growing orientation of American management to a world-wide point of view,"<sup>115</sup> linked the finance-driven redevelopment of this area to large-scale urban design.

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materiality of the city indeed points to a need to think networked space *alongside* sited space in study of the contemporary city. Saskia Sassen's work is perhaps the most influential example of this dualistic model: See *The Global City: London, New York, Tokyo* (Princeton, NJ: Princeton University Press, 1991).

<sup>114</sup> Notably, the DLMA represents one of several coalitions of U.S. business leaders organized to encourage public subsidizing of downtown development, with these coalitions operating as "private governments." Other examples during this era include the Central Atlanta Progress, Inc., Greater Philadelphia Movement, Cleveland Development Foundation, Detroit Renaissance, and the Vault (based in Boston). See Squires, 274.

<sup>115</sup> McKinsey and Company "Proposed Study of a World Trade and Finance Center, Downtown-Lower Manhattan Association, Inc." Rockefeller Archive Center, IV3B24 DLMA, Inc., DLMA Executive Committee Special Meeting, June 15, 1959, Series 5.2.1.3, Box 17, Folder 150. Other notable members of the group included G. Keith Funiston, President of the New York Stock Exchange, Robert Lehman of Lehman Brothers, and Francis K. Kellogg, President of the International Mining Corporation.



Yet even as the narrative of downtown New York's dramatic postwar renewal has given the Chase Manhattan headquarters project a central position in histories of capitalist urbanism,<sup>116</sup> the oft-repeated thesis within this narrative that the project necessarily, even heroically reversed Lower Manhattan's postwar decline need not be taken as a given.<sup>117</sup> Here again attention to the specific dynamics of urban form point to a more complex set of historical processes and patterns as the full context of Noguchi's work during these years. As Marxist geographer Neil Smith has argued in his influential study on uneven development, "accumulation" and "crisis" of fixed capital (constructed space) in the city are not stand-alone episodes within a teleological arc but rather dialectical stages in an ongoing historical process: As a force of urbanism, capital continuously "seesaws" from one zone to another, moving "from developed to underdeveloped space, then back to developed space which, because of its interim deprivation of capital, is now underdeveloped, and so on."<sup>118</sup> Put another way, the upheavals and reconstructions of redevelopment both reflect and enable capital's shifts between

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<sup>116</sup> See, for example, Robert A.M. Stern, Thomas Mellins, and David Fishman, *New York 1960* (New York: The Monacelli Press, 1995) and Aaron Shkuda, *The Lofts of SoHo: Gentrification, Art and Industry in New York, 1950-1980* (Chicago: University of Chicago Press, 2016).

<sup>117</sup> See David Rockefeller, *Memoirs* (New York: Random House, 2002) and the memoirs of Nat Owings, an SOM partner who served as one of DLMA's house architects: Nathaniel Alexander Owings, *The Spaces in Between: An Architect's Journey*. (Boston: Houghton Mifflin, 1973).

<sup>118</sup> Smith, *Uneven Development*, 150. Smith draws here from Marx's writing in *Capital*: "capital grows in one place to a huge mass in a single hand because it has in another place been lost by many," qtd. in Smith, 148.

accumulation and circulation,<sup>119</sup> thus producing an unstable cityscape in capital's own image.<sup>120</sup> It was as an overdetermined "address" to this spatial precariousness (as well as an exacerbation of it) that the DLMA conceived of a new spatial syntax for Lower Manhattan, a "fix" at the scale of a reimagined urban district.

The redevelopment project authored by the DLMA, and bolstered by the close involvement of Moses (Chairman of the Mayor's Committee on Slum Clearance during the late-1950s) and real estate developer William Zeckendorf (who orchestrated the assemblage of Chase's downtown site), attempted to redistribute the flow of capital at an intra-urban scale.<sup>121</sup> And indeed, under the header of "recommended land use," the DLMA proposed the future Lower Manhattan as a city-within-the-city, a self-contained mix of residential, commercial, light industrial, and recreational spaces that, at least during the late-1950s, emplaced Chase Manhattan plaza at its symbolic center, as a kind of late-capitalist town square [Fig. 1.1].<sup>122</sup> Underlying the

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<sup>119</sup> The other major writing on this idea is David Harvey's: David Harvey, "The Urban Process Under Capitalism: A Framework for Analysis," in Michael Dear and Allen J. Scott, eds., *Urbanization and Urban Planning in Capitalist Society* (London: Methuen, 1981).

<sup>120</sup> Karl Marx and Frierich Engels, *The Communist Manifesto*, 14. Qtd. in Smith, 149.

<sup>121</sup> Moses' investment in the scheme centers around several Title I projects in the area (Battery Park City and Brooklyn Bridge). In his memoirs, Rockefeller underlines Moses' role in the conception of Chase Manhattan's new headquarters as part of a "cohesive plan for the physical redevelopment of Wall Street to persuade the politicians to allocate the necessary resources." See Rockefeller, *Memoirs*, 387-88.

<sup>122</sup> See Downtown Lower Manhattan Association, "Comprehensive Plan for Land Use, Redevelopment, and Traffic Improvements in Lower Manhattan, Presented to the City," First Report, October 14, 1958, Rockefeller

Association's appeals for change, however, was an economic interest in counterpointing the rise of Midtown as a financial and corporate center, visibly embodied by Bunshaft's Lever House and Hanover Trust building and, even more so, Mies' Seagram building, as well as comprehensively overhauling large swathes of downtown space then occupied by traditional wholesale distribution and shipping functions.<sup>123</sup> Calling again on theories of Marxist cultural geography, we might then understand the DLMA's desire to "renew" Lower Manhattan as a coordinated response to the outflow of capital away from the district (towards Midtown) as well as an attempt to articulate improper or untimely exchange-values (shipping, manufacturing, industrial warehousing) within the district's boundaries [Fig. 1.28].<sup>124</sup>

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Archive Center, IV3B24 DLMA, Inc., Series 2.4, Box 196, Folder 1780. See also Owings, *The Space in Between*.

<sup>123</sup> In 1958 shipping was Lower Manhattan's largest employer, with fifty-thousand employees. Wholesale distribution was also a major industry in the area, with twenty-eight-thousand employees. As a comparison point, banks and trust companies employed forty-five-thousand people in this area during the late-1950s. Furthermore, Jean Gottmann has pointed out the fact that Lower Manhattan's port function also had an uncertain future: "there was practically common agreement that New York would decline in importance in the future. It was not advantageously located for the new era of airplanes then opening up. The time seemed over when transportation by sea made it essential to have the main economic center in a seaport..." Gottmann qtd. in Stern et al, 19.

<sup>124</sup> In fact, the sense here that Midtown and Downtown Manhattan were "competing" for capital investment was at least in part manufactured. Historically, Manhattan is a multi-nuclei urban model, with downtown and midtown both constituting central business districts. See Jason Barr and Troy Tessier, "The Dynamics of Subcenter Formation, Midtown Manhattan 1861-1910," *Journal of Regional Science* 56.5 (2016): 754-791. The multiple nuclei model continues today, as Midtown and Downtown New

The DLMA's first comprehensive report to New York City municipal government (from which this chapter's opening map is taken) makes clear the spatial implications of this total imbrication of multinational finance into the economic, social, and cultural fabric of Lower Manhattan. In addition to the Chase Manhattan headquarters site, Skidmore, Owings & Merrill, acting as the primary planning consultants to Rockefeller and the DLMA, identified two other major sites of potential redevelopment, one comprising the East River frontage south of the Brooklyn Bridge, the other extending along the Hudson River on Manhattan's Westside from Canal Street to Cortlandt Street [Fig. 1.29].<sup>125</sup> These two latter zones, on the edges of Manhattan island, would in turn enable the expansion of the Financial District at downtown's core, while at the same time repurposing two large swathes of land that had become, according to the DLMA's discourse, "obsolescent," thus impeding "healthy natural growth" with "deprecating effect on values" in the area.<sup>126</sup> SOM's proposals for these large redevelopment zones constituted a radical interruption and reconstitution of the urban grid, centered around the concept of

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York continue to inhabit the roles of simultaneous centers of urban development.

<sup>125</sup> The involvements of SOM in Lower Manhattan's transformation during this period are far-ranging and very deep. In addition to serving as consultants to DLMA, they were also the official consulting architects for the Mayor's Committee on Slum Clearance.

<sup>126</sup> DLMA, "Comprehensive Plan for Land Use, Redevelopment, and Traffic Improvements in Lower Manhattan, Presented to the City," First Report, 40. See also David Rockefeller, "The Responsibility of The Businessman in Urban Renewal" (1960) Rockefeller Archive Center, IV3B24 DLMA, Inc., Series 2.1.4, Box 39, Folder 585. Such visceral metaphors were a clear invocation of Progressive and New Deal era urbanist concepts of slum clearance as technocratic "surgery" on the failing urban body.

"superblocks" created by the de-mapping of extant streets in order to create a continuous surface of pedestrian circulation.<sup>127</sup> Though the earliest model of the superblock in this context was the Chase Manhattan site,<sup>128</sup> SOM outlined an even more dramatic example of the typology in 1960. A World Trade Center within the East River redevelopment area [Fig. 1.30] was to be constructed on an urban plane covering an approximately two-by-five block area, with pedestrian access redoubled by two levels of plazas within a horizontally-oriented World Trade Mart structure abutting a starkly vertical tower.<sup>129</sup>

This emphasis on the syntactical unit of the superblock, as initially set out in SOM's land use plan for Lower Manhattan, was in turn codified in the 1961 New York Zoning Resolution, the first comprehensive overhaul of the city's zoning laws since 1916.<sup>130</sup> Indeed, central to the 1961 zoning amendment was an emphasis on economically and spatially enabling the vast ground clearance required by mega-project schemas, as well as reducing the urban bulk of ziggurat-like

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<sup>127</sup> McKinsey and Company "Proposed Study of a World Trade and Finance Center, Downtown-Lower Manhattan Association, Inc." and "One Square Mile of Change" (January 7, 1964) Rockefeller Archive Center, IV3B24 DLMA, Inc., Series 2.4, Box 200, Folder 1822.

<sup>128</sup> In return for the closure of Cedar Street between William and Nassau Streets, Chase gave fifteen feet on all sides of the newly formed superblock site "back to the city," in the form of sidewalk widening.

<sup>129</sup> As is well known, the World Trade Center was constructed on a different site downtown, to the west of this first proposed site.

<sup>130</sup> New York's 1916 zoning resolution was the first such document produced by a U.S. municipal government.

(setback-laden) skyscrapers<sup>131</sup> [Fig. 1.31] by emphasizing a more strictly systemic Floor-Area Ratio (FAR) formula by which a skyscraper's maximum allowed floor area was measured as a multiple of its lot size.<sup>132</sup> At the same time, most significantly for our understanding of Noguchi's spatial design, the 1961 Resolution strongly incentivized increases in open urban space by offering a building height bonus in return for construction of a plaza or arcade over some portion of a site [see APPENDIX II].<sup>133</sup> Crucially, according to the 1961 laws, the commercial district in which Chase Manhattan headquarters was located (District C5-3) was granted the highest maximum FAR (fifteen) in New York and the most generous plaza bonus (ten square feet of interior space per square foot of plaza), indicating this district's function as a key reference point for the comprehensive zoning resolution. The historical period spanning the DLMA's initial land use plan (from 1958) and the manifestation of the 1961 Zoning Resolution's spatial rubric defined the urban plaza not

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<sup>131</sup> See Sol LeWitt, "Ziggurats," *Arts Magazine* 41.1 (1966): 24-25.

<sup>132</sup> A FAR number is thus determined by dividing the total floor area of a building located on a zoning lot (summed area of all building floors) divided by the lot area at the surface of the zoning lot. For example, a building containing a total of twenty-thousand square feet of floor area across all its floors on a zoning lot of ten-thousand square feet has a FAR of 2.0. See New York City Planning Commission and New York Department of City Planning, *Zoning Maps and Resolution* (New York: The Department, 1961), 123.

<sup>133</sup> For scholarly treatment of the 1961 Zoning Resolution and its relationship to the 1916 zoning laws, see Carol Willis, *Form Follows Finance: Skyscrapers and Skylines in New York and Chicago* (New York: Princeton Architectural Press, 1995), 140-141. See also Roy Strickland, "The 1961 Zoning Revision and The Template of the Ideal City," in Todd W. Bressi, ed., *Planning and Zoning New York City: Yesterday, Today and Tomorrow* (New Brunswick, NJ: Center for Urban Policy Research, 1993), 53-54.

only as a key urbanist paradigm but also a new social, cultural and economic arena of activity and contention. How would the plaza, conceived technocratically as a means of bringing light and air into urban ground space while at the same time commoditizing airspace, function as a live urban space? These were *zoning-based questions* to which Noguchi's spatial design was a response.

Though Chase's site layout plan was conceived prior to the 1961 Resolution, the plaza's expansive dimensions reflected SOM's implementation of an obscure, rarely-used, pre-Resolution zoning law that removed height limits for buildings covering no more than twenty-five-percent of a site (Chase successfully applied for a variance to increase this allowance to 27.3%, in order to maximize office floor area based on an open plan with unobtrusive interior column presence, a key concept of Bunshaft's design).<sup>134</sup> As a manifestation of the broader postwar phenomenon of private-public partnerships in urban redevelopment, the 1961 Resolution might thus be understood not only as a threshold in the coordinated redesign of the New York cityscape, but also the summation of a historical paradigm shift in the city's three-dimensional syntax. Arguably more than any other single project of the era, Chase Manhattan headquarters represented (and, in its historical situation, projected forth) the implications of this new syntax on urban form.<sup>135</sup> The open plane of its plaza and the vertical

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<sup>134</sup> Chase made this application for a variance (Buildings Department Record Number 347-56BZ) to New York City Board of Standards and Appeals. See Postal, "One Chase Manhattan Plaza."

<sup>135</sup> The significance of the Chase Manhattan headquarters as an urbanist model has not been extensively registered in architectural history,

articulation beside the plaza of an 813-foot-tall, aluminum-clad tower with floor areas of 280-by-160 feet was the stark model of a new architectural vocabulary for Lower Manhattan and the first major skyscraper construction in the area since the Depression era [Fig. 1.32].<sup>136</sup>

Put another way, Chase Manhattan headquarters' striking aesthetic and spatial presence in Lower Manhattan was enabled by major transformations at the invisible registers of land use and infrastructure. The impact of these systems on the layout and three-dimensional form of the city became, quite directly in the case of the Chase Manhattan plaza, part of the expanded field that Noguchi's work engaged beginning in 1956. Noguchi's early concepts for the layout of the site, as well as his later design for the sunken garden within the plaza's northwest quadrant, took up the spatial, phenomenological, and visual dynamics of zoning as part of their arena of activity. Even more strikingly, Noguchi's interventions into the space of the plaza amplified these dynamics, implicating art in the logic of zoning as a transformative force. As urbanist Carol Willis has argued, what distinguished zoning from earlier land use techniques, such as those put forth in the 1811 New York City Commissioner's Plan (famous for authoring Manhattan's gridded street pattern), was zoning's three-dimensional conception of urban space, its relational reading of the

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and is often dramatically overshadowed (in both architectural discourse and popular understanding) by Bunshaft's Lever House and Mies van der Rohe's Seagram Building.

<sup>136</sup> Though less prominent skyscrapers (such as 99 Church Street [demolished] and 161 William Street) had been built Downtown in the immediate postwar period.



urban landscape as a technical, social, and spatio-aesthetic phenomenon.<sup>137</sup> The plaza typology was, during the 1960s-70s, perhaps the key arena in which the implications of this expanded conception of urban space were discursively and practically laid out, as exemplified by the influential writings of William H. Whyte, Kevin Lynch, and Ada Louise Huxtable in the fields of architecture and urbanism.<sup>138</sup> Yet it was also a category of urban ground plane directly impacted by the invisible systems of zoning, directly produced by zoning's spatial ambitions. The physical plaza as the "landing zone" of these urban codes constituted the site of Noguchi's work on Chase Manhattan plaza over the course of nearly a decade.

#### IV. *The Production of Nature, Circa 1964*

As his designs for the Chase Manhattan plaza evolved between 1956 and 1961, Noguchi appears to have settled on the concept of a submerged rock garden in order to register the ambiguous status of key spatial

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<sup>137</sup> Carol Willis, "A 3-D CBD: How the 1916 Zoning Law Shaped Manhattan's Central Business Districts," in Bressi, ed., 3-26. Willis notes that the Zoning Resolution of 1916 determined the city's three-dimensional form by restricting uses by district and limiting the maximum mass of a building allowed on a given site.

<sup>138</sup> See Kevin Lynch, *The Image of the City* (Cambridge, Mass.: MIT Press and Harvard University Press, 1960); New York City Planning Commission [with William H. Whyte as advisor], *New Life for Plazas* (New York: The Commission, 1975); William H. Whyte, *The Social Life of Small Urban Places* (Washington, DC: The Conservation Foundation, 1980); Ada Louise Huxtable, "The Significance of Our New Skyscrapers," *New York Times* October 30, 1960: X13; "Sometimes We Do It Right," *New York Times* March 31, 1968: D433; and "A New City is Emerging Downtown," *New York Times*, March 29, 1970. Notably, Whyte was also a major contributor to the 1969 Comprehensive Plan for New York, whose concepts of urbanism were related to Mierle Laderman Ukeles' work. See Chapter Three of this dissertation.

markers (ground, verticality, the natural vs. the manmade) amidst the postwar "remodeling" of urban ground and space. Thus Noguchi designed his garden as a submerged zone that invokes "the natural" yet also appears, by design, out of place, disjunctive, a sculptural sign of Neil Smith's observations on the late-capitalist "production of nature" as a byproduct of the "material landscape."<sup>139</sup> The extent of technocratic control over space during the 1950s-60s, as manifested in postwar redevelopment schemas such as this one, was a source of anxiety in Noguchi's art (recall his open question, "is nature no longer real to us?"), even as it was for him also a threshold onto new models of sculpture integral to the production of space. A major byproduct of his long-term involvement with Chase Manhattan plaza's evolution was his ability to register both these sets of effects in conjunction, to track urbanism as a projective and iterative process.

Returning now to the map that opened this chapter, we might attempt to redefine its status according to this definition of urbanism as iterative: What precisely does such a map show us? Though the glyph representing the Chase Manhattan headquarters site proved accurate relative to the actual siting and orientation of the realized project, other major elements of the map never materialized in the built environment of New York. The line representing the proposed Lower Manhattan Expressway, one of the most graphically dominant elements of the diagram, was famously never built, resisted by Downtown-based artists such as Donald Judd, Yvonne Rainer, and Robert Rauschenberg (among many others) on the grounds that it would provoke

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<sup>139</sup> Smith, 32.

mass displacement and destruction.<sup>140</sup> Moving southward, to the tip of Manhattan island, we find another site of unmet projections: The Battery Park Title I project (Number Thirty-Five), unrealized as part of larger failure of the federally-funded Title I program to create mixed-use neighborhoods for middle class residents in postwar New York, yet also a placeholder throughout the 1950s-60s for what would eventually become another locus of corporate development.<sup>141</sup> On the other hand, by the time of this diagram's publication, the Chase Manhattan superblock had already been cleared in anticipation of the new headquarters building and its plaza: a massive demolition project that involved removal of fifteen historical structures spanning two city blocks, which in turn became the footprint for a ninety-foot deep excavation into the earth [Fig. 1.33].<sup>142</sup> Furthermore, in the years

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<sup>140</sup> Though the LME campaign failed, it profoundly influence the development of SoHo by disincentivizing developer investment in the contentious ground of the area, suppressing property values and enabling the artist-driven conversion of loft buildings into live/work space. See Shkuda, *The Lofts of SoHo*. On the counterargument, in support of the LME's construction as a fix to problems of mobility and density in Lower Manhattan, see "Lower Manhattan Expressway: An Essential Key to Business Growth and Job Opportunities in Lower Manhattan and New York City, July 1964," Rockefeller Archive Center, IV3B24 DLMA, Inc., Series 2.5, Box 215, Folder 1905.

<sup>141</sup> However, the block directly north of this proposed Title I project (and directly south of the first proposal for a World Trade Center, discussed above) was eventually the site for 55 Water Street complex, discussed in chapter three of this dissertation in relation to Mierle Laderman Ukeles' work.

<sup>142</sup> New York City *Land Books* of the era indicate that seven structures (erected by the Mutual Life Insurance Company of New York) stood on the former block bound by Liberty, William, Broad, and Cedar Streets, whereas nine buildings (including the Goldman Sacks Building and the Wadsworth Building) stood on the former block bound by Cedar, William, Broad, and Nassau Streets. The former Chase Manhattan Bank headquarters, a historical skyscraper located at the southwest corner

following completion of the Chase Manhattan site in 1964, a sequence of modernist skyscrapers set into open plazas, all designed by SOM, would extend out from Chase Manhattan plaza westward, first Marine Midland Bank at 140 Broadway (1964-7), then the U.S. Steel Building at 165 Broadway (1969-72), approximating the systemic deduction and remodeling of urban space proposed in the 1958 DLMA Report.

Situated amidst this admixture of unmet urbanist projections and massive physical transformation, a precarious redefinition of the cityscape across time, Noguchi's sculpture registers the complex terms of the production of space circa 1960. On the one hand, the work's situation below the plaza engages the viewer in a gravitational pull towards a subterranean zone, a striking reversal within a material landscape premised on the vertical pull upward (though in fact the plaza itself is raised one story above street level, making Noguchi's garden, even more strangely, also a reemergence of the broader urban plane within the plaza's midst).<sup>143</sup> On the other hand, this contained circular aperture's proximity to the mass of Chase Manhattan tower turns the sculpture into a sort of geometric countermeasure to the tower's vertical planarity: Particularly from certain points within the ground level interior of the banking floor, looking straight-on at the garden, one is confronted with the tower's facade as a new,

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of the latter block, was not demolished as part of new Chase Manhattan headquarters' construction, and remains in place today. See *Manhattan Land Book of the City of New York*. New York: G.W. Bromley, 1955.

<sup>143</sup> "But to try to think of this concentration of pavement and building structure as a 'land area' may seem remote from the traditional concept of the good earth. Basements are reaching down 90 feet below the ground, and buildings are rising 60 stories, or more than 800 feet into the air." DLMA, *First Report*, 4.

artificial field of vision [Fig. 1.34]. And from both the plaza level and the space below, to look onto the rock garden is also always to see one space (Noguchi's spatial sculpture) in terms of another (the city), an artwork as a relation to urbanism, both horizontally and vertically conceived [Fig. 1.35]. Around the figure of Noguchi's sculpture various senses of the city coalesce as a concentrated phenomenological experience for the viewer.

This is something other than the "soothing vision of serenity" that many critics have claimed for Noguchi's Chase Manhattan garden, as well as his other landscape designs.<sup>144</sup> Rather than a restive space of inhabitation, the garden is a disjunctive zone resistant to inhabitation, and visible only conditionally, either from above or through a transparent barrier. Spatially and formally, it is an asynchronous presence in the corporate plaza's midst, it is *alienated* from the postwar landscape of International Style modernism, that style's aesthetic logic and its scale. "It seemed absurd to me to be working with rocks and stones in New York," Noguchi explained in 1968, "where walls of glass and steel are our horizon, and our landscape is that of boxes piled high in the air."<sup>145</sup>

As he theorized the "absurdity" of the emergent corporate "landscape" of the 1950s-60s, Noguchi also withdrew from the possibility of a seamless rapprochement between his work and this new

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<sup>144</sup> This is art historian Bert Winther-Tamaki's characterization of the typical reading of Noguchi's landscape aesthetic, as it appears in the only comprehensive scholarly treatment of this Noguchi project. Though Winther-Tamaki also uses it critically. See Winther-Tamaki, 156-168.

<sup>145</sup> Noguchi, *A Sculptor's World*, 35.

urbanist vocabulary. Instead, from the mid-1950s at least, Noguchi tested the transposition of Japanese (and specifically Zen Buddhist) landscape theory into the postwar urban situation.<sup>146</sup> The very idea of a garden conceived as a coherent aesthetic object in relation to its broader landscape context (a major strain in Noguchi's 1950-60s work) reflects Noguchi's advanced reinterpretation of Zen garden designs of the fifteenth-to-twentieth-centuries. Specifically, Noguchi invoked in his Chase Manhattan sunken garden the Zen landscape method of *Shakkei*, or "borrowed scenery"--a design strategy in which distant natural vistas are visually incorporated into the viewer's experience of the contained space of a manmade garden, thus incorporating what is outside the garden's boundaries into the viewer's visual and spatial experience.<sup>147</sup> Relatedly, the artist's conception of his garden as a contained space to be viewed at a remove, rather than a traversable space, is a re-do of another key precept of Zen landscape design--namely, the aestheticized containment modeled by the famous garden at Ryōan-ji, Kyoto, which Noguchi considered a key model for his work at

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<sup>146</sup> Noguchi initiated a longstanding dialog with landscape architect and landscape historian Mirei Shigemori in Kyoto while the artist was developing his designs for the UNESCO Garden in Paris (1956-1958).

<sup>147</sup> Noguchi writes about this concept in a 1968 essay: "The Japanese...have over the centuries evolved ways of creating the illusion of space, especially in their gardens, of the distance of the sea or of mountain views and so forth, when they're using very small areas. Generally speaking, these illusions are created through an isometric triangulation so that the eye is constantly carried from one to the other and there is no end to the vastness that appears to exist," Noguchi, "The Sculptor and the Architect," in Noguchi, Diane Apostolos-Cappadona, and Bruce Altshuler, *Isamu Noguchi: Essays and Conversations* (New York: H.N. Abrams, 1994), 51. Sam Hunter also briefly mentions this concept in relation to the Chase Manhattan garden in his monograph on Noguchi. See Hunter, 147.

Chase Manhattan ("my Ryuanji [sic]," he called the project in retrospect) [Fig. 1.36].<sup>148</sup>

Noguchi seems to have read this historical concept of the contained and spatially impenetrable Zen garden as something more than an imagistic model. He also engaged the implications of its spatial relationships between depths of field and scales of landscape. He read *Shakkei* as a practice of relationality, in which one state of space must always be read in terms of another. At the same time, he understood *Shakkei*'s transposition into the postwar cityscape of Lower Manhattan as a measure of the production of nature in its historical situation. Within Noguchi's garden, traditional *Shakkei* elements such as mountains, trees or seascapes are radically replaced by the urban forms of the Wall Street neighborhood (also a backdrop in constant flux, but of a different kind), thus placing the garden's formal vocabulary in an uneasy relationship with its spatial context. The artist referred to this exacerbative effect of disorientation as nature having become "out of scale," so that the visual effect of *Shakkei* in its traditional sense was in fact no longer possible, was now an indicator of the cleaving of nature and the production of space.<sup>149</sup> Attuned to the vicissitudes of urban redevelopment under the sign of multinational finance (the infiniteness of its spatial ambitions, its technocratic reach, as represented in urbanism's

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<sup>148</sup> Noguchi, *A Sculptor's World*, 171.

<sup>149</sup> Ibid. Also significant in this regard is the fact that Noguchi's sunken garden originally contained goldfish during the warmer months. The fish were removed because the coins dropped into the water garden by visitors began to poison the water. See Ibid., 175.

diagrammatic output) Noguchi produced with his sculptured space a zone of agonism within the late-capitalist transformation of Lower Manhattan. He read these historical transformations of space as disclosures of a dominant cultural condition, extending from the production of nature in Lower Manhattan to the space race: "The rocks, which otherwise are the sculptures, are natural. There is this transposition. An unnatural thing of will, as is our whole technological age--like going to the moon."<sup>150</sup>

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<sup>150</sup> Ibid., 171.



CHAPTER TWO:  
THE AIR IS OUR OCEAN, 1966-1967

Within the opening pages of engineering firm Tippetts-Abbett-McCarthy-Stratton's 1967 *Airport Master Plan*, the final document in a series of reports on the Dallas-Fort Worth Regional Airport in Texas, a spatiotemporal diagram of the world appears in the form of a schematic spiral [Fig. 2.1]. The diagram is a glyphic representation of the relative travel times, by road or railway, between the airports of various U.S. and European cities and their respective city centers. It imagines these itineraries between cities and airports as linked through a standardized language of representation--radiating bands that transition from monochrome to striped as they describe the range of projected travel times for each city. The trip in Madrid is precisely calibrated at twenty-minutes. Alternatively, the diagram indicates that a trip between downtown Paris and the airport might take twenty-eight minutes or eighty, depending on whether one is traveling to Le Bourget or Orly.<sup>151</sup> Despite the range of variations in travel time depending on the specific city, in the space of the diagram these itineraries appear systematized by the series of regular, concentric circles that both articulates and contains them. The radial progression of the bands within this concentric field, the layering of one spatialization of time onto another, in turn produces the diagram's sense of radial momentum.

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<sup>151</sup> At the time of this diagram's production, both Le Bourget and Orly were operating as commercial airports for the Paris region. Charles de Gaulle Airport opened to commercial flights in 1974.

Yet the image's field is also a historical construction of space: It unifies within a single glyph two ways of picturing the world as mappable and traversable, one ground-bound and particular, the other airborne and relative. It is symptomatic of the diagram's historical situation at the cusp of the jumbo jet age<sup>152</sup> that this image of global circulation engages two distinct strata of space (the ground plane and airspace) in conjunction.<sup>153</sup> For the technical advances in aviation that would, during the 1960s-70s, ostensibly streamline and rationalize the global circulation of objects, people and services were meant to produce a mirror-image network of circulatory efficiency on the ground, a global urban system. TAMS' diagram describes this future dialectic through an internally defined pictographic language, a meta-syntax whose concerns are at once aesthetic, mathematical,

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<sup>152</sup> The "jumbo jet age," refers specifically to Boeing's introduction in 1969 of the 747 Jet, which could seat between three-hundred-and-sixty-six and five-hundred-and-fifty passengers, depending on cabin configuration. For our purposes, these statistics should be compared to the capacity of the 707 (representative of the "jet age"), introduced in 1958 and capable of carrying up to one-hundred-and-seventy-nine passengers. D/FW Airport was considered the first airfield planned for the jumbo jet age, in that plans for airplanes with much greater passenger capacity were already on the drawing board by the time that D/FW Airport was conceived. See Janet R. Bednarek, *Airports, Cities and the Jet Age: US Airports Since 1945* (New York: Palgrave Macmillan, 2016), 15-18.

<sup>153</sup> At the date of this diagram's production, there was a sense of impending sea change in the nature of aircraft, but the precise nature of this change was uncertain: Would it be a transition to jumbo jets (emphasis on greater passenger capacity) or the supersonic jet (emphasis on speed) that would represent the new avant-garde of aviation? The diagram's spatiotemporal field anticipates the possibility of both scenarios. On the jumbo jet vs. supersonic jet debate, see Tippetts-Abbott-McCarthy-Stratton, *Airport Master Plan* (New York: T-A-M-S, 1967), Dallas Central Public Library, Dallas Documents Collection.

geographical, infrastructural, and urban. At center is a symbol for every-city circa 1967, a cosmopolitan nucleus of the world: "Downtown."

And yet, despite its visual argument for a self-evident logic, this diagram is a speculative document, just as the complex of urbanism and aviation infrastructure it represents is speculative. The strange spatiotemporal content of the image is signaled most clearly by its orienting node, dramatically magnified for emphasis, a place yet-to-be: the future metroplex that will encompass the extant cities of Dallas and Fort Worth ("Dallas/Fort Worth" in the diagram's center-right area). The geoeconomic entity "Dallas/Fort Worth" would, however, come about years later as a result of the planning impact of the D/FW Airport, which created a node of urban growth between the two cities and thus spurred their infrastructural coalescence. At the time of the diagram's drafting, the cities were linked by close geographic proximity, but were otherwise mostly politically and economically differentiated.<sup>154</sup> The diagram thus finds a means of graphically reconciling distinct cities, modes of transportation infrastructure, and itineraries across real space, as well as at least two tenses of being, as the (historically) present is seamlessly joined to the future perfect. Other cities (Frankfurt, Boston, Los Angeles) are and

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<sup>154</sup> It would take the spatial and political interventions of 1960s Federalism to bind Dallas and Fort Worth (historically, economic and cultural rivals) more closely together, while at the same time creating a new urbanist entity. See the comprehensive and meticulously-researched "local history" of D/FW Regional Airport, published in the small town of Quanah, Texas, approximately 225 miles from Dallas: Stanley H. Scott and Levi H. Davis, *A Giant in Texas: A History of the Dallas-Fort Worth Regional Airport* (Quanah, TX: Nortex Press, 1974). See also Molly Ivins, "Texas-scale Airport: Biggest Public Works Project Since the Pyramids," *New York Times*, September 16, 1973: 16-17ff.

have been. "Dallas-Fort Worth" will have been.<sup>155</sup> Such is the alchemy of representation at play in the document.

And yet this diagram has some bearing on art discourse too, given the prominent contemporary artist and writer, Robert Smithson, who analyzed its techno-discursive syntax and the development of its visual logic. The *Airport Master Plan's* publication in late 1967 roughly coincides with Smithson's yearlong tenure as artist consultant to TAMS on the D/FW airport master plan<sup>156</sup> (it was distributed to the municipal governments of Dallas and Fort Worth a few months after the endpoint of Smithson's contract, but its contents are a compendium of diagrams and texts which Smithson had been exposed to during the prior months). Smithson engaged with numerous documents, plans, and drawings produced by TAMS in relation to the airport plan back then. This episode has been narrated in contemporary art history through focus on

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<sup>155</sup> Notably, and probably confusingly for the original readership of this planning report, Dallas is still listed as among the cities under consideration in the diagram, along with the "Dallas-Fort Worth Metroplex." This is because Dallas was already, in 1967, home to a major regional airport (Love Field), which was seen as the aviation hub of the area before construction of the D/FW Airport.

<sup>156</sup> The basic terms were outlined in an employment agreement whose straightforwardness belies the strangeness of the agreement, which seemed somewhat of an abstraction to Smithson throughout the duration of his consultancy. Smithson's initial contract ran from July 1 through December 31, 1966 and was renewed for a second six-month term (through June 30, 1967), after which he was informed that TAMS' own contract with the Dallas Ft. Worth Regional Airport Board no longer included funds for his position, and that TAMS' overall status on the project had become ambiguous. Though "site visits" are listed in the employment letter as among Smithson's primary duties, the datebooks in Smithson's papers include no mention of travel to the airport site in Texas. Robert Smithson and Nancy Holt papers, 1905-1987, bulk 1952-1987. Archives of American Art, Smithsonian Institution, Box 2, Folder 29.

the drawings and writings the artist produced in relation to his consultancy, though the particular formal and conceptual operations of the approximately fourteen "airport drawings" that Smithson produced during 1966-67 have been accounted for only in partial and shorthanded ways in this scholarship.<sup>157</sup> Of particular interest to Smithson scholars has been the airport plan's hints of a techno-cultural visuality attuned to the era's major spatial transmogrifications: the increasing administrative control of land- and airspace, the telescoping of vastly different scales of space via experimental modes of visual representation.<sup>158</sup> Indeed, Smithson's interest in such

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<sup>157</sup> According to the author's research at the Robert Smithson Estate at James Cohan Gallery and the Modern Art Museum of Fort Worth, the major holders of these drawings, as well as elsewhere, the list of Smithson's "airport drawings" reads as follows: *Airport* (1966), *Texas Airport* (1966), *Airport Idea* (Tippetts, Abbett, McCarthy, Stratton) (1966), *Dallas-Fort Worth Regional Airport Layout Plan* (1966), *Earth Window* (1966), *Three Earth Windows (Under Broken Glass)* (1966), *Project for "Clear Zone" Dallas-Fort Worth Regional Airport* (1966), *Untitled AP 5* (1966-67), *Aerial Map--Proposal for Dallas-Fort Worth* (1967), *Earth Window AP 6* (1967), *A Web of White Gravel Paths Surrounding Water Storage Tanks* (1967) *Dallas-Fort Worth Regional Airport Layout Plan: Wandering Earth Mounds and Gravel Paths* (1967), *Airport Site Map* (c. 1967), and *Project for "Clear Zone" Spiral Reflecting Pool* (1967).

<sup>158</sup> The D/FW Airport project is often narrated as an origin point for Smithson's earthworks and his theory of site/non-site, a reading put forth by both art historians and architectural historians. In architectural scholarship, see, for example, Mark Linder, "Non-sitely Windows: Robert Smithson's Architectural Criticism" in *Nothing Less Than Literal: Architecture After Minimalism* (Cambridge, MA: MIT Press, 2004); Sonja Dümpelmann, *Flights of the Imagination: Aviation, Landscape, Design* (Charlottesville, Va.: University of Virginia Press, 2014); and, on Smithson's relationship with postwar architectural culture more broadly, Reinhold Martin, "Organicism's Other," *Grey Room* 4 (2001): 34-51. Within art history, the most rigorous and detailed description to date of Smithson's artist-consultancy appears in Carlton Evans' dissertation on the artist: "Sight/Nonsite: Robert Smithson's Dialectics of Vision," Ph.D. diss., Stanford University, 2005. Jenna Eggebeen discusses Robert Smithson's theories of "aerial

speculative scales and logics of space would eventually play out in the famous Land artwork *Spiral Jetty* (1970), a construction of black basalt rock and earth set in the ground and waters of Utah's Great Salt Lake that is widely seen as the apotheosis of the artist's realized work [Fig. 2.2].

*Spiral Jetty*, like the outwardly spiraling bands on TAMS' planning page, evokes a radical spatiotemporal condensation against the index of real space. Smithson described the earthwork as "a world not yet together...a span of time unfinished, a spaceless limbo,"<sup>159</sup> an incommensurate zone, in other words, neither here nor there, neither present nor futural, yet somehow all of these at once. (We might think here of the spatial and temporal alchemy that Smithson saw systematically visualized in TAMS' planning pages.) For its most

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art" in terms of the postwar history of public art in "Between Two Worlds: Robert Smithson and Aerial Art," *Public Art Dialogue* 1.1 (2011): 87-111. Ann Reynolds includes in her definitive monograph on Smithson a chapter-length study of the artist's relationship to 1960s modes of travel and cartographic representation, in which Smithson's exposure to TAMS' planning documents plays a substantial role. See Ann Reynolds, "Travel As Repetition," in *Robert Smithson: Learning from New Jersey and Elsewhere* (Cambridge, Mass.: MIT Press, 2003). Suzaan Boettger includes a study of Smithson's artist consultancy with TAMS in her history of Land art, *Earthworks: Art and the Landscape of the Sixties* (Berkeley: University of California Press, 2002), 51-66. Tom Holert traces the relationship between the visual mode Smithson conceived during his consultancy, his larger interest in technological aspects of aerosurveying, and his earthwork projects in a recent essay: Tom Holert, "Land Art's Multiple Sites" in Philipp Kaiser and Miwon Kwon, eds. *Ends of the Earth: Land Art to 1974* (Munich: Prestel, 2012), 98-117. Lastly, Andrew Menard has recently discussed the relationship between Smithson's work and nineteenth-century landscape theories in an essay that makes brief mention of Smithson's airport drawings: Andrew Menard, "Robert Smithson's Environmental History," *Oxford Art Journal* 37.3 (2014): 285-304.

<sup>159</sup> Robert Smithson, "Spiral Jetty," in Jack Flam, ed., *The Collected Writings of Robert Smithson* (Berkeley: UC Press, 1996), 150.

incisive interpreters, closely considering the multipart discursive apparatus of which the earthwork is only one component,<sup>160</sup> *Spiral Jetty* has read not only as a discrete sculptural form in the Utah desert but also as an entry into the technocratic production of space. A schematic rendering monumentally inscribed onto water and land, Smithson's *Spiral Jetty* is the sort of projective format that Gilles Deleuze and Félix Guattari have called an "experimentation in contact with the real."<sup>161</sup> Which is to say, despite its constitution in the "natural" materials of earth and rock, its diagrammatic form references the opposite condition of spatial production--the artificial, the manmade, the designed. If *Spiral Jetty* is biomorphic, it is so to a point of excess that oddly provokes a reversal, a making-strange of the production of nature, an over-regularizing of the syntax of the earth.

Reading *Spiral Jetty* thus also complicates its received status as an escapist counter-site to the (city-based) gallery system and the

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<sup>160</sup> *Spiral Jetty* consists of, beyond the monumental earthwork in Utah, an essay entitled *The Spiral Jetty*, which appeared in the Gyorgy Kepes-edited *Arts of the Environment* in 1972, as well as a film of the same name produced by Smithson (1970). See Gyorgy Kepes, ed., *Arts of the Environment* (New York: George Brazillier, 1972).

<sup>161</sup> Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis, Minn.: University of Minnesota Press, 1987), 12. Deleuze and Guattari are in turn drawing on the work of Michel Foucault in this description, and Foucault's famous writings on the Panopticon in particular. See Michel Foucault, "Panopticism," in Alan Sheridan, trans., *Discipline and Punish: The Birth of the Prison* (New York: Vintage Books, 1995), 195-228. For a discussion of the diagrammatic in relation to modern and contemporary art, see David Joselit, "Dada's Diagrams," in Leah Dickerman, ed., *The Dada Seminars* (Washington, D.C.: The National Gallery of Art, 2005) and George Baker, "The Cinema Model," in *Robert Smithson: Spiral Jetty*, Lynne Cooke and Karen Kelly, eds. (Los Angeles: University of California Press, 2005).

commodification of the art object, and registers the possibility that it is also a glyphic engagement with the dramatic spatial transformations of the 1960s, making manifest the fact that even the remotest desert--or perhaps especially the remotest desert--had become a ground plane on which various technical projections (infrastructure projects, geological surveying, natural resource extraction, for instance) were imposed.<sup>162</sup> This famous artwork, in other words, understood the earthen "ground" as mediated by the logic of infrastructural provision, with the latter's flexible and speculative systems of spatial production contesting the "fact" of the geologic earth. Three years earlier, Smithson had investigated the infra-logic of such diagrammatic forms through the discourses of mega-project era urban planning and civil engineering [See APPENDIX I].<sup>163</sup>

As artist-consultant to TAMS on the D/FW Airport project from July 1966 to June 1967, Smithson gained a degree of access to the conceptual, technical, and formal development of a large-scale civil engineering project that is singular among contemporary artists. The D/FW project itself, furthermore, was seen as epochal within

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<sup>162</sup> On the relationship between *Spiral Jetty* and the geological history of its site, see Jennifer L. Roberts, *Mirror-Travels: Robert Smithson and History* (New Haven: Yale University Press, 2004). On the relationship between Land art and the cultural development of the U.S. desert more generally, see Julian Myers, "No-places: Earthworks and Urbanism Circa 1970." Ph.D. diss., University of California, Berkeley, 2006.

<sup>163</sup> Smithson drew a small sketch of a spiral, among other loose proposals for earthworks, on a schematic site plan within his personal copy of TAMS' *Terminal Area Concepts* (1966). This is one of the earliest appearances of the spiral in Smithson's papers, to the author's knowledge. Robert Smithson and Nancy Holt papers, 1905-1987, bulk 1952-1987, Archives of American Art, Smithsonian Institution, Box 18.



infrastructure and planning history, a systems analysis-driven enterprise capable of managing a new scale of aircraft amidst the new scope of global transportation networks, of which D/FW would constitute both the geographic and symbolic center point, in the thinking of its planners.<sup>164</sup> Engaging with the airport plan at the earliest phases of site development, Smithson scanned and conceptualized the project at its most visually schematic, as a skeletal and coded version of the airfield site [See APPENDIX III for a timeline of the D/FW airport's development].

TAMS' work in these years could not be called architectural design in any aesthetics-oriented sense of the term. And, importantly, TAMS would ultimately cede responsibility for the terminal architecture to firms Hellmuth, Obata, and Kassabaum and Brodsky, Hopf & Adler, losing the design contract for the airport in 1968 after years working on its preliminary development [Fig. 2.3].<sup>165</sup> TAMS' (and,

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<sup>164</sup> The Federal Aviation Administration Records from this era indicate the extent to which the planning of the D/FW Airport was a direct address to many of aviation's most exigent problems during the mid-1960s: The expansion and complexification of the air transport network and need for a systems thinking-based approach to dealing with its transformations, the problem of negotiating the interface of air infrastructure and metropolitan space, the extremely fast pace at which demands on commercial air traffic were growing. See *National Airport Plan--1966* and Memorandum by John Kennedy, Executive Director, FAA, December 7, 1966, RG 237 Records of the Federal Aviation Administration, office of the Administrator, Administration Subject/Correspondence Files, 1959-1982, Box 207, National Archives, College Park, Maryland.

<sup>165</sup> In 1968, the Airport Board restructured the D/FW Airport project. TAMS' role was limited to engineering and systems design of the airport, and primary responsibility for the design of the terminal buildings was eventually given to Gyo Obata of Hellmuth, Obata, and Kassabaum (HOK). Obata is responsible for the design of the terminals

by extension, Smithson's) arena of thinking and production during those years was thus the diagrammatic rhetoric of master planning, with its awesome scalar coordinates generated at the intersection of data aggregates and swathes of geological earth [Fig. 2.4]. And the planning documents themselves, materializations of this speculative syntax, prefigured in turn the possibility of a new site of artistic activity for Smithson. By 1967 Smithson's "airport drawings" had begun to take the form of minimal, mimetic amendments to reproductions of pages from TAMS' planning documents, tear-outs of the pages themselves, and cut-outs from larger site maps [Fig. 2.5]. The apparent abstraction of the spaces imagined in the engineering documents was accordingly in constant dialectical tension with Smithson's desire to somehow physicalize these documents (again) as artworks. At the same time, even though the engineering diagrams Smithson encountered at the preliminary planning stages of the airport were highly abstract, he interacted with these renderings as *objects*, a series of graphic and informational surfaces collectively connoting the "airport master plan."

In both his artworks and writings, Smithson paid particular notice to the myriad formats that graphically organized and represented the future airport's site--maps, geological studies, aerial photographs, airspace saturation models, wind roses,<sup>166</sup> etc.

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as they appear today, namely a series of repeating half-circles in precast concrete around the central circulation spine.

<sup>166</sup> A visualization of immaterial energy flows, a wind rose shows the relative frequency or force of wind from various points of the compass

[Fig. 2.6]. He came to understand such diagrammatic categories as "metaphorical" representations, figuring the site at both technical and symbolic registers. One might go so far as to argue that the type of relay between diagram and landscape that Smithson repeatedly confronted in TAMS' planning documents in turn became another point of art historical genesis: This conceptual binding between master plan and Texas prairie was likely a key referent for the artist's subsequent theorization of the site/non-site, in which the artwork functions cartographically to triangulate the gallery space, the art object (non-site), and the remote landscape to which the work refers (site) for the viewer [Fig. 2.7].<sup>167</sup> Furthermore, as preliminarily discussed above, both the scale and ontology of "earth" modeled in the airport master plan set an important framework for Smithson's later Land artworks, and by extension the historical category of Land art more generally.<sup>168</sup>

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at some given place, and is used in airport design to determine the directional orientation of primary and cross-wind (secondary) runways.

<sup>167</sup> Smithson lays out his site/non site theory, in which gallery-bound sculptural objects, maps, and texts exist in a relay relationship with the landscapes to which they make reference in the brief statement, "A Provisional Theory of Non-Sites" (1968), in Flam, ed., 364. See also "Earth," in Flam, ed., 177. We might think here, in particular, of the repetitive logic of TAMS' planning documents, their pseudo-evolutionary build up of symbolic representations of the airport site. With each new study of water supply systems, sewage collection systems, power supply systems, hydrant fueling systems comes a logical experience of repetition with a difference, a subtle recalibration of the relationality between diagrammatic representation and site.

<sup>168</sup> See Paul Cummings, "Interview with Robert Smithson for the Archives of American Art, Smithsonian Institution," in Flam, ed., 291. Though this history itself has perhaps been over invested in securing Smithson as the primary protagonist of Land art history. See the catalog for Philipp Kaiser's and Miwon Kwon's exhibition "Ends of the

The relatively few in-depth accounts of Smithson's D/FW Airport project have situated visualizations of infrastructure as one among several representational modes (nineteenth century landscape studies, science fictional environments, and U.S. Geological Survey maps, for example) that influenced the artist's epistemological inquiries into the production of space during the 1960s and 1970s.<sup>169</sup> Art historian Ann Reynolds, in her influential study of Smithson, argues that civil engineering's "visual rhetoric" as controlled by a set of "linguistic rules of functioning" helped to mobilize Smithson's broader engagements with structuralist theory in the late-1960s, enabling the artist to explore language, building, and cartography as overlapping systems of signification.<sup>170</sup> Relatedly, architectural historian Mark Linder, in the only extended analysis of Smithson's work on architectural discourse proper, has argued that Smithson's writings and artworks, particularly those related to the D/FW Airport project, constitute a critical reevaluation of "basic conventions of architectural representation" as they negotiate the relationship between interior, building form, and site. Effectively bringing the well-developed discourse on Smithson's structuralist reading of 1960s visual culture to bear on architectural rendering categories such as

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Earth: Land Art to 1974" for a curatorial and scholarly address to this received history's aporias: Philipp Kaiser and Miwon Kwon, eds. *Ends of the Earth: Land Art to 1974* (Munich: Prestel, 2012). See also Chapter One of this dissertation.

<sup>169</sup> See Smithson bibliography in Note 8 of this chapter.

<sup>170</sup> Reynolds, 143. On Smithson and language, see also Craig Owens' influential essay "Earthwords," to which Reynolds' study is indebted. Craig Owens, "Earthwords," *October* 10 (1979): 120-30.

plans, sections, and elevations, Linder situates Smithson's wide-ranging theories on space within a postwar architectural culture invested in representational practices beyond the design and projection of realizable buildings.<sup>171</sup>

Yet such readings of Smithson's 1960s art and criticism on the production of space have developed only one side of a historical dialectic. In analyzing the artist's ideas about landscape, spatial and linguistic semantics, and space-time travel, these accounts have set up technical discourses on space as an abstract field without its own historical language of representation and material output. And yet in the D/FW Airport project Smithson was not only engaging with the *discourses* of civil engineering and planning as broadly-defined technical fields, but also materially engaging with, intervening into, and reworking the processes and diagrams used by engineers and planners to "produce space" as such. Art historians have not adequately delved into the visual logic of this other zone of spatial production, sited in engineering and planning, which (quite literally) constituted the "expanded field" engaged in Smithson's work on the D/FW Airport master plan, and arguably his Land artworks and non-sites. Put another way, there is another side to the story of Smithson's "mature work" beginning in 1967 that art history has neglected: What type of spatial planning material did Smithson actually use in/as his art, and what were the precise operations of this type of representation? What was the airport master plan's historical status in the 1960s-1970s, a period of epochal change in planning and

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<sup>171</sup> Linder, 133-171.

engineering discourse as well as the span of Smithson's all-too-brief career?<sup>172</sup>

Close attention to the visual syntax and disciplinary context of the airport planning documents produced by TAMS *alongside* analysis of Smithson's work discloses ideas about the changing logic of the production of space that are only visible in the interchange between the disciplines of art and planning. For, within the airport master plan, apparent categorical incommensurabilities--presence/absence, present/future, diagrammatic/geological--are provisionally aligned not only through conceptual projections of the airport's scale and structure, but also through the representational coexistence of the site's past, present, and future. As informational double of a site, the master plan overlays an imaginary dimension<sup>173</sup> onto the plane of real space (as represented in maps or aerial photographs of the land on which the site is situated), forcing a double vision in which one state of space is viewed in terms of another. Or so the master plan reads when it is re-presented as a site for advanced art, as Smithson engaged it.

If, within the planning documents themselves, this relationship is sublimated as an apparent technical precondition of site development, within Smithson's re-appropriations of the documents the

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<sup>172</sup> As is well known, the artist's untimely death took place in 1973, at the age of 35.

<sup>173</sup> Smithson wrote in his 1968 "Provisional Theory of Non-Sites" that the non-site is a "three dimensional logical picture that is *abstract*, yet *represents* an actual site in N.J. (The Pine Barrens Plains). It is by this three dimensional metaphor that one site can represent another site which does not resemble it--thus *The Non-Site*" (emphasis in original), Flam, ed., 364.

social, political and historical stakes of spatial production become an active, operational, malleable syntax. Seizing on the speculative language of epochal infrastructural transformation central to the airport project, Smithson rethought the technical basis of TAMS' documents, plans and drawings as the prospectus for an expanded field of art. In his analysis, the "air terminal" could be transposed to figure "an alphabet of sites."<sup>174</sup> Whereas the expanded field explored in Noguchi's work centered on the sited interplay between the urban ground plane and zoning laws, Smithson's expanded field in the context of the D/FW Airport project was more categorical: The systems of representation used to model the new scale of infrastructure networks during the jumbo jet age. TAMS' master plan was the materialization of this infrastructural imaginary. Through it, Smithson saw the land circa 1966.

### *I. Jumbo Jet Age Geography*

Smithson's interest in the transforming logic of spatial production during the 1960s predates his consultancy with TAMS on the D/FW Airport master plan, as evidenced in several of his 1960s essays on urban and exurban space.<sup>175</sup> In these writings, quanta of historical

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<sup>174</sup> Smithson, "Towards the Development of an Air Terminal Site," in Flam, ed., 55-56.

<sup>175</sup> Smithson's understanding of 1960s land and airspace as administered by modular or grid-like systems is primarily articulated in three well-known essays from 1966-67: "The Crystal Land" (1966), "Entropy and the New Monuments" (1966); and "Toward the Development of an Air Terminal Site" (1967). During the same period, the influential artist and critic Gyorgy Kepes was also exploring the modular aspects of crystalline structures in terms of the art-technology nexus. See

information are organized and processed at the dimensional scale of the expanding U.S. city, as seen through the perspectival lens of the "crystalline network," which Smithson conceived as an organizing principle and effect of the postmodern production of space (the artist referred to the experience of space in the 1960s as akin to registering and moving through a "crystal land").<sup>176</sup> A key concept in Smithson's thinking in relation to urbanism, engineering and infrastructure, the "crystalline" connoted a pseudo-regularized accretion of spatiotemporal transformations, literally a concretization of parallel developments in space and time. Both organic and artificial/cultural in its bases, the crystalline network was the very prototype of a material system encompassing both states of space, the earthen ground and the technical plan. Smithson's concept of the "crystal land," a vision of the 1960s U.S. urban landscape that looks forward to his work on TAMS' airport master plan,

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Gyorgy Kepes, introduction to "The Visual Arts Today," *Daedalus* special issue (Winter 1960): 3-12. On the correspondences between Smithson's and Kepes' work, see Reinhold Martin, "Organicism's Other," *Grey Room* 4 (2001): 34-51.

<sup>176</sup> "The Crystal Land," published in the May 1966 issue of *Harper's Bazaar*, recounts a field trip to the Upper Montclair Quarry in Upper Montclair, New Jersey undertaken by Smithson, his wife Nancy Holt, and Julie and Donald Judd. Even amidst this ostensibly remote place, Smithson orients us in terms of the city: "From the quarry cliffs, one could see the New Jersey suburbs bordered by the New York skyline." Elsewhere, the writer registers high-tension towers, electrical cables, and radio towers, signs of urban infrastructure that encroach upon the exurban landscape. A "sense of the crystalline prevails," Smithson observes, before elaborating his claim through a series of images traversing various modes of visibility: He makes reference to monotonous rows of modular housing blocks (an elevation view, seen *en face*) and relates them to the highways that crisscross the towns and become man-made geological networks (the aerial or plan view). See Robert Smithson, "The Crystal Land," in Flam, ed., 7-9.



in turn became a means of cognitively mapping the contemporary city at a point when urbanism's spatial ambitions seemed to radically exceed conventional modes of representation.

The writings that emerged from Smithson's observations of the urban environment during these years, which primarily took place in New York and New Jersey, close to the artist's home in Manhattan, might initially seem at a conceptual distance from his work on the D/FW Airport project. But to confront U.S. airport design in 1966 was also to confront the national urbanist vanguard. During his consultancy, Smithson worked through planning documents that convincingly modeled the transformation of a no-place prairie into a future interstitial city--a node of urban growth that would eventually stimulate the meeting of the two extant metropolises as the "Dallas/Fort Worth Southwest Metroplex."<sup>177</sup> This was a new and largely

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<sup>177</sup> Developed according to, on the one hand, D/FW's growing electronics and aerospace industries, and on the other, the metroplex's strategic position at a "center of the world" (equidistant between America's east and west coasts, as well as between Europe and Asia), the Texas site came to be seen as inseparable from global systems of exchange. The land that would eventually become the site of the D/FW Airport is located exactly seventeen miles from Dallas and seventeen miles from Fort Worth, precisely equidistant from both, according to the strict dictates of both city governments. Though ostensibly without economic, cultural, or scenic interest, this land nonetheless rested in 1975 within the limits of four different incorporated cities within two counties, thus necessitating community input from multiple municipal government agencies.

Beyond the exigencies of negotiations with multiple, often-conflicting local interests, the \$700 million airport relied upon the orchestration of a uniquely complex funding structure. The land was purchased by the cities of Dallas and Fort Worth for \$58 million. The Federal Government contributed \$62 million to the project. The bulk of the cost for constructing the airport came from revenue bonds underwritten by joint use agreement with eight major airlines that would eventually set up tenancy at the airport. The investment was justified by a belief that the centrally located airport would do for

untested model of regional planning (one whose implications have perhaps only recently come to full fruition, through 1990s iterations of the "megapolis" in a globalized geoeconomic context<sup>178</sup>) of which the Dallas/Fort Worth area was the prototype. Indeed, the neologism "metroplex," meant to describe the urbanization of a region around two or more center points of relatively equal significance, was initially a designation unique to this geographical area, such that the D/FW Airport master plan could be said to have defined the "metroplex" as an urbanist concept and strategy [Fig. 2.8].<sup>179</sup>

The genesis of TAMS' designs reflected these broader paradigm-shifts in the conception and production of the city, as a patterned and modular model of experimental urban growth, even as Smithson's work registered the same ground shifts from the perspective of advanced art discourse and practice. The two trajectories appear to have met during Smithson's lecture at the 1966 symposium "Shaping the Environment: The Artist and the City," hosted by the Yale School of

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Dallas/Fort Worth what the railroads had done for Chicago, alter the socioeconomic base of an entire region. See Scott and Davis, *A Giant in Texas*.

<sup>178</sup> See the study of China's Pearl River Delta undertaken by Rem Koolhaas/OMA and the Harvard Graduate School of Design Project on the City in *Project on the City I: Great Leap Forward*, eds. Chuihua Judy Chung et al (New York: Taschen, 2002).

<sup>179</sup> Local histories of the Dallas/Fort Worth region focus on the drawn out conflict between the two cities. In ways mostly symbolic, the space between cities was contested ground claimed both by Fort Worth, which fashions itself the quintessential Texas city of rodeos, cattle drives, railroads, and oil, and Dallas, which imagines itself less bound to a regional identity (and more economically dependent upon late capitalist industries such as banking and insurance). See Ivins, "Texas-scale Airport."

Art and Architecture.<sup>180</sup> Based on Smithson's published recollections of the event, his talk there was likely related to the historical situation outlined in his "Two Attitudes Towards the City,"<sup>181</sup> an unpublished document wherein he laid out two lists of discrete spatial, techno-scientific, social, and representational attitudes--one descriptive of the "old city" and one of the "new city." According to the essay, crystalline structures, with their implications of modularity, repetition, and potentially infinite expansion, are the fundamental building blocks of the new city. The old city, in contrast, remains fixated on the classical ideals of Renaissance humanism. Furthermore, the new urban structure is impossible to comprehend according to the old standards of artistic representation, by which "life creates art" (i.e., the city as art's preset subject or context): "Art fabricates life," Smithson wrote of the new city, in a phrase that looks forward to postmodern theories of hyperspace and the simulacrum.<sup>182</sup> And to make sense of this fundamental transvaluation,

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<sup>180</sup> The symposium was sponsored by the Yale Arts Association, and was part of the School of Art and Architecture's offerings for that year's Alumni Week. Other participants were the artist Brian O'Doherty, the critic John Hightower, and the philosopher Paul Weiss. The topic of Smithson's presentation was, as the artist remembers it, "crystalline structures," specifically a discussion of the city in terms of a crystalline network. In his only published account of his meeting with Prokosch, Smithson relays rather vaguely that the architect inquired as to whether the artist would "like to participate in the building of the Dallas-Fort Worth Airport, in terms of trying to figure out what an airport is." See Flam, ed., 290-291.

<sup>181</sup> Robert Smithson and Nancy Holt papers, 1905-1987, bulk 1952-1987. Archives of American Art, Smithsonian Institution. Box 3, Folder 57.

<sup>182</sup> On the broader art historical context of the relationship between artistic representation and models of urbanism, see Rosalyn Deutsche, "Representing Berlin," in *Evictions: Art and Spatial Politics*

the artist proposed new epistemological methods of inquiry as well, that the "physical sciences," with their emphasis on space-time continuous models of multidimensional change rather than evolutionary chronologies based in the present, should supersede earlier "biological" metaphors of urban development.<sup>183</sup>

In response to Smithson's observations, TAMS partner Walther Prokosch, a specialist in airport design and partner-in-charge of the D/FW project who was in the symposium audience that day, proposed that the artist might contribute his ideas to the airport master plan.<sup>184</sup> Prokosch already had something of the crystalline in mind for the airfield layout by then, as early drawings dated June 1966 indicate [Fig. 2.9]. And Prokosch had been developing, since the 1940s at least, a series of templates for airport planning based on the unique design and engineering problems presented by the space-time continua of airport operations, a method the architect termed, in a phrase that reads now as a sub-line of Smithson's crystal land, "four-dimensional planning."<sup>185</sup>

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(Cambridge, Mass.: MIT Press, 1996), 109-158 and T.J. Clark, *The Painting of Modern Life: Paris in the Art of Manet and His Followers* (New York: Alfred A. Knopf, 1984).

<sup>183</sup> On Smithson's engagement with biological metaphors in the histories of the visual arts and built environment, especially as they pertain to the artist's reading of historian George Kubler's work, see Pamela M. Lee, "Ultramoderne: Or, How George Kubler Stole the Time in Sixties Art," in *Chronophobia: On Time in the Art of the 1960s* (Cambridge, Mass.: MIT Press, 2004), 218-256.

<sup>184</sup> Prokosch was in attendance as an alumnus of Yale's architecture program. Evans, 95.

<sup>185</sup> See Prokosch's "airport design textbook," co-authored with Charles Froesch: *Airport Planning* (New York: Wiley and Sons, 1946). Prokosch's

In TAMS' master plan, the particular intensity of the interface between spatial and temporal planning considerations in aviation projects (the airport as a "four dimensional" field) was conveyed in material and visual terms. The airport layout was thought and rethought as a conductor and meeting place of dynamic spatiotemporal systems such as air traffic, ground transport, boarding and deplaning of passengers. At the same time, during the preliminary planning period of 1966-67, the future growth of the airport itself was put forward as dynamically unsettled, so that the terminals and airfields (as we will see) did not appear in the master plan as fixed forms, but rather templates for systemic growth, across the fourth dimension of time.

## II. *The Airport Master Plan as Site*

What did Smithson encounter in the pages of TAMS' planning documents? What images, information, logical arguments, exactly? What compelled his aesthetic re-appropriation of the master plan typology? And what about *this* master plan, the prospectus for the largest airport ever conceived at the time? What did this schema in particular disclose about the era's infrastructural imaginary? These questions are bracketed by intersections of art history, civil engineering, and

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theory of four-dimensional planning is related to Siegfried Giedion's famous concept of "space-time in city planning," outlined in his landmark text *Space, Time and Architecture* (1941). Giedion writes that the "contemporary planner...must create a 'dynamic field'...In place of the rigid master plan proposed in the early years of the century, a flexible 'master program' is now being put forward, one that allows for changes and that leaves open-ended possibilities for the future." Siegfried Giedion, *Space, Time and Architecture* (Cambridge, Mass.: Harvard University Press, 1941), 862.

urban planning particular to the 1960s. Smithson's recalibration of art's logical and material grounds in his first concepts for non-sites and earthworks<sup>186</sup> was related to the unique convergence in TAMS' master plan of several paradigm shifts in the conception and administration of space: Not only rapid growth of the global transportation and exchange network with the arrival of the jumbo jet age,<sup>187</sup> but also new representational strategies in civil engineering and urban planning responsive to vast infrastructural transformation, and an expanded federalist structure of public works funding to enable organized implementation of globalizing U.S. economic ambitions during the mega-project era.<sup>188</sup>

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<sup>186</sup> Besides the essay "Towards the Development of an Air Terminal Site" (1967), which is based primarily on Smithson's consultancy with TAMS, see the proposals "Proposal for Artworks to be Built on the Fringes of the Fort Worth-Dallas Regional Air Terminal Site" (1966-67) and "Untitled (Air Terminal-Windows)" (1967) and the essays "The Crystal Land" (1966), "Entropy and the New Monuments" (1967), and "A Tour of the Monuments of Passaic, New Jersey," (1967) as well as an essay from the next year, "A Sedimentation of the Mind: Earth Projects" (1968). All are included in the *Collected Writings* edited by Flam.

<sup>187</sup> Between the early 1950s and the mid-1960s, revenue passenger miles flown by scheduled airlines in the U.S. increased by a multiple of six. Between the mid-1960s and mid-1970s (the projected date of the D/FW Airport's completion), the number was expected to more than double in turn. Thomas Sullivan, "The Over-all Preliminary Plan for the Construction of the Dallas-Fort Worth Regional Airport" (1968), Dallas Central Public Library, Dallas Documents Collection.

<sup>188</sup> The most comprehensive study of the D/FW Airport's funding structure as a model of the new Federalist economic and political structures of the 1960s-70s is George Edward Burlage, "Federalism's Expanding Dimensions: A Case-Study of Decision Making at the Dallas-Fort Worth Regional Airport" (M.A. Thesis, North Texas State University, 1969). For a broader study of the era's public works in terms of U.S. urban politics and economics, see Alan Altshuler and David Luberoff, *Mega-Projects: The Changing Politics of Urban Public Investment* (Washington, D.C.: Brookings Institution Press, 2003).

Each of these phenomena encompassed a set of technical, political and economic conditions that TAMS projected onto what was, in 1966, a barren expanse of prairie halfway between the Texas cities of Dallas and Fort Worth [Fig. 2.10].<sup>189</sup> Seizing on the apparent irreconcilability of this then economically and politically unremarkable landscape and the infrastructural nucleus the site was meant to become a decade later, TAMS put forth a planning language whose syntactical mix of hyper-administrated data analysis and hyper-imaginary technological modeling could itself be seen as a 1960s planning paradigm. Politicized spatial production often masqueraded as techno-scientific problem solving in this era, and urban expansionist discourse was a primary crux for the playing out of the conversion.<sup>190</sup>

Among the data used to undergird the airport plan's historical singularity, perhaps the most poignant was an image overlay showing

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<sup>189</sup> In two unrealized proposals related to the D/FW airport site, Smithson seems have wanted to maintain, or at least contend with, this incommensurability between the representation and "fact" of the airport site. In a "Proposal for Earthworks and Landmarks to Be Built on the Fringes of the Fort Worth-Dallas Regional Airport Site" (1966-67), Smithson outlines an exhibition at Dwan Gallery in New York that will take place simultaneously with construction of site-specific works by Robert Morris, Carl Andre, Sol LeWitt, and Smithson in the airport's clear zones. He suggests that photographs of the construction process should be shown at the gallery, as well as a map of the airport site enlarged to fit the gallery floor, replete with scale models of the artworks. See Flam, ed., 354-55. In the proposal "Aerial Art" (1969), Smithson suggests that the completed D/FW Airport terminal complex might include a gallery or museum that would provide "visual information" on artworks (by the same artists) located in inaccessible zones on the airport's fringes. See Flam, ed., 116-118.

<sup>190</sup> Among the most prominent example of this discursive production at the level of national policymaking was the 1967 symposium "Science, Engineering and the City," jointly organized by the National Academy of Sciences and the National Academy of Engineering. The transcript of the symposium proceedings appears as *Science Technology and the City* (Washington, D.C.: National Academy of Sciences, 1967).

the outline of the airport site, at twenty-seven square miles, to be comparable in area to Manhattan [Fig. 2.8]--a concept whose relation to the geopolitics of unequal land valuation had its own distinct, subliminal power, beyond conveying the unprecedented scale and size of the D/FW Airport project. Following the implications of this promotional image, planning of the airport project was meant to signal a broader transvaluation of geoeconomic values. "The air is our ocean," declared early publicity material,<sup>191</sup> as if to announce a punctual and total reversal in the direction of cultural-gravitational pull, with airfields superseding seaports as the world's dominant infrastructural nodes.<sup>192</sup> TAMS' charge in 1966 was to represent advanced engineering as a force capable of transforming the twenty thousand-acre *tabula rasa* of the air terminal site beyond recognition,<sup>193</sup> through a vast categorical displacement in spatial production: water into air, one stratum of space (geological) giving way to another (infrastructural).<sup>194</sup>

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<sup>191</sup> "The Air is Our Ocean," pamphlet distributed by Dallas-Fort Worth Publicity committee to promote referendum on regional airport, c. 1966.

<sup>192</sup> The phrase "the air is our ocean" furthermore made reference to the fact that the Dallas-Fort Worth region was in 1966 the largest metropolitan area in the world without access to a major waterway. The re-circuiting of global exchange networks, historically based on maritime networks, into the domain of aviation thus had particularly high stakes in this region.

<sup>193</sup> Site plans for the D/FW Airport drafted during 1966-67 give a range of estimates for the overall acreage of the site, between seventeen-thousand and twenty-thousand acres, ostensibly dependent on the changing nature of land acquisition projections.

<sup>194</sup> Although the Dallas-Fort Worth area is remote from a major seaport, its development was impacted by another form of transnational infrastructure--namely, the railway system. The area's dominant



TAMS' preliminary site plan, as Smithson encountered it in 1966, had been conceived in response to a singular period in aviation infrastructure history, marked by fundamental flux in the scale and logic of air travel networks. Like the urbanist avant-garde during this period, the world's first jumbo jetports mobilized an expansive discourse of technics towards realization of uncertain ends. Airspace simulation studies developed by TAMS specifically for the D/FW Airport allowed the planners to project air traffic saturation and patterns for the years 1975, 1985, and 2001 (with 1975 reflecting the planned completion date of the airport complex). These studies in turn determined the details of the master plan, as, for instance, certain taxiways could accordingly be eliminated and others deferred for future construction.<sup>195</sup> The D/FW Airport was thus notable for being the first airport that "started in the air,"<sup>196</sup> its functional layout and projected physical form having been determined by speculative projections of airspace relative to historical ground-space. Thomas Sullivan, the airport project's Executive Director, would sum up the

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position as the commercial and financial capital of the Southwest during the 1960s was originally based on business and civic leaders' promotion of Dallas, and to a lesser extent Fort Worth, as focal points of the railway system. The cities became points where the agricultural and mineral products of the Southwest were consolidated for shipment outside the region and where goods from outside the region were distributed to destinations within the region. See Robert E. Coughlin et al., *Economic Impact of The Dallas-Fort Worth Regional Airport on the North Central Texas Region in 1975: A Report to the North Central Texas Council of Governments from the Regional Science Research Institute* (Philadelphia: Regional Science Research Institute, 1970), 55.

<sup>195</sup> Thomas Sullivan, "Flughafengigant Dallas/Fort Worth," *Airport Forum* 2 (1973): 37.

<sup>196</sup> Ivins, 16.

epochal change by delivering the image of the airport as an immense functional apparatus, a "tool" as opposed to a "monument."<sup>197</sup> Smithson read the transition more categorically: "engineering" systems having come to displace "the actual structure of buildings" within the aesthetic experience of 1960s mega-projects.<sup>198</sup>

TAMS' D/FW Airport master plan furthermore cemented the 1960s-70s sea change in airport design history by which rapid expansions of the aviation field were no longer accommodated by the constant renovation of postwar terminal buildings conceived according to a quickly-outmoding notion of the air terminal as symbolic and imagistic urban gateway (typified by the "Airport City" model adopted by New York's Idlewild Airport, now John F. Kennedy Airport, in the late-1950s [Fig. 2.11]),<sup>199</sup> and were instead conceptually streamlined into perfect instruments of mobility, flexibility, and expandability.<sup>200</sup> The primary

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<sup>197</sup> Ibid., 59.

<sup>198</sup> Flam, ed., 291.

<sup>199</sup> The "Airport City" model connoted a collection of unique buildings, each dedicated to a single airline. Idlewild maintained prior airport models' embrace of iconic architectural form but emphasized technologically innovative modernist forms. Among the first structures at Idlewild was the Pan American Terminal (1960) designed by Walther Prokosch. Other terminals designed by prominent architects included the National Airlines Sundrome by I.M. Pei (1970) and the famous Trans World Airlines Terminal by Eero Saarinen (1962). As such structures became insufficient to accommodate aviation needs, one response was the warped form of the "finger model," long, fingerlike extensions of pedestrian walkways extending from a central space and providing an increased number of gates. The result was an absurdly long journey from airport entrance to departure gate. The basic structure of the D/FW Airport, as outlined in TAMS master plan, is a direct response to the circulatory problems posed by the "finger model." See George McCue, "Airport Architecture: The Dallas-Fort Worth Solution," in *Art in America* 62.1 (January/February 1974).

point of innovation within TAMS' planning documents was not the architectural form of the terminal buildings themselves, which were purely functionalist, tri-level boxes in the drawings, but rather their systematized arrangement along an approximately three-mile-long central ground circulation spine<sup>201</sup> that would minimize spatial and temporal demands in the movement of cargo, airplanes, and passengers from one terminal structure to another.<sup>202</sup>

Through a linked series of pages in the *Airport Master Plan*, TAMS diagrammed growth models for these terminal buildings according to projected airport usage demands in 1975 and 1985; the structural growth of the terminals became a way of modeling the convergence of space, time, and motion [Figs. 2.12a and 2.12b]. Though the central ground transportation spine remains in place as a kind of axial line

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<sup>200</sup> On the emergence of the jumbo jet age, see, for instance, "Airport: A Growing Field for Architects," *Architectural Record* 142 (September 1967): 93-96; Clinton Page, "Designing for the Supersonic Era," *Architectural and Engineering News* 10 (May 1968): 26ff; Rush E. Ziegenfelder and William H. Wilkinson, "Super Airport Planning," *American City* (March 1966), 108ff.

<sup>201</sup> The section of this spine that connected the terminal structures was in turn only one part of a longer circulation axis connecting various primary and secondary functions of the airfield. The north-south orientation of the circulation spine related to the airport's situation amidst a projected highway network connecting Dallas and Fort Worth: In accordance with the layout of the major highways connecting the cities, the two major access points to the airfield by car were located at the north and south ends of the site.

<sup>202</sup> In conversation, Bruce Bleakley, Dallas/Fort Worth aviation historian and director of the Frontiers of Flight Museum in Dallas, emphasized to the author that circulation infrastructure was TAMS' primary contribution to the long development of the D/FW airport. Sullivan was in fact unsatisfied with the lack of architectural attention to the design of the terminal buildings themselves, and so was instrumental in the decision to award the design contract for the Airport to the St. Louis-based HOK, rather than to TAMS. Bruce Bleakley, interview with the author August 6, 2013, Dallas.

of orientation, the terminal buildings themselves appear to proliferate, leaf-like, in a staggered pattern on either side of this line.<sup>203</sup> While in fact denoting massive structures with complex programs, they read within the master plan as diagrammatic units that could be easily manipulated or reset, a basic building block of the airfield site. This was the effect amplified in Smithson's own interpretations of the site layout's overall logic, where the dominant sense of spatial organization is defined by stacked, horizontally-oriented forms overlapping a vertical axis at regular intervals, the forms of the terminals themselves "stepped" in an illusionistic play on the picture plane's flatness (and with the sketched circles at bottom right based on TAMS' notation for airplane parking spaces) [Fig. 2.13].<sup>204</sup>

The layered, interlocking, systemically regularized quality of Smithson's drawing is not only a formal exercise, but also a direct translation of the compacted, airtight logic of TAMS' planning schema. TAMS' master plan sought to deduce this epochal infrastructure project into a set of layered and interlocking datasets. The documents' delivery of information aimed for coolness and precision. But to read

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<sup>203</sup> Writing on the realized D/FW Airport, as designed by Guy Obata, the architecture critic Reyner Banham cited the airport design as an example of a built "megastructure," whose modular and expandable form Banham described as based on a "plug in" or "clip on" concept. See Reyner Banham, *Megastructures: Urban Futures of the Recent Past* (New York: Harper & Row Publishers, 1976), 180-182.

<sup>204</sup> The critic George McCue, writing in *Art in America*, concluded of the project: "The monumentality of D/FW lies not in any imagistic terminal buildings, but in its character as an immense totemic imprint on the reddish flatland, an earth sculpture, with constructed details in low profile, that presents itself in the swift rhythm of recurring forms. This is evident only from the air." McCue, 77.

these reports carefully was to register something like the thoroughgoing ambition of a cosmographic atlas, with page-to-page oscillations between imposing composites of data and striking diagrammatic synopses of the planning *Gestalt*. In diagrams such as the one discussed at this chapter's opening, TAMS deployed both strategies simultaneously, so that the informational and the speculative appeared to be co-constitutive. This was the kind of revelation-out-of-spatial overload that the artist Tony Smith, looking out at another unfinished infrastructural project of the era, the New Jersey Turnpike, during the 1950s, famously called "artificial landscapes without cultural precedent," spaces "that had not had any expression in art."<sup>205</sup> Smithson, working through his copies of TAMS' planning documents (and consciously linking his observations to Smith's from the decade before), called it a newly evident "syntax of sites."<sup>206</sup>

### III. *The Syntax of Sites*

Smithson's phrase "syntax of sites," from which this dissertation takes its title, appears in the essay "Towards the Development of an Air Terminal Site" (1967), in which Smithson mobilizes his experience working with the D/FW Airport master plan into a far-reaching treatise on the expanded terms through which space was produced, managed, and represented during the 1960s. In Smithson's thinking, the conceptual and physical re-formatting of the earthen ground, through massive

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<sup>205</sup> Samuel Wagstaff, Jr. "Talking with Tony Smith." *Artforum* 5.4 (1966): 79.

<sup>206</sup> Robert Smithson, "Towards the Development of an Air Terminal Site," in Flam, ed., 55.

engineering and planning projects such as the D/FW Airport, had a twinned set of implications: On the one hand, it revealed cultural space to be a predictable grammar, a syntax, produced at the intersection of infrastructure development, systems analysis, and technologies of visualization. On the other hand, this syntax was itself a historical product of representation, which could be reset, reconfigured, reformatted.<sup>207</sup> Thus at times, Smithson suggested, this syntax could elucidate or "expose" a landscape, revealing its systemic constitution. At others, it could function as an instrument of remarkably far-reaching spatial control, projecting a totally imagined, future space with convincing technical authority.<sup>208</sup>

Yet, why would the "syntax of sites" reveal itself in this historical moment? It was not that the syntax was new, a revelation out of thin air disconnected from the deep history of spatial planning.<sup>209</sup> Smithson was careful in this essay and in other writings to dialectically connect the "artificial landscapes"<sup>210</sup> of the 1960s to

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<sup>207</sup> Another important reference on the relationship between structural linguistics and advanced contemporary art, particularly Land Art, is Owen's "Earthwords."

<sup>208</sup> Smithson states that "all air and land is locked into a vast lattice," before concluding, "One does not *impose*, but rather *exposes* the site--be it interior or exterior. Interiors may be treated as exteriors or vice versa. The unknown areas of sites can best be explored by artists," Smithson, "Towards the Development of an Air Terminal Site," 54, 60.

<sup>209</sup> On this deep history, see, for example Spiro Kostof, *The City Shaped: Urban Patterns and Meaning Through History* (London: Thames & Hudson, 1999) and Vincent Scully, *Architecture: The Natural and the Manmade* (New York: St. Martin's Press, 1991).

<sup>210</sup> Wagstaff, 79.

historical modes of spatial representation and projection.<sup>211</sup> However, through recourse to Smith's famous statement on "unfinished" infrastructure, Smithson was able to deliver an affective sense of the scale, the logical compaction, and the technological overload of the new infrastructure: It was not just that projects such as the New Jersey Turnpike (itself a small fragment of the nation-spanning network of highways and urban expressways then in formation) were vast, monumental in a minimal way, but also that they seemed to trouble the geological fact of the earth beneath them, to make the scale and orientation of the "land" fundamentally less accessible.<sup>212</sup> So disruptive was the overlay of the new infrastructure onto the ground that what before seemed phenomenologically immediate now seemed an abstract system made provisionally material: "something mapped out but not socially recognized," in Smith's words.<sup>213</sup>

Within the context of his work on the D/FW Airport master plan, "syntax" connoted for Smithson both the spatial ambitions and the speculative outlook of the preliminary engineering process, which the artist came to prioritize over the form-driven considerations of architectural design.<sup>214</sup> As outlined by TAMS, these initial engineering processes extended from "basic planning considerations...for systems analysis techniques" to be applied to the airport (enumerated in the

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<sup>211</sup> Smithson, "Towards the Development of an Air Terminal Site," Flam, ed., 59.

<sup>212</sup> Ibid.

<sup>213</sup> Ibid.

<sup>214</sup> Flam, ed., 291.

1966 documents *Site Selection Study*<sup>215</sup> and *Airport Layout Plan*) to “preliminary master planning and design” (presented the next year in the reports *Terminal Area Concepts* and *Airport Master Plan*).<sup>216</sup>

Alongside these formalized reports to municipal agencies in Dallas and Fort Worth, TAMS produced myriad studies on regional planning factors, land use, airport trip patterns, military operations, air cargo estimates, geology and soils, surface and ground water that often saw them repeatedly revisiting and reworking the same datasets, using the future airport site as a constant limit condition (a “ground”) for each successive systems model [Fig. 2.14].

Information-driven systems appeared to seamlessly turn into spatial schemas within the pages of TAMS’ master plan, following a postwar design methodology that TAMS partner Ernst Schwiebert referred to as “systemic architecture.”<sup>217</sup> Reflecting both the infrastructural focus of such large-scale TAMS projects as the D/FW Airport and the encroachment of systems thinking into the 1960s milieus of architecture, engineering, and planning more generally, Schwiebert’s

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<sup>215</sup> In his 1967 writings, Smithson adapted the title of TAMS’ first comprehensive planning report as a proposed artistic procedure: “‘Site Selection Study’ in terms of art is just beginning,” he writes in “Towards the Development of An Air Terminal Site,” Flam, ed., 60.

<sup>216</sup> Tippetts-Abbett-McCarthy-Stratton, *Airport Master Plan: Dallas-Fort Worth Regional Airport* (New York: T-A-M-S, 1967), 3-4.

<sup>217</sup> Ernst Schwiebert, “Systemic Architecture,” *Arts Magazine* 41.10 (1967): 16-18. Scholar Carlton Evans, drawing on an interview with Schwiebert, emphasizes Smithson’s central role in securing this essay’s publication in an art magazine. See Evans, 101-104. Though Schwiebert presents the concept of systemic architecture as “emergent” at the time of his writing, a very similar theory of the relationship between architectural form and program was at play in the 1950s work of Gordon Bunshaft and others, as discussed in Chapter One of this dissertation.



term described an architecture that had pivoted radically away from the Wölfflinian discourse of formalist development, subordinating sculptural aesthetics to the optimized processing of planning dictates. Citing the work of British architects James Stirling and James Gowan (and drawing a historical lineage that encompassed Louis Sullivan, Walter Gropius, and Louis I. Kahn), Schwiebert proposed in a 1967 essay that the most advanced recent buildings served as systemic materializations of a set of programmatic conditions: site, use requirements, regional development, climate and materials. At once artificially intelligent and functionally organic, such buildings would transpose systems thinking into an integral relationship between an architectural project, its site, and its program. Writing in simultaneity with Smithson's artist consultancy, and deeply engaged with the D/FW airport project as one of its managing partners, Schwiebert seemed to suggest that TAMS' work might be understood as a partial manifestation of underlying social and spatial *infrastructures*, with all the flexibility, modularity, and functionality implied therein.

One particular representational strategy in TAMS' planning documents--that of composite images in which drawn glyphs of the airport are overlaid upon aerial photographs of the site [Fig. 2.15]--deserves special attention in relation to Schwiebert's concept of systemic architecture. We know that Smithson registered this image type as an effective encapsulation of the master plan's spatiotemporal coordinates: He adapted one such page from the planning documents into his own "site plan," an unrealized proposal for large-scale earthworks

by Robert Morris, Carl Andre, Sol LeWitt, and Smithson himself to be executed on the airfield's fringes.<sup>218</sup> This work, *Aerial Map-Proposal for Dallas-Fort Worth* (1967), mobilizes the planning document's illusionistic accord between indexical images of the actual site and schematic renderings of various possible airfield layouts in order to describe a particular site condition for art [Fig. 2.16]. Yet, for the engineers, this type of rendering was a means of contending with the unprecedented scale, within aviation engineering history, of the D/FW Airport site, while at the same time outlining a graphic system that could adequately take stock of the multimodal, and highly speculative, demands of the airport's program. Repeatedly superimposing diagrammatic pictographs of the airport (representing such systems as runway layout, airspace configurations, and regional transportation networks) onto the un-modulated, pre-given field constituted by a sweeping aerial photograph of the prairie site, TAMS collapsed divergent modes of space into a single technical image. These productions also appeared to test and retest functional models of the airport against the "real" conditions of the geological earth, in a

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<sup>218</sup> These four proposals constituted a broader unrealized proposal by Smithson entitled "Aerial Art" (1969). Robert Morris proposed a circular "earth mound" whose radius might extend as much as one thousand feet. Carl Andre proposed either a crater formed by dropping a one-ton bomb from 10,000 feet in the air or an acre planted with Blue Bonnets, the state flower of Texas. Sol LeWitt proposed a six-inch wooden cube to be encased by a cement manufacturer inside an eighteen-inch cement cube, then buried in an undesignated area three-feet underground. Smithson proposed a series of triangular concrete pavements that would result in a spiral effect, with the concrete pavements growing larger in size from the center of the spiral. See Flam, ed., 116-18

singular variation on the concept of planning *in situ*.<sup>219</sup> For "site," in this case, denoted the particular space of the master plan, whose logical dimensions could stretch to convincingly comprehend such spatiotemporal sleights, and to image them as provisionally real. More than the abstract management of information, or a site-less diagram of structural interrelationships, "systems analysis" was in the D/FW Airport project a program of provisional and repetitious spatial production.

Working in relation to these engineering strategies, Smithson repeatedly delimited his drawing practice within the master plan's preset visual and material format. The artist repurposed his copy of *Terminal Area Concepts* (a streamlined planning report based on TAMS' presentations to airline executives), using its pages as work sheets, and analyzed numerous loose-leaf drawings of terminal layouts and circulation provided by TAMS [Fig. 2.9].<sup>220</sup> Such technical representations of the airport site were in turn embedded within a vast apparatus of labor and production commensurate with the civil engineering project's scale. The administrative milieu that undergirded the airport's preliminary planning, as much as the engineering designs themselves, became the subject of Smithson's

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<sup>219</sup> This was a convention specific to postwar civil engineering, an update on the former convention of drawing schematic representations of engineering projects onto topographical maps, and one enabled by the invention of technologically advanced aerial photography. On this historical dynamic, see Holert, "Land Art's Multiple Sites."

<sup>220</sup> A large volume of such documents can be found in Robert Smithson and Nancy Holt papers, 1905-1987, bulk 1952-1987, Archives of American Art, Smithsonian Institution, Box OV 23.

thinking in those years. And the artist's extent of access to the production of space, as a technical, bureaucratic, and social complex, extended beyond the reports mentioned above. Smithson also had in his possession a firm portfolio published by TAMS, which laid out the firm's administrative structure, described its significant projects, its relationship to the technological avant-garde, and included several photographs of project sites (many of them having to do with water, transportation, and energy infrastructure) at early stages of construction [Fig. 2.17].<sup>221</sup> These images were flashes of the 1960s reproduction of space. Their implications were visually and conceptually dramatic--a reformatting of the land, a comprehensive reengineering of the earth. Smithson included two images from TAMS' portfolio as figures in his essay "Towards the Development of an Air Terminal Site,"<sup>222</sup> along with extended captions describing how the images might be seen as provocations of a new relationship between artist, site, and artwork. In Smithson's language, these structures of/in the landscape read as "abstract works of art,"<sup>223</sup> their revelation a function of artistic, as opposed to civil engineering-driven, "site selection."

Smithson detected in the master plan's visualization of "all air and land...locked into a vast lattice"<sup>224</sup> a representational and

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<sup>221</sup> Robert Smithson and Nancy Holt papers, 1905-1987, bulk 1952-1987, Archives of American Art, Smithsonian Institution, Box 17, Folder 6.

<sup>222</sup> Flam, ed., 53, 55.

<sup>223</sup> Ibid., 55.

<sup>224</sup> Flam, ed., 54.

administrative grammar capable of conveying, or exposing, the infra-logic of global spatial transformations. Engineering concepts such as site selection study, development, and *earth works*<sup>225</sup> were integrated into the artist's written and artistic production beginning in 1967, but transformed into a more general language for describing emergent categories and understandings of space: " 'Site Selection Study,' in terms of art is just beginning," Smithson wrote in 1967, referring to the title of one of TAMS' preliminary reports on the D/FW project and testing its functionality outside of its original planning milieu.<sup>226</sup>

Indeed, for one year, Smithson was inside the urban-industrial complex that would go on to serve as a key conceptual concern of his artwork and writing (as well as post-Minimalist practice in the U.S. and Europe more generally). This fact makes his relationship to the era's technocracy particularly complex. On the one hand, Smithson detected planning's excesses, as reflected in the technocratic and bureaucratic force of TAMS' documents themselves. On the other hand, in a situation less familiar to contemporary art history, he was in the unique position of imagining art as itself a viable arena of engagement with the 1960s technocratic milieu, as he was functionally embedded in the latter's discursive and representational territory, albeit briefly.<sup>227</sup>

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<sup>225</sup> Significantly, though the term earthworks would become associated with advanced art beginning in the 1960s, its historical origins are in the milieu of civil engineering and construction.

<sup>226</sup> Smithson, "Towards the Development of an Air Terminal Site," Flam, ed., 60.

The planning systems Smithson encountered during 1966-67, and seemed to internalize in a complex act of identification with TAMS' discursive ethos, as signaled in his essays "Towards the Development of an Air Terminal Site" and "Aerial Art," implicated Smithson himself in its logical structure.<sup>228</sup> Contracted by TAMS at an early stage in the Airport's development (the project was conceived in 1964, and completed in 1974), he found himself one node within the functional constellation undergirding the airport project, which consisted of twenty-three major consulting firms besides TAMS, a complex apparatus that Thomas Sullivan tellingly described as itself a "flexible system" of producers.<sup>229</sup> Smithson's sense of the airport plan was thus constituted in a dialogue between two forms of embodiment: various design layouts of the air terminal site alongside the system of engineers, technicians, and service providers that enabled the project. The new "syntax of sites" encompassed cartographic and social dimensions, new methods of producing and representing space as well as new social apparatuses for managing its production.

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<sup>227</sup> For a well-known example of art historical writing on the relationship between contemporary art and technocratic bureaucracy, see Pamela M. Lee's study of Experiments in Art and Technology program (E.A.T.), "Introduction: Eros and Technos and Civilization," in Lee, *Chronophobia*, 4-34. Also note that in one of the most widely-cited essays on Smithson's D/FW Airport project, Mark Linder refers to Smithson's tenure with TAMS as "something of a marketing ploy," 134.

<sup>228</sup> Smithson added the designation "artist-consultant" to his CV in 1967. Robert Smithson and Nancy Holt papers, 1905-1987, bulk 1952-1987. Archives of American Art, Smithsonian Institution. Box 2, Folder 38.

<sup>229</sup> Sullivan, "The Over-all Preliminary Plan for the Construction of the Dallas-Fort Worth Regional Airport," 7.

Smithson's repetitious, multimodal engagement with the D/FW Airport planning process both art historically orients this early point in his public career and represents an exception with implications for complicating the received discourses on 1960s art. During the 1960s and early 1970s, other artists were exploring the dispersion and displacement of space as mediated by various forms of cartographic or diagrammatic representation: Douglas Huebler's *Locational Piece #1* (1970), for instance, underlines the disjunction of an American Airlines route map and the phenomenological experience of seeing geographical territory as an airline passenger, an experience of inaccessibility (or a kind of technological sublime), rather than legibility. Dennis Oppenheim, in his contribution to one of the paradigm-making exhibitions of Land art, invented a multi-part display format that placed the viewer in conceptual *terra nova* between actions and forms in the "out there" of the landscape and the conventional architectural format of the gallery, using maps, floor plans, and text [Fig. 2.18].<sup>230</sup> And, in work more directly engaged with the political economy of spatial production, Gordon Matta-Clark purchased fifteen tiny plots of leftover land in New York during the early-1970s, lots of unusable proportion drawn in the "aftermath" of zoning or large-scale development projects, and proposed using them as sites for some form of public art.<sup>231</sup>

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<sup>230</sup> Dennis Oppenheim, *Gallery Transplant*, 1969 (Oppenheim's contribution to the 1969 "Earth Art" exhibition at the Andrew Dickson White Museum of Art, Cornell University, Ithaca, New York).

<sup>231</sup> Gordon Matta-Clark, *Fake Estates*, 1973-1974. In addition, two of Smithson's drawings related to the D/FW Airport Project, a terminal

Whereas each of these artists took on the changing terms by which space was designed, managed, and represented during the 1960s-70s, they did so from a remove, as critics of technocratic culture with certain conventional materials of that culture available to their work. Smithson, on the other hand, articulated in his writing and artworks another *positionality* relative to the technics of space, as he turned a contracted consultancy itself into a work--and this bureaucratic turn might equally be seen as an expanded art historical field specific to the era. Rather than merely securing an "insider status" for the artist or, alternatively, representing a mere marketing ploy,<sup>232</sup> the meeting of the professional milieu of civil engineering and Smithson's art (through his professional instantiation as "consultant"), discloses that milieu's historical status circa 1966. As Smithson himself underlined in his writings, the speculative discourse of TAMS' planning documents for the D/FW Airport was not only technocratic hyperbole, but also evidence of 1960s planning's status as an *open system*, an undecided vision of land and airspace.

#### IV. *Infrastructure Between the Diagram and the Prairie*

In a statement written for his 1968 solo exhibition at New York's Dwan Gallery, Smithson explained the formal and conceptual development of a series of sculptures and drawings (including one of his famous non-

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layout plan and a floor plan or section for a terminal building, appear amongst the facsimiles collected in Mel Bochner's well-known artwork from the same years, *Working Drawings and Other Visible Things on Paper Not Necessarily Meant To Be Viewed as Art* (1966).

<sup>232</sup> See Linder's comment in note 76.



sites) in terms of a process of x-raying the insides of artificial spaces such as maps, globes, and diagrams. He speculated:

If the earth is considered to be a planispherical grid map, all rectangular coordinates converge at the fixed points of the poles. At the poles all visual sense of place or site is abolished. Around such fixed points radiate latitude lines. Such lines may be extended into infinite magnitudes. And these magnitudes may be compressed or contracted into three dimensional [sic] artifices (the way the planet earth may be contracted into a global map). I call these three dimensional finite compressions infra perspectives. Since they don't relate to natural visual conditions of room interiors, environments, places, sites, etc. [sic] the terrains are artificial and abstract." <sup>233</sup>

Here Smithson imagines maps as both a counter-referent to the "natural visual conditions of room interiors, environments, places, sites, etc." and as a broader re-conception of Cartesian space, a cultural underlay and overlay that would eventually transform the standard categories of space beyond recognition. Smithson begins his statement by conceiving of the earth "as a planispherical grid map,"<sup>234</sup> signaling the (literally) global ground of his insights, before going on to inscribe such re-descriptions of real space into an invented model of "infra

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<sup>233</sup> Dwan Gallery records, 1959-circa 1982, bulk 1959-1971. Archives of American Art, Smithsonian Institution. Series 2, Box 3, Folder 14.

<sup>234</sup> A "planisphere" describes a map formed by the projection of a sphere or sphere fragment onto a planar surface.

perspectives."<sup>235</sup> The prefix "infra" appears to signal both a state of conditional visibility (a system which is pseudo-visible, or visible/invisible by turns) and a condensation of real space into a geometricized matrix, technical shorthand for the scale of the globe. Writing in the year following his consultancy with TAMS, Smithson brings his experience with the master plan's spatial logic forward into a syntax for art (and sculpture in particular). "Infra-perspective" is a way of organizing an object's state of visibility and phenomenological availability, Smithson seems to say here, just as "infrastructures" are a way of organizing and comprehending the production of space. The artworks installed at the Dwan Gallery in 1968 engaged both definitions of "infra": The non-sites mapped landscapes in a decentered and metaphorical way, jumping between photographic, cartographic, diagrammatic, and geological materializations of space [Fig. 2.19], whereas another group of sculptures (most prominently *Leaning Strata* (1968) [Fig. 2.20]) made material this compaction of abstract spatial organization into a three-dimensional geometric form.<sup>236</sup>

At the same time that Smithson transformed the perspectival devices of mapping into a Minimalist sculptural syntax (as scholars

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<sup>235</sup> Dwan Gallery records, 1959-circa 1982, bulk 1959-1971. Archives of American Art, Smithsonian Institution. Series 2, Box 3, Folder 14.

<sup>236</sup> See exhibition checklist, "Robert Smithson Exhibition, March 2 - March 27, 1968," Dwan Gallery records, 1959-circa 1982, bulk 1959-1971. Archives of American Art, Smithsonian Institution. Series 2, Box 3, Folder 14. Also see Reynolds, 125-133, for a discussion of the relationship between these sculptures and Smithson's highly physical (destructive and reconstructive) treatment of maps in his personal collection.

Reynolds, Eugenie Tsai, and Carlton Evans have observed),<sup>237</sup> he also engaged the new scale of spatial control implied in the "earth as a grid map." Rather than a broadly categorical reading of the administration of space, this latter impulse was a specifically infrastructural reading. It sought to connect advanced art to the massive structures that engineering systems were then producing on the ground. Beginning with the D/FW Airport project, there exists a clear infrastructural line through Smithson's oeuvre. This infrastructural impulse is detectable in Smithson's choice to geographically connect the Land artwork *Spiral Jetty* to the historical point of connection between the Central Pacific and Union Pacific railroads (which constituted the first transnational infrastructure system in 1869).<sup>238</sup> It is furthermore at play in his unrealized proposal to float a barge loaded with bright yellow sulfur along the length of the Panama Canal, emphasizing in particular the Canal's strange orientation as an infrastructural connection between two oceans that nonetheless sits above sea level, a material signification of the canal's status as an artificial landscape.<sup>239</sup> Lastly, infrastructure is a reference point for Smithson's early-1970s proposals (also unrealized) to create sculptures on islands off the Texas Coast near Houston [Fig. 2.21],

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<sup>237</sup> Reynolds, 123-163; Eugenie Tsai, "Robert Smithson: Plotting a Line from Passaic, New Jersey, to Amarillo, Texas," in Eugenie Tsai, ed., *Robert Smithson*. Exh. cat. (Berkeley: University of California Press, 2004), 11-31; Evans, 92-119.

<sup>238</sup> Jennifer Roberts offers a comprehensive reading of this aspect of *Spiral Jetty* in *Mirror Travels: Robert Smithson and History*.

<sup>239</sup> This is the unrealized work *Barge of Sulfur (Panama Canal)* (1970). See Joseph Masheck, "The Panama Canal and Some Other Works of Work," *Artforum* 9.9 (1971): 38-41.

which nautical navigational maps in Smithson's Papers connect to the artist's interest in sea-bound commerce and offshore oil infrastructure in the region [Fig. 2.22].<sup>240</sup>

A diagrammatic conception of the land materialized at a global scale, 1960s infrastructure networks modeled the provisional alignment of systems thinking with the material production of space. Smithson thus used the site of infrastructure as if it were a second earth, a redoubling of the land precisely calibrated to reinvent the land as a malleable technocratic surface. The artist engaged in this transdisciplinary mode of thinking at a moment when infrastructure, as a form of engineering particular in its status as both spatial and circulatory, emplaced and continuous, also served as a key referent in urbanist theories of the increasing interconnectedness of cities and regions.

Beyond the example of the Dallas-Fort Worth metroplex, introduced above, the 1960s were the backdrop for Jean Gottmann's theory of the northeastern seaboard as a continuous urban entity, the "megapolis" [Fig. 2.23],<sup>241</sup> a major challenge to traditional urbanist models focused on the production of space around a single node of growth. The late-1960s were also the era in which the fully-realized suburban neighborhoods around Los Angeles (such as Lakewood) became a new field

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<sup>240</sup> Robert Smithson and Nancy Holt papers, 1905-1987, bulk 1952-1987. Archives of American Art, Smithsonian Institution. Box OV 20. See also Leigh Arnold, "Texas as Nonsite: Robert Smithson's Unfinished Works in the Lone Star State," in Arnold et al, *Robert Smithson in Texas* (New York: James Cohan Gallery, 2015), 35-36.

<sup>241</sup> See Jean Gottmann, *Megalopolis: The Urbanized Northeastern Seaboard of the United States* (New York: Twentieth Century Fund, 1961).

of real estate speculation,<sup>242</sup> thus resetting the very terms of relationality between urban, suburban, and exurban space. These dramatic changes in urban form, from both cartographic and real-time perspectives, were in turn made possible by growth of the era's defining infrastructural network, the Interstate Highway system, perhaps the ultimate model of spatial production as a "vast lattice."<sup>243</sup>

As the metropolitan region became a viable unit of territorial measurement and articulation during this period, infrastructure became a keyword to describe the project of organizing flows of people, objects, capital, resources, energy within vast swathes of territory. And if "infrastructure networks" described the region as a process, then the master plan described the region as a (projected) form. During the mega-project era of the 1960s, the master plan was a privileged mode for representing space conceived as an overlay of systems and sites at a scale commensurate with globalized economic and political discourses.<sup>244</sup> As urban historian M. Christine Boyer has

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<sup>242</sup> See Dana Cuff, "Domestic Speculation: Architects and Builders in Postwar Los Angeles," in *Overdrive: L.A. Constructs the Future, 1940-1990* (Los Angeles: The Getty Research Institute, 2013).

<sup>243</sup> In the introduction to his influential 1960 text *The Image of the City*, Kevin Lynch writes: "We are rapidly building a new functional unit, the metropolitan region, but we have yet to grasp that this unit, too, should have its corresponding image," Kevin Lynch, *The Image of the City* (Cambridge, Mass.: MIT Press and Harvard University Press), 13.

<sup>244</sup> As the output of TAMS (one of the major U.S. engineering firms of the era) alone would attest. See Tippetts-Abbett-McCarthy-Stratton, *Preliminary Survey of New Jersey Water Resources Development* (New York: T-A-M-S, 1995); Tippetts-Abbett-McCarthy-Stratton, *Jamaica Center: A Plan for Transportation and Terminal Facilities* (New York:

argued, the master plan is a medium keyed to representing municipal expansion or transformation as a composite "physical structure," a cohesive agglomeration of "maps, charts, and analytical interpretations of social, economic, and financial data."<sup>245</sup> Which is to say the master plan is a prospectus on space conceived in terms of heterogeneous information. As reflected in TAMS' planning documents, the master plan's multimodal format also made it a particularly dynamic field of representation, in which different versions of the same space might be read dialogically, morphed in conjunction, set and re-set. Through the expository device of the master plan, a vast site on the Texas prairie halfway between Dallas and Fort Worth, historically defined as a space without clear geoeconomic or geopolitical distinction,<sup>246</sup> became--during the years 1966-67--a convincing future center of the world.

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T-A-M-S, 1970); Tippetts-Abbett-McCarthy-Stratton, *Federal Aid Primary Route 37, State of Alaska, McKinley Park Station-Garner: Alignment Study* (New York: T-A-M-S, 1962).

<sup>245</sup> M. Christine Boyer, *Dreaming the Rational City: The Myth of American City Planning* (Cambridge, Mass.: MIT Press, 1997), 265.

<sup>246</sup> Thomas Sullivan, the executive director of the D/FW Airport project, described the land on which the airport would be sited thus: "Prior to land acquisition, approximately 12 thousand [sic] acres of the airport site were devoted to agricultural uses...There are no significant bodies of water, fuel or non-fuel minerals, forests, fish or wildlife species that will be altered or destroyed during the course of airport development. No significant recreational areas, areas of unique interest or scenic beauty, wildlife refuges, government reservations, geological formations, public lands, or other similar amenities will be destroyed or damaged by the development and operation of this facility," Sullivan, "Flughafengigant Dallas/Fort Worth," 34.

## V. *The Unknown Areas of Sites*

"Points, lines, areas or volumes establish the syntax of sites," Smithson wrote in 1967, before adding: "[t]he process behind the air terminal endlessly plans and replans its concessions, agencies, and facilities from masses of information."<sup>247</sup> This slide from the informational to the visual to the spatial sums up the momentum generated by the art-engineering nexus of those years: Smithson aimed to decode and materialize the technical alchemy by which TAMS transformed vast aggregates of data into a spatial syntax, one that would be ultimately obfuscated in the realization of architectural form. He repurposed this process as a field for art, situating his artworks in the "expanded field" of engineering and planning vanguards.

On the one hand, the D/FW Airport master plan imaged for Smithson a spatiotemporal rupture as dramatic, and as historically specific, as the one figured in the artist's crystalline models of the city, of all airspace and ground-space. On the other hand, TAMS' invention of a visual language for signifying spatiotemporal compression enabled such remarkable feats as laying the *figure* of a possible future structure onto the *ground* of a present-day landscape, a planning strategy that Smithson read as a transvaluation of key standards in the history of spatial representation. The artist's airport drawings explored this transvaluation by demonstrating that the airport mast plan was capable of reimagining not only the differentiation between figure and ground (a foundation of art historical analysis), but also between elevation and plan (as fundamental categories of architectural drawing).

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<sup>247</sup> Flam, ed., 55, 57.

This insight was conceptually and materially bound to the engineering documents themselves: In TAMS' blueprints, the conceptual framework of "systemic architecture" produced diagrammatic scenarios in which elevation and plan began to resemble one another, thus rendering the viewer's identification of the "ground" difficult [Figs. 2.24a and 2.24b]. Bands of space corresponding to different programmatic functions within terminals, in turn repeated linearly along the airport's central ground transportation spine, led to a set of forms that appeared at once stacked along an invisible vertical axis and geometrically arrayed along a horizontal one. In these "four-dimensional" configurations, to invoke Prokosch's term again, Smithson sensed a kind of expanded field of spatial representation.

Between 1966 and 1967, in addition to his essay "Toward the Development of an Air Terminal Site," the artist produced a series of approximately fourteen extant drawings directly related to the airport master plan,<sup>248</sup> either rendered directly on planning documents or formally based on the airport layout as it had been developed by TAMS during these years. Collectively, these drawings represent the artist's most fully-realized aesthetic response to the unique historical episode of his consultancy with TAMS. The "airport drawings" were experiments in finding the visual terms by which latent affinities between two aesthetic/representational systems (art and engineering/planning) might become apparent. And the artist's

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<sup>248</sup> This count does not include the two "studies" for earthworks to be located on the airfield site that exist in the Smithson Papers, as pencil drawings within the artist's copy of TAMS' *Terminal Area Concepts*.



methodology in these drawings heavily borrowed from engineering-based systems analysis: It was one of testing and retesting the verge at which actual, material landscape gave way to theoretical projection, at which site entered into an ongoing correspondence with non-site. Ultimately, Smithson took up the rules of engineering's representational systems in order to reset them, and in the process proposed a new framework for "sculpture in the expanded field" in the following years. For the raw material being subjected to the artist's tests were TAMS' actual drawings and documents. Advanced engineering's visual materials became the worksheets upon which Smithson produced his art. As these materials reentered an active historical economy of representation, now in the context of Smithson's art, they became a new type of artistic site.

And yet the precise nature of Smithson's operations on the planning documents remains for us to decode. The artist did not erode the plan's syntax or attempt to bracket it as pure technocratic excess.<sup>249</sup> Nor was his response to the engineering aesthetic really one of anxious rebuttal, the sort of disavowal of the enterprise of technological production referenced in scholarly accounts of the Experiments in Art and Technology organization, perhaps the most famous example of long-term interface between art and engineering in

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<sup>249</sup> This is the type of operation that the prominent narrative of contemporary art as critical interlocutor of the "aesthetics of administration" might lead us to postulate for Smithson's airport drawings. See Benjamin H.D. Buchloh, "Conceptual Art 1962-1969: From the Aesthetic of Administration to the Critique of Institutions," *October* 55 (1990): 105-143.

the 1960s context.<sup>250</sup> Rather, Smithson's interventions into TAMS' documents and the overall master plan represent an extension of his broader discursive and graphic inquiry into how new or projective species of space might be represented. In particular, Smithson's drawings could be seen as an interrogation of how infrastructures, those structures which are beneath or totally within the built environment, and so less readily available to vision, might come to be not only a subject, but also a context, of representation.

In one drawing, the artist offers the prototype of an air terminal building for the future D/FW Airport, in both elevation and plan, as a study in crystalline structures, mirroring a primary visual/spatial effect in the TAMS' documents: Both perspectives share the same stepped form, a form that reads with striking consistency across two different modes of architectural representation. Surface collapses into structure [Figs. 2.25a and 2.25b] in these drawings, amplifying the fact that they share with TAMS' master plan the premise of a diagrammatic space where different modes of visualization can plausibly share the same field. Alongside such interrogations into the logical parameters by which the airport's engineered forms would take shape, Smithson proposed the earthwork (itself an engineering-based term) as site of negotiation between perspectival and spatial extremes. In a graphite and ink rendering on graph paper entitled *Earth Windows* (another work in which elevation/section and plan are

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<sup>250</sup> See Jack Burnham, "Art and Technology: The Panacea That Failed," in *The Myths of Information: Technology and Postindustrial Culture*, ed. Kathleen Woodward (Madison, Wisc.: Coda Press, 1980), 200-215.

seemingly merged), Land artworks in the form of paned "windows" set into the earth and lit from below by sky-oriented spotlights would be visible only from airplanes lifting off or touching down [Fig. 2.26]. These modular structures link ground to air to subterranean earth, as they entail excavations beneath the airport's ground plane yet are oriented towards a viewer located in airspace.

Though this is one of the few airport drawings not drawn directly on a TAMS document, it nonetheless engages the stratigraphic premise of airport planning (its linking of earth works below the ground, construction upon the ground of the air terminals and runways themselves, and the above-ground zone of air traffic for which the entire airport site is a point of connection with the earth). The windows themselves, in addition, appear as fragmentary yet regularized manifestations of the "vast lattice" encompassing all three strata of space. Emphasizing this quality of the windows as cutouts in an imagined gridded plane, and mirroring in turn the motif of modular growth at play throughout TAMS' planning documents, Smithson imagined the earth windows as arrayed in a regularized sequence, increasing in size from right to left [Fig 2.27]

Clearly, at some point in his production of the airport drawings, whose precise chronology is unknown, Smithson more fully incorporated or absorbed the planning syntax of TAMS' drawings and documents. In several artworks, Smithson used the geometrical field outlined by TAMS' airport layout plans and detailed airfield component studies as the material ground of his work. He proposed, in yet another drawing, a web of gravel to be constructed within the acute triangular space east

of the terminal area that is formed by the intersection of a primary runway (left) and a crosswind runway (right). The spokes of the web illusionistically link one category of runway to another when seen from above, while the web's nucleus (and theoretical starting point) is predefined, infrastructurally, by the location of a water storage tank [Fig. 2.28]. Visually, the gravel web one-ups the master plan's hyperbolic sense of space and time, spanning two structures thousands of feet apart with a form at once completely geometric/diagrammatic, resembling a small natural form (the spider web), and redolent of eventual infrastructural obsolescence.<sup>251</sup> At the same time, in orienting this proposed artwork in relation to runways and water tanks, Smithson is dealing with the very points in the master plan where immaterial measurements of atmospheric phenomena are translated into monumental lines on the ground (this is particularly relevant to the runways, which are oriented according to historical data on wind velocity in order to maximize wind resistance upon landing and to minimize it upon takeoff).<sup>252</sup> Smithson is engaging, in other words, with the visualization of infrastructure, and doing so within a very particular representational zone: The ground of this drawing is a cut-

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<sup>251</sup> As George Baker has noted. See Baker, 94.

<sup>252</sup> This is how the orientation of the primary runways would be determined. The crosswind runways, on the other hand, would provide "back up" infrastructure when wind conditions were less favorable for utilizing the primary runways. Crosswind runways also represent an optimization, to a lesser degree than the primary runways, of airplane traffic relative to wind patterns above the site. My thanks to Bruce Bleakley for this insight relative to Smithson's work. Bruce Bleakley, interview with the author August 6, 2013, Dallas.

out from one of TAMS' planning maps, such that a void in the TAMS map has become the literal ground of Smithson's drawing [Fig 2.29].

Yet one category of engineered space in particular seems to have seized Smithson's attention<sup>253</sup>--namely, the "clear zone," an area within an airfield that must remain un-built upon or minimally built upon in order to accommodate air traffic patterns and potential changes to both the airport's functional requirements and the configuration of surrounding spatial development.<sup>254</sup> This particular category of insecure space appears as a referent in at least three of Smithson's airport drawings, and was also the type of site Smithson imagined for the art of LeWitt, Morris, and Andre on the airfield perimeter.<sup>255</sup> Specifically, he used a detailed area study of the clear zone within TAMS' *Airport Layout Plan* [Fig. 2.30] as the ground of his

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<sup>253</sup> Smithson was no doubt taking his cues here (consciously or unconsciously) from the preponderance of clear zone studies in TAMS' planning documents. Page after page in these documents present close-up analyses of clear zone configuration. The exact dimensions of clear zones were of particular interest to TAMS due to the uncertain nature of the air traffic at the D/FW Airport--specifically, it was unknown whether the jumbo jet or the supersonic jet would prove the dominant mode of commercial air transport in the 1970s.

<sup>254</sup> As outlined by the FAA, clear zones beyond runway ends were established to preclude obstructions potentially hazardous to aircraft and to control building construction as a protection for people on the ground. "Clear zone" is not a stable distinction for land. Clear zones can vanish according to changes in runway and taxiway layout and appear elsewhere on the airport site; their boundaries can be reassessed so that they become larger or smaller; the particular nature of restrictions placed on clear zones can change according to shifting governmental regulations. See Robert Horonjeff, *Planning and Design of Airports*, 2<sup>nd</sup> ed. (New York: McGraw-Hill, 1975), 176.

<sup>255</sup> Smithson mentions the clear zone in both his known writings on the artworks proposed for the site: "Aerial Art" (1969) in Flam, ed., 116-118 and "Proposals for Earthworks and Landmarks to Be Built on the Fringes of the Fort Worth-Dallas Regional Air Terminal Site (1966-67) in Flam, ed., 354-355.

work *Dallas-Fort Worth Regional Airport Plan* (1966) [Fig. 0.2].<sup>256</sup> In this earthwork proposal, a series of asphalt pavements of differing sizes is arranged in a sequence again suggesting modular (or crystalline) growth, but this time in direct spatial dialog with the trapezoidal form of the clear zone--here, within the planning documents, given a distinct geometric form, yet a zone that will be invisible within the context of the constructed airport site. The asphalt forms grow larger as the clear zone's rightmost border slopes away to accommodate their line of graduation. One imagines Smithson's investment would have been in an artwork conceived as a pure formal/spatial relationship with the logic of the master plan, yet, once "complete" and visible from airplanes taking off or landing, registered in a completely different zone of space, in real space, and from above, its original connection to the clear zone now *infraperspectival*.

Within the context of an airport layout plan, the clear zone is, on the one hand, a secondary, conditional, sidelined, invisible space, the land that is recorded at all because it is (relative to such key functions of the airfield as runways, taxiways and terminals) a not-site, a non-site. On the other hand, it is distinguished by being an abstract and artificial type of space whose very existence is premised on the logic of planning. The clear zone becomes a category of space only in negative relation to those spaces that the master plan designates as potential loci of development. It is perpetually

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<sup>256</sup> A facsimile of the same page is incorporated into Smithson's drawing, *Project for "Clear Zone" Spiral Reflecting Pool* (1967).

provisional *and* relational. At the same time, it manifests space's metaphorical dimension. "The unknown areas of sites," Smithson wrote in 1967, "can best be explored by artists."<sup>257</sup>

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<sup>257</sup> Flam, ed., 60.

CHAPTER THREE:

MAINTENANCE ART WORKS MEETS THE NEW YORK CITY DEPARTMENT OF SANITATION

First, it is a map of New York City--one particularized by at least two recordings of movement across its surface: the frequency of trash collection among the city's sanitation districts (marked by gradations of shading within the district boundaries) and, placed over this first set of tabulations, a series of lines indicating ten "sweeps" through the City's five boroughs [Fig. 0.3]. So it is also a worksheet, a cartographic report on municipal activity doubled, or re-set, in order to create an optimal graphic field for multiple, overlapping indicators of action. The superimposition of the network of lines over the urban plan below allows the document to represent two modes of work at once, in conjunction. The primary field of the diagram describes the collective labor of city maintenance, extending over calendric time and urban space by repetitions with variations, the latter indicated by the unevenness of the collection frequencies themselves. The lines crossing the diagram's surface track the movements of one woman's body across the city, likewise repetitiously yet with variations, following the territorial logic of the municipal districts. These lines represent the itinerary of a work of art: Mierle Laderman Ukeles' *Touch Sanitation Performance* (henceforth, *Touch Sanitation*), a multi-year intervention into New York City's sanitation system that included these ten sweeps through the city's five boroughs in two installments over an eleven-month period. The network of lines further figures a precise act of collage, having been pasted onto a facsimile of a sanitation map by the artist's hand [Fig.



3.1]. More than a map or a worksheet, then, this object represents *Touch Sanitation's* imbrication of aesthetic and urban systems. Its diagrammatic field, as much as the live space of the city, could be seen as the ground of the performance artwork. The collaged document is a plan of action within a specifically delineated territory. It is, finally, also an artwork in itself.<sup>258</sup>

At yet another register, the object is a historical image of New York City circa 1979, the date of its production. The map's urban syntax, its division of New York into fifty-eight sanitation districts, reflects a historically specific articulation of the city as an administrative, spatial, and political entity.<sup>259</sup> As we will see, such seemingly "official" definitions of urban grounds and boundaries do not hold across time. Rather, documents like this one describe the provisional setting forth of a municipal contract, a working understanding of the city's territorial functionality. This sanitation map was thus unfixed ground even before Ukeles' intervention onto it.

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<sup>258</sup> The complex project of defining the material and historical bounds of *Touch Sanitation Performance* will be further explicated throughout this chapter. However, to clarify the status of this object: It is indeed an artwork (a map created by Ukeles and used in an informational pamphlet for sanitation workers during the course of her artwork) and also one material component of a larger artwork, *Touch Sanitation Performance*, which encompasses various discursive objects, drawings, and performative actions.

<sup>259</sup> From the time of Ukeles' initial engagement with the Dept. in 1977, and through the time of this map's production, New York City was divided into fifty-eight Sanitation Districts (a subcategory of the broader distinction "service district"), which were at points distinct from the fifty-nine Community Districts that more fundamentally defined the locational identity of neighborhoods, the latter serving as reference point for land use, community budgets, demographic analyses, etc.

The pasted-on network of lines that indicates the artist's movement through urban space redoubles a sense of momentum inherent to the document itself. At the same time, as a representation of service provision patterns in late-1970s New York, the historicity of the document is also social, economic, cultural and political--to serve the city differentially is to dynamically register its wealth distribution, its population density, its zoning laws, again and again. The map serves as a material measure of this socioeconomic and land use terrain. It draws an abstract image of the urban system. And against the ground of this vast abstraction, the lines of *Touch Sanitation* chart the specificity of one body encountering thousands of others within the city.

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In positioning this artist-produced map as an integral component of *Touch Sanitation*, this chapter launches an epistemological inquiry into the structure and bounds of Ukeles' artwork. This testing of the work's operations relative to contemporary art history and the city is responsive, on the one hand, to the discursive status of the work: *Touch Sanitation* is most often understood as a free-form performance (too simplistically, a humanist riposte to urban technocracy and large-scale systems of degraded labor), consisting exclusively of Ukeles' repetitious shaking of sanitation workers' hands as she states, "Thank you for keeping New York City alive." Furthermore, the work has been understood primarily in imagistic terms, through a series of photographs that capture specific encounters between the artist and

sanitation workers in "the field" of the city, vaguely defined [Fig. 3.2].<sup>260</sup>

As suggested by the above map's material intervention into a functional-historical municipal document, the received definition of the work succeeds in conveying only one aspect of the work's operations and form but fails to account for other key aspects of the work. For instance, what was the precise spatial, social, cultural, political, and economic "field" constituted by the New York City Sanitation system circa 1977, the date of the work's inception? How did the artwork gain access to the municipal sanitation system, how did the work come to comprehend this system's functional layout? And how might we understand the historicity of *Touch Sanitation's* appearance--in the fallout of the mega-project era in U.S. urban policy [see APPENDIX I], as a fundamental breakdown in New York's municipal services, sanitation among them, led to a singular opening of urbanism's functional field onto the "cultural work" of art?<sup>261</sup>

As is well-narrated in art historical accounts, the art critic David Bourdon's ludic/absurdist suggestion in 1977 that the New York

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<sup>260</sup> The writing on *Touch Sanitation Performance* is extensive, even if generally not curious enough about the precise operations of the work beyond its imagistic symbolism. For a selection of these writings, see Shannon Jackson, "High Maintenance: The Sanitation Aesthetics of Mierle Laderman Ukeles," in *Social Works: Performing Art, Supporting Publics* (London: Routledge, 2011), 75-103 and Nina Horisaki-Christens et al., *Maintenance Required* (New York: Whitney Museum of American Art, 2013).

<sup>261</sup> As is explained further in this chapter, New York City's 1975 fiscal crisis was linked to the impact of several key policies of the mega-project era, such as emphasis on public/private partnerships, massive investment in development projects of unprecedented scale, and disinvestment in the welfare programs in favor of corporate- and touristic-driven transformations of the city.

City Department of Sanitation (DSNY) might reframe its maintenance work as cultural work in order to potentially secure an alternate means of funding from the National Endowment for the Arts prompted the invention of this unique imbrication of art and the urban system. Ukeles joined the ranks of DSNY that year in something approximating an "artist-in-residence" role.<sup>262</sup> Though striking in its implications that Ukeles' models of urban-engaged performance art (which had been in development since 1969) might become integral to a functioning municipal agency, this episode exceeds the reductive trope of a perfect conceptual overlay of aesthetic systems onto urban systems (or vice versa).

In order to describe the specific operations of Ukeles' work, we must first examine the precise definition of the "expanded field" explored in Ukeles' 1970s "social sculpture," a term operative throughout Ukeles' practice to describe the organized and coordinated actions of multiple producers to create a composite structure, whether ephemeral (in the case of a choreographed collective actions such as *Touch Sanitation*) or material (as in the case of urban landfills, which Ukeles has also described in social-sculptural terms).<sup>263</sup> Indeed,

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<sup>262</sup> Though the beginning of Ukeles' ongoing residency with DSNY is often loosely dated to 1977, the first written agreement that Ukeles' work within the agency should be considered a "residency," to my knowledge, comes in a letter from then-Sanitation Commissioner Norman Steisel dated March 25, 1982. Letter from Norman Steisel to Mierle Laderman Ukeles, March 25, 1982, artist's files, DSNY.

<sup>263</sup> Ukeles' invocation of this term links her work to its better-known usage by German artist Joseph Beuys, who wrote of his work *7000 Oaks*, for the 1982 installment of Documenta in Kassel, Germany, as "social sculpture." In this work, seven-thousand stones were arranged in a triangular formation pointing to a single oak tree. The pile would

the definition of "social" produced by the work is composite and multimodal: The social field encompasses institutions, the technical organization of people, objects, and flows, immense social organizations such as the city, alongside the prerogatives of individual producers. Furthermore, the field of social sculpture, as defined by *Touch Sanitation*, is systemic, in the sense of being both structurally-organized and spatiotemporally dispersed. A social sculpture, in Ukeles' use of the term, is an act of formal coordination within this system. And the urban system itself--which operates not only within the living space of the "open" city environment, but also within the administrative zone of urban policy--is in turn the "expanded field" of *Touch Sanitation*.

In order to put forward an argument that the very historical definition of *Touch Sanitation* needs to be expanded, this chapter proposes that Ukeles' material negotiations with the bureaucratic structure and output of DSNY should be understood as components of the "actual work," alongside its ostensible center, the "performance" of

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vanish as people bought each stone, and purchase of each stone would in turn fund the planting of a new oak in Kassel. See Eric Michaud, "The Ends of Art According to Beuys," trans. Rosalind Krauss, *October* 45 (1988): 36-46 and Michael North, "The Public as Sculpture: From Heavenly City to Mass Ornament," *Critical Inquiry* 16.4 (1990): 862.

Though Rosalind Krauss does not make explicit reference to concepts of collective social action as sculptural form in her essay "Sculpture in the Expanded Field," she does write that "within the situation of postmodernism, practice is not defined in relation to a given medium--sculpture--but rather in relation to the logical operations on a set of cultural terms, for which any medium...might be used." The logical basis of Krauss' argument thus could be seen as linked to Ukeles' logical operations on a set of cultural terms to propose collective acts of mapping the maintenance system as a social "form," a social sculpture. See Krauss, "Sculpture in the Expanded Field," *October* 8 (1979): 42.

*Touch Sanitation* over eleven months between 1979 and 1980. The performance component of the work was mostly completed in simultaneity with standard, eight-hour DSNY work shifts,<sup>264</sup> and consisted of three types of performative intervention within this timeframe: 1) A "Handshake Ritual," in which Ukeles met and shook hands with each of New York's 8,500 sanitation workers (sanmen, in DSNY parlance),<sup>265</sup> stating "Thank you for keeping New York City alive" as their hands touched; 2) "Follow in Your Footsteps," a real-time mimesis of sanmen's habituated movements over the course of their collection routes (which Ukeles has called a "work ballet"<sup>266</sup>) [Fig. 3.3]; and 3) "Roll Call," a series of talks that Ukeles delivered to sanmen in section offices over the course of her time in the field [Fig. 3.4].<sup>267</sup> Another "component" of the work consists of photographs, video recordings, and sound recordings that served as Ukeles' own documentation of *Touch Sanitation* while also now largely defining the

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<sup>264</sup> Though for several days on end Ukeles also participated in a DSNY "round-robin," typically a rite of passage for new sanitation workers that consists of being called back to an eight-hour shift after only eight hours off (thus potentially working sixteen hours in a twenty-four-hour period).

<sup>265</sup> New York City's sanitation workers were all men at the time of Ukeles' performance. The first women sanitation workers were hired in 1986.

<sup>266</sup> Mierle Laderman Ukeles, "MAINTENANCE / SERVICE / RESILIENCE / SUSTAINABILITY / SURVIVAL CRASHING INTO FREEDOM / WHEN YOU ARE SO SICK OF ALL THESE WORDS...", lecture, University of California, Los Angeles, February 20, 2004.

<sup>267</sup> Ukeles moved from site to site, day after day, via a chauffeured car provided by DSNY that picked her up at her home. This aspect of the work's production was primarily motivated by maintaining Ukeles' personal safety (as an untrained interlocutor of DSNY, rather than a trained sanitation worker) over the course of her performance's itinerary.

work's identity for art history, exhibiting institutions, and the market [Fig. 3.5].<sup>268</sup>

Yet another category of objects, such as the one discussed above, exist as integral to the work's attenuated negotiations with the urban bureaucracy. This bureaucracy is "public" in the sense of serving municipal needs and yet not public at all, in the sense of being structurally impenetrable (one cannot easily implicate oneself in the systemic management of space, which is a set formation of producers). The map introduced above, for example, is a material negotiation between the artwork and the DSNY bureaucracy, part of an informational pamphlet to be distributed to DSNY workers during the course of *Touch Sanitation*, hence something like an "internal memo" on the work [Fig. 3.6].<sup>269</sup> However, numerous other elements of *Touch Sanitation* share this object's generative logic: official municipal documents that have been variously cut up, reset, or amended, their syntax taken up in order to be reconfigured, and new configurations made from the bureaucracy's own systems of communication, control, maintenance [Fig. 3.7]. These objects include drawn and written preparations for the work's morphing itineraries, communications between Ukeles and the Department, and documentation of work already accomplished. Together, they could be said to constitute, unto themselves, a third major

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<sup>268</sup> An important exception to this rule is the recent Ukeles retrospective at the Queens Museum, curated by Larissa Harris and Patricia Phillips. Here, the presentation of *Touch Sanitation* includes maps, telexes, and written itineraries, though photographic documentation is still the dominant manifestation of the work.

<sup>269</sup> This pamphlet was produced with specific funding from Avon Corporation. Nine-thousand copies were produced.

component of the artwork--one that has not been integral to the public history of the work<sup>270</sup> (until very recently, these documents existed under the purview of Ukeles' artist files and/or DSNY records, and would thus fall under conventional art historical definitions of archival material).<sup>271</sup>

At the same time, the work exceeds the sum of these parts in its implications for the present. As the inaugural project of Ukeles' ongoing residency with DSNY, *Touch Sanitation* represents an initial phase in the artist's long-term re-production, re-comprehension, and re-presentation of urban maintenance infrastructure, with this long-term embeddedness of art within the urban system itself constituting a "work," a kind of immanent anatomical and social analysis of the urban system, and one which is marked by the absence of a predetermined endpoint.<sup>272</sup> How do we approach an artwork that takes the very persistence of the urban system as its site, material, and mode of

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<sup>270</sup> The exhibition "Work Ethic," curated by Helen Molesworth, and its corresponding catalog represent perhaps the most full-realized attempt to resituate such "workaday" materials as integral to the history of contemporary art. See Helen Molesworth et al., *Work Ethic* (Baltimore: Baltimore Museum of Art and University Park, Penn.: Pennsylvania State University Press, 2003).

<sup>271</sup> The status of these materials changed during the drafting of this dissertation, as they appeared as part of the presentation of *Touch Sanitation Performance* in the Queens Museum exhibition "Mierle Laderman Ukeles: Maintenance Art," September 18, 2016-February 19, 2017. In later sections of this chapters, I explore some of the implications of researching artworks (particularly contemporary artworks) whose own articulation as historical subjects is in-process, due to redefinition and reformatting by artists, curators, arts administrators, registrars, preparators, and dealers.

<sup>272</sup> An important aspect of this "embeddedness" lies in the fact that Ukeles maintains a suite of offices in a DSNY administrative building in place of a conventional studio. Thus her embedded position is spatial, functional, and reaffirmed with each workday.



production? Wouldn't such a work seek to mimic the basic structural principles of urban maintenance itself--namely, potentially infinite repetition, infinite self-perpetuation, the fusion of means and end? And wouldn't this possibility of the artwork's intentional surrender to the scale and logic of the world's largest maintenance system impact our ability to comprehend and analyze it as a "work"? Might *Touch Sanitation*, in a stake-raising rejoinder to the avant-gardiste call to collapse art and life,<sup>273</sup> eventually come to be seen as one among many urban *systems*, at least fleetingly, over the course of its life from 1977 to 1980?

This chapter examines the co-constitutive relationship between the urban maintenance system and *Touch Sanitation's* structure. A series of objects in which this exchange is most clearly registered (such as the amended sanitation map that opened this study) serve as the chapter's signposts or guides. It reads these objects as ciphers of *Touch Sanitation's* modes of operation on the city as well as records of the urbanist-historical dynamics that define "the city" in/for the work. Through such objects, the chapter narrates the artwork as a systemic negotiation between art and urbanism, one which assumes the continued mutual integrity of both systems (aesthetic and municipal, art and city) over the course of its realization. Recourse to the specific operations recorded within these objects serves, on

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<sup>273</sup> See Peter Bürger, *Theory of the Avant-Garde* (Minneapolis: University of Minnesota Press, 1984). There is a key distinction in direction of impact as concerns Ukeles' work, however. Whereas Bürger theorizes the historical neo-avant-gardes as figuring intellectual models in which art might transform everyday life, in the case of Ukeles' practice it might be said that the spaces and rituals of the everyday transform the agenda of advanced art.

the one hand, to complicate the art historical identity of *Touch Sanitation* as a free-form counterproposal to technocratic urbanist operations (an oft-repeated narration of the work that seems to carry its own, coded assumptions about the gendering of art and urbanism, of art and city management, as we will see)<sup>274</sup> while at the same time countering the idea of the work's total absorption into the urban system during its attenuated realization.<sup>275</sup> Put another way, the repetitions of *Touch Sanitation* are not only a compositional device linking the material of the work to the calendric or service rhythms of everyday life, a dynamic transposition of "one thing after another" that would place Ukeles' work in direct contact with Minimal and post-Minimal discourses<sup>276</sup>, but also a specific mode of address to the

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<sup>274</sup> The gendered coding of urban operations is already implicit in Ukeles' "Manifesto for Maintenance Art!" (1969), in particular as it refers to the bifurcated logic of urban development vs. maintenance. See Mierle Laderman Ukeles, "Manifesto for Maintenance Art!" in Alexander Alberro and Blake Stimson, eds., *Conceptual Art: A Critical Anthology* (Cambridge, Mas.: MIT Press, 1999), 122-125.

<sup>275</sup> One significant point of comparison here would be the work of Robin Nagle, a professor of anthropology at New York University and DSNY's first and only anthropologist-in-residence since 2006. Nagle's research shares with Ukeles' practice a long-term and rigorous engagement with the administrative, functional, and social structure of the New York maintenance system. However, Nagle's ethnographic approach has centered around an attempt to narrate comprehensively and vividly the "everyday" culture of the Department's workers; in addition, Nagle went through the process of becoming a sanitation worker herself, and briefly joined the ranks of DSNY as a sanitation truck driver. On the other hand, from the outset of her work with DSNY, Ukeles has underlined the importance of distinguishing her artwork from the work of salaried sanitation workers. See Robin Nagle, *Picking Up: On the Streets and Behind the Trucks with the Sanitation Workers of New York City* (New York: Farrar, Straus and Giroux, 2013), esp. 125-165.

<sup>276</sup> Donald Judd, "Specific Objects," *Arts Year Book* 8 (1965), reprinted in *Complete Writings* (New York and Halifax: The Press of the Nova

spatial scale of the city and the particular social body of New York City in the late-1970s.<sup>277</sup>

Within this co-constitutive, or conjugative, dynamic between *Touch Sanitation* and the urban sanitation system, the operations of the city upon the artwork become apparent: From the outset, the artwork took up the administrative structure of DSNY, and the urban territorialization outlined by this structure, as a generative precondition, a bureaucratic and spatial grid that circumscribed the work's scale and organization.<sup>278</sup> Thus "the city" was not an abstract field for the work. Rather, *this* city (New York, circa 1977-80) was the work's site. Relatedly, the ground of the work was not only (and

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Scotia School of Art and Design, 1975), 181-189. See also Krauss writing on Judd's writing and artworks in *Passages in Modern Sculpture* (Cambridge, Mass.: MIT Press, 1977), 243-287.

<sup>277</sup> Ukeles has said that she considers the city to function like a body, with the attendant symbolism of the sanman's work as a kind of bodily maintenance. Ukeles in conversation with the author and Patricia Phillips, May 8, 2015, New York.

<sup>278</sup> Norman Steisel, DSNY Commissioner at the time of Ukeles' early period of engagement with the Dept. and a key custodian of the ongoing viability of Ukeles' work on urban sanitation during 1977-80, has emphasized that Ukeles' initial proposal for *Touch Sanitation* was highly developed in terms of its sensitivity to the Dept.'s administrative structure. Steisel recalls that, from the outset, Ukeles made reference to such organizational elements of the Dept. as service districts and collection routes as key aspects of her design for the work. Norman Steisel, interview with the author, October 6, 2015, New York.

Also notable in this regard is the wording of Ukeles' early set of proposals for projects with the DSNY, which were collectively entitled, "Maintenance Art Works Meets the Department of Sanitation." The artist's writing on an early version of *Touch Sanitation* evinces an acute awareness of the collective sanitation workforce as a systemic structure, one which Ukeles is careful to both register and define as distinct from her artwork: "my [sic] artwork will be a model of sanman's work -- cylindrical, tedious, endless, yet necessary..." Mierle Laderman Ukeles, "Maintenance Art Works Meets the Department of Sanitation," unpublished manuscript, 1978, artist's files, DSNY.

not primarily) the "unplanned" social field of urban encounters that Henri Lefebvre has referred to as *la Fête*, and that Jane Jacobs' writing tied indelibly to New York postwar urbanism through her critical-poetic glossary of the spontaneous use of streets, sidewalks, plazas, etc.<sup>279</sup> The work's ground was also the city as a diagrammatic and bureaucratic field, albeit a provisional one: Late-1970s New York was divided into fifty-eight service districts, and these districts were further divided into sections, serving as home base for a given number of sanmen, who in turn served the city through a regulated series of sweeps completed during an eight-hour workday.

Such municipal structures are the givens of urban maintenance and Ukeles' artwork. Evident in the materials of *Touch Sanitation* (the writings on Sanitation letterhead, the amended district maps, the telexes produced by Ukeles in a format indistinguishable from other "official" DSNY communication) is the fact that municipal bureaucracy acts upon the generative logic of the work [Fig. 3.7]. Yet how might we understand the counter-dynamic, the artwork's actions upon the city? With what substantive force of its own does the work meet the urban system's unstoppable momentum?

*Touch Sanitation* crystallizes the insight that any urban system is constituted through a conjugation of phenomenological experience and abstract territorialization, that the maintenance and/or failure of this system depends upon provisional moments of coordination

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<sup>279</sup> See Henri Lefebvre, *Writings on Cities*, Eleonore Kofman and Elizabeth Lebas, eds. and trans. (Cambridge, Mass.: Blackwell, 1996) and Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).

between disparate scales and modes of urbanism--the individual alongside the systemic, "on the ground" activity alongside the municipal diagram, maintenance of urban space alongside its development and redevelopment.<sup>280</sup> Rather than serving as a counterproposal to city bureaucracy, *Touch Sanitation* re-conceives urban infrastructure management as itself an overlay of systems encompassing people, objects, energy, flows, and encounters in space. Which is to say, the work takes up--in order to reframe and resituate--the very procedures of circulation, exchange and representation by which the city becomes comprehensible to itself.

In the wake of the 1975 New York fiscal crisis, one of the severest breakdowns of municipal financial management in U.S. history and, as discussed below, another "field" of Ukeles' art, these urban systems were laid bare in their dependence on people, on the embodied and networked care of urban space, to an exceptional degree [Fig. 3.8]. If the systemic breakdown of the crisis was itself a registering of New York's dramatic socioeconomic, cultural, and spatial upheavals in the wake of late-capitalist urbanism's emergence, then *Touch Sanitation* was a historical rejoinder to the myth that this breakdown was a contained technocratic glitch.<sup>281</sup> The city is constant in its

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<sup>280</sup> The fact that the keyword "maintenance" is a direct citation of urban planning language has remained largely unexplored in the literature on Ukeles, though Patricia Phillips recently introduced this connection in her essay "Making Necessity Art: Collisions of Maintenance and Freedom," in Patricia Phillips et al, *Mierle Laderman Ukeles: Maintenance Art* (Munich: Prestel, 2016), 39. For original context of the dichotomy, see also Mierle Laderman Ukeles, "Manifesto for Maintenance Art!" in Alberro and Stimson, eds., 122.

precariousness: Urbanism is always a form of coordinated commitment to the long-term maintenance of a place, or rather we come to understand urbanism thus through Ukeles' artwork.

To return to a basic epistemological question raised by Ukeles' art: How might we approach a work that takes the very persistence of the urban system as its site, material, and mode of production? We have already begun to explore one way in which such a work would complicate the "publicness" of public art, as the extensive mapping (material and cognitive) in which Ukeles engaged during 1977-79, before the beginning of her "Handshake Ritual," is not necessarily available to any public. At the same time, in the case of Ukeles' art, the status of neither viewer, nor site, nor "work" is given. Rather, these functional categories are repeatedly re-produced as an unstable constellation between the emplaced viewing subject, the spatiotemporal phenomenon of Ukeles' performance as history, and the objects representing *Touch Sanitation* in the gallery (Are these to be considered documentation? Reconstruction? "The work" itself?) [Fig. 3.9].<sup>282</sup> Furthermore, the logical structure of this work is at a

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<sup>281</sup> See Peter Marcuse, "The Targeted Crisis: On the Ideology of the Urban Fiscal Crises and Its Uses," *International Journal of Urban and Regional Research* 5.3 (1981): 330-354. Marcuse's writing is discussed in greater detail later in this chapter. See also Rosalyn Deutsche, "Uneven Development: Public Art in New York City," in *Evictions: Art and Spatial Politics* (Cambridge, Mass: MIT Press, 1996), 49-107.

<sup>282</sup> That said, the history of *Touch Sanitation* does include an originary exhibition context, which is itself another work in Ukeles' oeuvre--*Touch Sanitation Show* (1984), which took place in two parts. Part I was sited at and near the sixty-five-thousand-square-foot West Fifty-Ninth Street Marine Transfer Station (a DSNY facility) and

distance from traditional categories deployed to describe the art-city nexus: art as monumental decoration, aestheticized landscape, short-term community activism ("new genre public art"), adaptive reuse of urban architecture, negative critique of municipal management or economics, etc.<sup>283</sup>

Even as the narration of urban-engaged artworks has expanded beyond the model of a monumentally scaled modernist sculpture emplaced within a particular urban plaza (for which space the work was ostensibly "designed") [Fig. 3.10], certain assumptions about the meeting of art and urbanism have persisted in contemporary art scholarship. The first is that the "production of space," to borrow a term made famous by Henri Lefebvre, urban space as a historically-

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consisted of sixteen sanitation vehicles, two barges, flashers from forty-four decommissioned collection trucks, a suspended trough holding dirty work gloves, assorted support equipment, cages of recyclable materials, text cut into a wall, and a mound of salt. This part of the exhibition also included a performance, *Marrying the Barges: A Barge Ballet*. Part II was sited at Ronald Feldman Fine Arts, also in New York, and consisted of screenprinted work-shift clocks, a fifteen-hundred-square-foot transparent map of New York suspended from the ceiling, a video installation on thirty-four monitors, telex machine, a vest, new and used plumbing, furniture, and other objects collected from DSNY facilities.

Relatedly, we might question the status of the sanmen who were participant in *Touch Sanitation* within the original context of the work. Though these men were, to some extent, co-producers of this artwork, they might also be understood as one of its "publics," which is to say, the first viewers of Ukeles' performance.

<sup>283</sup> For influential and now standard accounts of these typologies of public art, see See Kate Linker, "Public Sculpture: The Pursuit of a Pleasurable and Profitable Paradise," *Artforum* 19.7 (1981) and "Public Sculpture II: Provisions for the Paradise," *Artforum* 19.10 (1981); Harriet Senie, *Contemporary Public Sculpture: Tradition, Transformation, and Controversy* (Oxford: Oxford University Press, 1992); and Erika Doss, *Spirit Poles and Flying Pigs: Public Art and Cultural Democracy in American Communities* (Washington, DC: Smithsonian Institution Press, 1995).

specific and collective product of social use,<sup>284</sup> tends to precede the artwork and serves as its ground. In this model, the artwork reacts to the urban environment, thus establishing autonomous representation as art's arena of competence, whereas the city is generated within a separate and intact realm of technical activity.<sup>285</sup> Relatedly, art discourse traditionally sees the artwork as entitled to access only particular versions of the city: the city as physical landscape or composite image, for instance, with the production, management, or redevelopment of urban space understood as the domain of architects, city planners, and municipal government.<sup>286</sup> Furthermore, the meeting of art and the urban context is generally circumscribed to a specific "contact zone," defined either spatially or temporally. And this meeting should appear punctual, or at least concisely in the service of "a public" broadly-defined, whose presence validates the meeting of "art" and "city" as such. Finally, the contact zone remains the

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<sup>284</sup> See Henri Lefebvre, *The Production of Space* (Oxford: Blackwell, 1991), as well as a recent, incisive rejoinder to Lefebvre's thinking, Julian Myers-Szupinska's "After the Production of Space," in Emily Eliza Scott and Kirsten Swenson, eds., *Critical Landscapes: Art, Space, Politics* (Berkeley: University of California Press, 2015), 21-33.

<sup>285</sup> A recent study of the intersection of contemporary art and urbanism that could be seen as embodying the "art as image economy of the city" model is Joshua Shannon, *The Disappearance of Objects: New York Art and the Rise of the Postmodern City* (New Haven: Yale University Press, 2009). Recent museum exhibitions have also addressed contemporary art's response to/dialogue with globalized urban systems, though in a similar mode to the one described above. See, for example, the exhibition "Uneven Geographies" (2010), curated by T.J. Demos and Alex Farquharson at Nottingham Contemporary in Nottingham, UK. The digital catalog can be found at <http://www.nottinghamcontemporary.org/art/uneven-geographies>.

<sup>286</sup> One notable exception here would be the work of Hans Haacke on New York's real estate system, as discussed further below.



territory of the city, municipal ground, and as such the producer and custodian of this zone is not the artist herself, but a committee of actors (planners, city managers, architects, curators, etc.) by whom the artist herself is typically managed and overseen.<sup>287</sup>

Ukeles' work challenges these prevailing assumptions about the art-city nexus both in its structure (by repeatedly encompassing the entire city as its site, *Touch Sanitation* never lands at a singular locus of intervention, while at the same time refusing a linear or developmental logic) and in its form (the work engages multiple versions/formats of the city simultaneously, jumping registers with frequency and thus seeming to inhabit the city as an open system).<sup>288</sup> Against a received definition of artistic autonomy (coded male in Ukeles' thinking) as a project of moving " 'up'" and " 'away'" from the workaday rituals of a life (with such repetition, on the other hand, itself coded female for Ukeles), the artist has described the momentum of her work in terms of movement " 'sideways,' 'backwards,' 'through,' and 'around and around,'"<sup>289</sup> in a kind of feminist time enacted as an itinerary through the city.<sup>290</sup> And yet specific to Ukeles'

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<sup>287</sup> See Michele Bogart, *The Politics of Urban Beauty: New York and its Art Commission* (Chicago: The University of Chicago Press, 2006).

<sup>288</sup> The sole substantive attempt to analyze Ukeles' work in terms of systems thinking can be found in the writing of historian and critic Jack Burnham. It was also Burnham, famous for his writing on "systems aesthetics,": who first published "Manifesto for Maintenance Art" (in excerpted form) in an essay for *Artforum*. See Jack Burnham, "Problems of Criticism IX: Art and Technology," *Artforum* 9.5 (1971): 40-45.

<sup>289</sup> Mierle Laderman Ukeles, "A Note on Being a Woman Maintenance Artist, ca. 1970," in Phillips et al, *Mierle Laderman Ukeles: Maintenance Art*, 212.

art are its simultaneous feminist ripostes to both masculine-coded artistic autonomy and the gendered premise of conventional urban management, the production of public space, with its historical privileging of development over maintenance, the purview of the masculine subject as producer.<sup>291</sup>

Ukeles' pressuring of received theories of the art-city nexus becomes particularly striking when considered alongside Hans Haacke's *Shapolsky et al. Manhattan Real Estate Holdings, a Real Time Social System, as of May 1, 1971* (1971), perhaps the most famous example of a work of contemporary art that takes the urban system as its subject [Fig. 0.5].<sup>292</sup> Haacke's work consists of an extensive compendium of black-and-white photographs, typewritten sheets, and charts, which

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<sup>290</sup> On "feminist time," see Rosalyn Deutsche et al, "Feminist Time: A Conversation," *Grey Room* 31 (2008), 32-67. In particular, Deutsche, following Joan Scott and Drucilla Cornell, claims here that feminist politics, writing, and art "[take] place in the tense of the future anterior, an order of time that lacks closure because in it the past is conditional on an inconclusive future. The past isn't simply there to be recovered. Rather, past actions gain meaning--they are what will have happened--as feminism mutates into something other," 37.

<sup>291</sup> See critiques of the Habermasian public sphere in Bruce Robbins, ed., *The Phantom Public Sphere* (Minneapolis, Minn.: The University of Minnesota Press, 1993) and Michael Warner, *Publics and Counterpublics* (New York: Zone Books, 2002). This understanding of the historical drive towards development (over maintenance) as part of masculine subjectivity might provide a basis for a feminist intervention into the "mega-project era" discourse more generally.

<sup>292</sup> And yet this is not the only way that the "urban system" could be read as function of Ukeles' art, and by extension a ground for contemporary artworks. For instance, read in terms of a performance-based set of actions in/on the city, Ukeles' art would be more closely aligned with Vito Acconci's *Following Piece* (1969), Adrian Piper's *Catalysis* series (1970-1973), even Gordon Matta-Clark's "improper reuse" of urban architecture, whose dereliction or imminent destruction (the conditions prompting Matta-Clark's work) are manifestations of the real estate system.

represent a visual and diagrammatic record of publicly-available information (from such sources as the New York County Clerk's office, newspapers, and the New York Public Library) on the Manhattan real estate dealings of the Shapolsky family.<sup>293</sup> Though seeming to affect a purely informational aesthetic, the work nonetheless succeeds in mapping the relationality between physical buildings in New York and the embodied yet obfuscated networks constituting the "ownership and control of urban space,"<sup>294</sup> in historian Rosayln Deutsche's words-- particularly as such insights make plain the "family ties and dummy corporations" at the center of complex private real estate holdings (then as now).<sup>295</sup>

Indeed, the "real time" aspect of Haacke's spatio-political economy refers in some degree to the historical specificity of "slumlords" in the mold of Harry Shapolsky, whose vast holdings of derelict and under-regulated apartment buildings in sidelined or forsaken neighborhoods of 1970s New York are inextricably tied to the fallout of the mega-project era, as reflected in profound (and largely planned) imbalances in the City's property values. Though Haacke's work is restrainedly oblique on the material conditions of the

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<sup>293</sup> The work consists of one-hundred-and-forty-two black-and-white photographs, one-hundred-and-forty two typewritten sheets, six charts, and an explanatory panel, which can be installed (as "the work") in various configurations and combinations. An important distinction here would be that although the work's installations are variable, the constitution of the "complete" work is stable, encompassing the objects listed above, whereas the physical form of *Touch Sanitation* (for art history, for the museum) is yet-to-be-set.

<sup>294</sup> Deutsche, "Property Values: Hans Haacke, Real Estate, and the Museum," in *Evictions*, 171.

<sup>295</sup> *Ibid.*, 177.

inhabitants of Shapolsky's properties, the photographs of apartment buildings that serve as part of the work deliver a case study by accumulation: These are poorly-maintained, architecturally nondescript row tenements [Fig. 3.11]) and their dialectical opposition to the commercial, architectural, and social status of the Guggenheim Museum on Fifth Avenue (the intended site of the work) is directed at the viewer therein. Guggenheim director Thomas Messer cancelled the exhibition in which *Shapolsky et al* was to be featured a few weeks before its planned opening in April 1971, citing the "extra-artistic" nature and perceived sponsorship of "social and political causes" in the *Shapolsky et al* work and others by Haacke.<sup>296</sup>

Messer's rejection of the Haacke work unconsciously registered the specificity of the work's urbanism, its refusal to follow a general art historical dictum by which the city remains a coherent aesthetic or spatial entity divorced from the vicissitudes and unevenness of its social and economic production. On the other hand, as a work specifically designed for installation in the "white cube" of a gallery, Haacke's critical urbanism followed a certain set of rules: Its basic logical unit was synecdoche, with the real estate holdings of Shapolsky clearly meant to stand in for the political-spatial economy of New York real estate generally; it positioned artwork-related research as a public act (all information represented

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<sup>296</sup> Thomas Messer, statement of April 15, 1971, in "Gurgles Around the Guggenheim: Statements and Comments by Daniel Buren, Diane Waldman, Thomas Messer and Hans Haacke," *Studio International* 181.934 (1971): 249. It is beyond the scope of this chapter to describe the specific conditions and the fallout of this well-known art historical debate. Deutsche's book chapter (see not 28) is the most advanced analysis of the episode.

in the work was publicly-accessible); the work functioned didactically, having designed a specific spatial dynamic with its viewer, as a series of wall-bound objects meant to elucidate a critical act. Put more succinctly, the site of this work was the relationship between the museum and the urban system, and in order to deliver this relationship to the viewer the work to some extent stabilized a definition of both entities.<sup>297</sup> Standing before Haacke's work, the urban system was formatted for the viewer as a visual set of relations, condensed and consolidated, as if the city were almost static.

Whereas Haacke's work operates, even if insurgently, within a spatial and logical rubric set by the art world, enabling his work to register as "institutional critique" as such, Ukeles' work does not produce as direct a relationship to the institutions of art, forcing speculation on an expanded set of terms to describe its actual site, as well as its historical field of operation. Municipal bureaucratic procedure (the schedule, routes and sites of the sanitation system), rather than the art world, imposes a set of rules on *Touch Sanitation*, and Ukeles takes up these rules as the givens of her art--so that the work contends and re-contends with the space of the city, again and again, *in situ* over the course of its realization. Ukeles' work in this way takes on the singular project of imagining an artwork whose material scale is commensurate with urban grounds even as its responsive structure is continuous with the urban system. Beyond providing a critical snapshot of the urban system in operation, *Touch*

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<sup>297</sup> See Deutsche's related argument in *Evictions*, 165-183.

*Sanitation* thus might be said to reconstitute and reenact the urban system over time.

### I. *Maintenance and Development*

In the first formal articulation of the stakes of her practice, the 1969 document *Manifesto for Maintenance Art!* [Fig. 3.12],<sup>298</sup> Ukeles sought to identify a structuring absence in the history of cultural production: an anxiety about, or resistance to, taking stock of the time expended on maintenance (of bodies, families, buildings, sites, institutions, artworks, cities). Less than a counter-history of sidelined cultural projects, the document was a call for recognition of the dialectical relationship between developmental progress and repetitious, unending maintenance inherent to the Adornian culture industry. The most immediate target of Ukeles' manifesto was the historical gendering of labor (as an addendum to the Marxist-feminist critique of men's traditional labor as production, women's as reproduction<sup>299</sup>), as well as the different degrees to which gendered labor registers publicly as labor at all, with the traditionally domestic rituals of women's labor occupying a singular status of being invisible when done well, thus redoubling this labor's invisibility,

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<sup>298</sup> Ukeles, "Manifesto for Maintenance Art!" in Alberro and Stimson, eds., 122-125.

<sup>299</sup> See Moira Gatens, "Power, Bodies and Difference," in *Destabilizing Theory: Contemporary Feminist Debates*, Michèle Barrett and Anne Phillips, eds. (Cambridge: Polity Press, 1992), 124.

as its site, the home, is also invisible within traditional models of the public sphere.<sup>300</sup>

Yet another implied cultural model of the "invisible maintenance/visible development" dialectic in Ukeles' writing was the exhibiting institution, the museum, whose cultural capital depends upon interlinked processes of aesthetic advancement and institutional *maintenance* (i.e., the architectural maintenance of the "white cube," the ideational maintenance of curatorial programs, the financial maintenance of the institution as such, alongside the public production of installations, exhibitions, and, increasingly, other programming).<sup>301</sup> Thus the manifesto concluded with the proposal for an insurgent exhibition, entitled "Care," during which Ukeles would complete a series of maintenance-based tasks at various scales in view of museum visitors. These tasks mirrored the vast scalar range of the document's theoretical field, and included "personal maintenance" (living in the museum and performing cooking, cleaning, childcare tasks every day), "general maintenance" (typewritten narratives by various categories of workers on their relationship to maintenance and

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<sup>300</sup> See Miwon Kwon, "In Appreciation of Invisible Work: Mierle Laderman Ukeles and the Maintenance of the 'White Cube.'" *Documents* 10 (1997): 15-18. In a more general gloss on the topic, scholar Michael Warner has written of the public/private, masculine/feminine labor structure thus: "Public work, for example, is understood to be productive, forming vocational identity, and fulfilling men as individuals; private labor is understood as the general reproduction of society, lacking the vocational distinction of a trade or a profession, and displaying women's selflessness." Michael Warner, *Publics and Counterpublics*, 37.

<sup>301</sup> On these topics, see Brian O'Doherty's highly influential essays on the ideology of the gallery and museum, first published in 1976 and collected in *Inside the White Cube: The Ideology of the Gallery Space* (Berkeley: University of California Press, 2000).

live interviews with "viewers" on the same topic) and "earth maintenance" (various quanta of refuse or polluted material delivered into the museum to be "purified" and "conserved" by Ukeles or scientists).<sup>302</sup>

On the one hand, Ukeles' concepts appeared generally aligned with a widespread late-1960s artistic interest in the hyperbolic procedures of information management and service provision endemic to the postwar service economy, a set of practices whose investments Benjamin Buchloh has encompassed within impulses of the "aesthetics of administration" and the "critique of institutions."<sup>303</sup> The concern of such concept-based work was often the social, economic, political, or architectural apparatuses of capitalism (with the revelation or deduction of institutional/corporate management structures thus rethought as the work's content, as institutional critique) and as such the aesthetically-radical look of this work at times obscured its complex relationships with museological protocol. Much of this work's critical operations took place at a precisely-delineated place and time, and as such its critique registered concisely for the viewer on spatial, aesthetic or conceptual terms. Indeed, in the case of several works representative of this discourse--Mel Bochner's binders containing

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<sup>302</sup> Already operative here is a concept that the city environment can metaphorically be contained within individual labor, and vice versa. This concept would go on to play a key structural role in *Touch Sanitation*. On Ukeles' engagement with the procedures and ideology of museum conservation, see her project *Transfer: The Maintenance of the Art Object*, 1973.

<sup>303</sup> See Benjamin H.D. Buchloh, "Conceptual Art 1962-1969: From the Aesthetics of Administration to the Critique of Institutions." *October* 55 (1990): 105-143.



facsimiles of blueprints, organizational charts [Fig. 3.13], and preparatory drawings, Dan Graham's photo essay on the seriality of U.S. suburban architectural forms [Fig. 3.14], or Ed Ruscha's book-length compendia of everyday architectural typologies [Fig. 3.15], for instance--the object-based status of the "actual work" is ostensibly maintained, even if its modes of distribution and display are fundamentally rethought.

Latent within Ukeles' proposal, on the other hand, was a vast telescoping of scales at which the representation of maintenance might be tested: The instigation for the artist's writing was the experience of caring for her first child (another model of invisible work without inherent end) and yet, at the same time, the document looked forward to the opening up of Ukeles' work onto the scale of the city. Setting up her treatise, Ukeles described at its beginning "two basic systems," development and maintenance, a dichotomy drawn from city planning discourse of the late-1960s, which describes the ratio of economic drivers (development) vs. municipal resource allocations (maintenance) within a given urbanist schema. This dichotomy assumes a central place in Ukeles' theorization of a new category of art as the artist logically relocates art, especially public art, from its usual placement under the category of development--cultural enhancement of a pre-planned place--to the category of maintenance. At the same time, by the moment of *Touch Sanitation*, the artist moves the city's sanitation system (the sort of municipal service, along with policing and firefighting, firmly embedded in traditional urbanist concepts of

maintenance), into the category of development, as art.<sup>304</sup> Which is to say Ukeles' concept of "Maintenance Art" begins with and enacts, over the following years, a transvaluation of received urbanist and artistic values.

At the same time, as evidenced in the landmark urbanist document *Plan for New York City* (published by the City Planning Commission in the same year that Ukeles drafted her manifesto), the concepts of development and maintenance, as they described a dynamic endemic to the production of urban space, were also under radical revision at the level of municipal policy during this period [Fig. 3.16].<sup>305</sup> If *Manifesto for Maintenance Art!* was a response to the excesses of the culture industry's drive towards development, perhaps here as a rejoinder to the 1960s discourses of Minimalism and Conceptual art, then the 1969 *Plan* assumed a related attitude towards the excesses of 1960s spatial production. Surveying the discursive and physical landscape of the mega-project era, sociologist William H. Whyte wrote in the *Plan's* introduction: "This Plan is not a conventional master plan. It is not, for one thing, primarily a physical plan...[O]ur purpose is not to present an over-all design for physical development...Our primary concern is with the processes for the City's growth." Whyte went on to directly reference the project of slum

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<sup>304</sup> Mierle Laderman Ukeles, "MAINTENANCE / SERVICE / RESILIENCE / SUSTAINABILITY / SURVIVAL CRASHING INTO FREEDOM / WHEN YOU ARE SO SICK OF ALL THESE WORDS...", lecture, University of California, Los Angeles, February 20, 2004. See also Patricia Phillips, "Making Necessity Art," in Phillips et al, *Mierle Laderman Ukeles: Maintenance Art*, 191, n4.

<sup>305</sup> New York City Planning Commission, *Plan for New York City, 1969: A Proposal* (New York: The Commission, 1969).

clearance--a key concern of mega-project era urban policy, as discussed in Chapter One--arguing that the municipal address to slums should not focus on design of new physical facilities (development), but rather education and job training (social maintenance processes).<sup>306</sup> Considered alongside the 1969 *Plan*, Ukeles' manifesto might thus be understood as a specific critique of the historical production of space, of which art is one mode of production among others.

Over the course of the 1970s, Ukeles' practice expanded upon this urbanist premise, evolving in its points of reference from the body (maternal care) to institutions (museums) to the city writ large. Following such works as *Washing/Tracks/Maintenance Inside* and *Washing/Tracks/Maintenance Outside* (1973) [Fig. 3.17], a performance during which visitors to Hartford's Wadsworth Atheneum encountered Ukeles' stooped, or upright, or mobile body cleaning the museum building's atrium and entranceway during opening hours, and *A.I.R. Wash* (1974, also known as *Washing*) [Fig. 3.18], which saw the artist cleaning the sidewalk in front of an art gallery in mid-gentrification SoHo in full public view,<sup>307</sup> Ukeles produced *I Make Maintenance Art One Hour Every Day* in 1976 for the exhibition "ART <--> WORLD" at a now-defunct branch of the Whitney Museum in Lower Manhattan [Fig. 3.19]. In this work, Ukeles reconceived the broader institutional context of

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<sup>306</sup> Ibid., 5-6.

<sup>307</sup> On the broader significance of SoHo's gentrification within contemporary art history, see Aaron Shkuda, *The Lofts of SoHo: Gentrification, Art and Industry in New York, 1950-1980* (Chicago: University of Chicago Press, 2016).

the exhibition space--55 Water Street, designed by Emery Roth & Sons, the largest office building in the world at the time and a landmark in the widespread 1950-70s restructuring of downtown New York--as her site.<sup>308</sup> Or, more precisely, she took up the spatiotemporal rhythms of the building's daily administration and maintenance as her site, asking 55 Water Street's three-hundred maintenance workers to choose one hour each day in which to potentially self-redefine their maintenance work as "maintenance art," and thus reposition themselves as collaborators in the production of an artwork within the pre-given temporal boundaries of their working days. Moving through the building over the course of her eight-hour art/work shift, Ukeles photographed these men and women in the course of maintaining the building, asking them whether they considered their labor at that moment to be "maintenance work" or "maintenance art," and constructing a graphic grid of Polaroid photographs to represent their aggregate responses.<sup>309</sup>

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<sup>308</sup> With 3.5 million square feet of office space, 55 Water Street occupied a superblock site formed from four standard blocks in Lower Manhattan. Major tenants included, at the time of the building's opening, NYSE, Chemical Bank, and Goldman, Sachs & Co. In an attempt to increase the cultural capital of the area and further broader goals to transform Lower Manhattan into a live/work district, the building's owner, Uris Buildings Corporation, leased space in 55 Water Street to the Whitney for \$1 per year. See "\$11-Million Downtown Lease Signed," *New York Times* July 23, 1972: R9. On the potential relationship between Ukeles' concept of "Maintenance Art" and the history of modernist skyscrapers, see Hillary Sample, "Maintenance Architecture," *Praxis* 6 (2004): 24-31.

<sup>309</sup> Ukeles has emphasized the importance of her "performance art time" aligning with the "work time" of her art's functionary site (such as the work shifts of 55 Water Street's maintenance workers). Hence, in the case of this work she was present in the building for eight-hour-long shifts. Ukeles in conversation with the author, August 12, 2015, New York.

One central implication of this project was that the rapid expansion of office space in New York, particularly Lower Manhattan,<sup>310</sup> had impacted labor economies in seen and unseen ways: The new architectural and urbanist language of corporate mega-projects brought with it a new, absurd scale of maintenance (imagine three hundred people cleaning three-and-a-half million square feet of office space, day after day, as was the case at 55 Water Street) [Fig. 3.20].<sup>311</sup> Relatedly, by the moment of *I Make Maintenance Art* New York City's municipal structure had itself fallen into systemic disjunction and disrepair as an extension of these urbanist aporias alongside the full force of multinational capitalist expansion. The fiscal breakdown of 1975 was directly related to the service economy's advancement. The impact of this broader socioeconomic paradigm shift included mass migration of businesses and wealthy taxpayers to the suburbs, governmental incentivizing of large-scale private investment in corporate and high-end residential development schemas within the city, and the accordant disinvestment from systemic implementation of affordable housing and adequate social service allocation for workers displaced by the new privileging of white collar service jobs.<sup>312</sup>

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<sup>310</sup> In this way, Ukeles' *I Make Maintenance Art One Hour Every Day* is related to the broader late capitalist transformations of Lower Manhattan discussed in Chapter One of this dissertation.

<sup>311</sup> As Saskia Sassen has observed, the finance industry creates not only high-paying white collar jobs, but also a number of low-paying jobs, such as for maintenance workers to service the massive architectural installations of multinational firms. See Sassen, *The Global City: New York, London, Tokyo* (Princeton: Princeton University Press, 2001), 251-325.

Even as the fiscal crisis was framed by official governmental discourse as a "necessary" negotiation of national (if not international) socioeconomic transformation, a side effect of the municipal response to the crisis was the expansion of the finance and real estate industries<sup>313</sup> alongside the extraction and/or misallocation of funds within city government budgets.<sup>314</sup> Thus a critical reanalysis of the 1975 fiscal crisis must include attention to the capitalist urban phenomenon that planning historian Peter Marcuse has called the "artificial crisis" of the city--the designed over-accumulation of fixed capital in certain areas of the city, the simultaneous "locational imbalance" as capital engages in widespread dislocations,

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<sup>312</sup> See one "official" account of the social, economic, and political dynamics that led to the fiscal crisis in Congressional Budget Office, "The Causes of New York City's Fiscal Crisis," *Political Science Quarterly* 90.4 (1975/1976): 659-674. For a more expansive view of the fiscal crisis, its causes and aftermath, see the authoritative account by Martin Shefter in his *Political Crisis/Fiscal Crisis: The Collapse and Revival of New York City* (New York: Columbia University Press, 1992).

<sup>313</sup> This reformatting of the Wall Street neighborhood, initiated in the 1950s and still very much at play during the 1980s, included the World Trade Center complex designed by Minoru Yamasaki, the development of Battery Park City as a high-end residential and commercial district, and the Chase Manhattan Bank headquarters designed by Gordon Bunshaft of Skidmore, Owings, and Merrill (discussed at length in Chapter One of this dissertation).

<sup>314</sup> At the level of city government, the socioeconomic transformations of postindustrial New York prompted gross mismanagement of the municipal budget, with the reallocation of funds from the capital budget to the operating budget eventually saddling the city with unsustainable levels of short-term debt. At the level of live urban form (by which I mean the physical transformation of the city), these historical factors exacerbated the continuous processes of uneven development that had been repeatedly reshaping New York since at least the 1950s. See Chapter One of this dissertation for a fuller explanation of uneven development. See also Shefter, 105-124.

all in the name of the type of surplus drive towards modernization that ultimately necessitates private capital investment in redevelopment.<sup>315</sup>

Put another way, New York's response to the 1975 political/fiscal breakdown, which set the stage for *Touch Sanitation*, involved financially securing the dominance of "service industries" such as finance, insurance, and real estate at the expense of "services" conceived as a human infrastructure supporting the physical maintenance of the city. Thus within DSNY, for instance, more than half of the sanitation truck fleet was inoperable by 1977, and more than one thousand sanmen had been laid off, leaving live urban space in its own, material state of "crisis."<sup>316</sup> And beyond the internal restructuring of urban bureaucracy, New York was actively repositioning its identity relative to real estate speculation and the tourist industry during the late-1970s, another sociocultural backdrop for Ukeles' symbolic and material re-investment in embodied urban systems. The city planning-based responses to 1970s realignments of global networks of people, capital, and information constituted a kind of disinvestment from the particular historical and social character of the city, a turning outward towards the dictums of the global

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<sup>315</sup> Marcuse, 333-339.

<sup>316</sup> Steisel, who assumed control of DSNY in 1978 and whose work during his early tenure largely focused on restructuring the Dept. in response to the municipal services breakdown post-1975, emphasized the tremendous focus on avoiding widespread cuts to the Dept. workforce, thus necessarily prioritizing keeping jobs over maintaining DSNY property, for instance. Steisel, interview with the author, October 6, 2015, New York.

economy.<sup>317</sup> During the late-1970s, amid these widespread re-routings of capital, the very existence of DSNY came under question, as New York municipal government actively considered privatizing the Department's functions.<sup>318</sup> By extension, the city itself was shown to be a precariously held-together system.

The fiscal crisis, in other words, threw the urban system itself into a state of meta-analysis, un-grounding and undermining the very patterns of maintenance, management and representation that might seem inevitable and intractable urbanist mechanisms during periods of economic prosperity. Citywide initiatives of this era such as adjusted land use regulations, touristic urban "renewal," and decentralized community redistricting constituted fundamental reassessment of the city's socio-political syntax. *Touch Sanitation's* investigative urban imperatives can thus be seen, again, as an extension of the simultaneous analysis of New York's urban environment being enacted within the official zone of municipal government. And the coexistence of these two investigations--one in the register of art, the other in the register of urban management--together disclose a set of historical conditions. Against the index of the mega-project era's

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<sup>317</sup> Among the late-1970s projects that reflected this paradigm shift towards globalized tourism and financial exchange were the planned revitalization of Times Square, formation of the Battery Park City Authority, various schemas for what would eventually become the Javits Convention Center, and the planned expansion of the Museum of Modern Art (MoMA), which included conversion of MoMA's air rights over its site into the spatial fix of a condominium tower designed by Cesar Pelli.

<sup>318</sup> This would apply only to residential waste collection: During the 1970s, as now, commercial waste was collected by private companies, whereas residential waste was collected by DSNY.



aftermath, the potential reformatting of New York into a series of non-places,<sup>319</sup> Ukeles' encounters during the ten "sweeps" of *Touch Sanitation* figured an alternative model of New York, of the urban body and its viability. The performance was a means of repeatedly *turning-into* the city, through a spatiotemporal movement that the artist calls the "spiraling" inward of her work's trajectories [Fig. 3.21].<sup>320</sup>

It was an identification of the latent affinities between Ukeles' work and the state of New York urbanism that set up the possibility of *Touch Sanitation* in 1977. Ukeles sent a cutout of Bourdon's *Village Voice* review of *I Make Maintenance Art* to then-Sanitation Commissioner Anthony Vaccarello, along with a note proposing that the Commissioner consider her for the imagined position of artist-in-residence [Fig. 3.22]. Amidst a fundamental crisis in the plausibility of municipal business as usual (and an organizational breakdown), Vaccarello positively responded to Ukeles regarding a potential dialog between her art practice and municipal maintenance.<sup>321</sup> The urban system in flux,

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<sup>319</sup> See Marc Augé, *Non-Places: An Introduction to an Anthropology of Supermodernity* (London: Verso, 1995) and Michael Sorkin, ed., *Variations on a Theme Park: The New American City and the End of Public Space* (New York: Hill and Wang, 1992).

<sup>320</sup> Several early drawings for *Touch Sanitation* represent the work as a spiral superimposed over the image of two hands nearly touching. The drawing cited here includes the phrase "Thank you for keeping N.Y.C. alive" mirrored between the artist's hand and the sanman's. This mirroring reflects earlier versions of the work, which proposed that Ukeles' would stamp her hand with the phrase, and that upon shaking the sanman's hand the imprinted phrase would thus transfer onto his skin.

<sup>321</sup> Vito Turso, head of communications for the DSNY at the time of Ukeles' initial engagement with the Department, identifies the potential of Ukeles' ideas to both boost internal departmental morale and elevate the Department within the sphere of public perception as

reconceived against the index of precariousness and dysfunction, thus became the historical and material ground of Ukeles' work.

## II. *What Constitutes "The Actual Work"?*

Images of Ukeles, garbed in her own version of the New York sanman's uniform, which consisted of matching monochrome (turquoise, coral, lavender, pink) painter's shirts and pants,<sup>322</sup> alongside uniformed sanitation workers in the field over the course of her performance, define the art historical life of *Touch Sanitation*, which is thus largely understood as a loose agglomeration of such encounters, as well as a sum of imagistic parts.<sup>323</sup> Even as the "Handshake Ritual" component of *Touch Sanitation* has assumed a stable position in several histories of site-specific, feminist, and performance art,<sup>324</sup> the

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prime factors in bringing Ukeles on board. Interview with the author, July 22, 2016, New York.

<sup>322</sup> Phillips, "Making Necessity Art," 99.

<sup>323</sup> An important context for the historical reception of Ukeles' early city-engaged artworks is the urbanist-anthropological writings on the city during the 1960s-70s, as embodied in the work of Jane Jacobs, Kevin Lynch, and William H. Whyte. These "on the ground" accounts of urban systems have traditionally been opposed to the technocratic planning sensibility of "official" municipal culture, most notably embodied in the postwar period by the policies of Robert Moses. Ukeles' work has the potential to problematize this longstanding dichotomy, proposing instead a model of the city that incorporates vastly incommensurate scales of perspective and methods of knowledge acquisition. On the debate between Jacobs et al and Moses, see Hillary Ballon and Kenneth T. Jackson, eds., *Robert Moses and the Modern City: The Transformation of New York* (New York: Norton, 2007) and Robert A.M. Stern et al, *New York 1960: Architecture and Urbanism Between the Second World War and The Bicentennial* (New York: Monacelli, 1997).

<sup>324</sup> See, for example, Cornelia H. Butler et al, *WACK! Art and the Feminist Revolution* (Los Angeles: Museum of Contemporary Art and Cambridge, Mass.: MIT Press, 2007), Lucy Lippard, ed., *Issue: Social*

artist's original dating of the overall work--1977-80--indicates its constitution in a period of activity that exceeds the performative ritual by more than a year.<sup>325</sup> And indeed, over the course of eighteen months during 1977-79, directly following her initial dialog with Vaccarello, Ukeles embedded herself in the live system of sanitation, through a sort of research-by-redoing in which she continually tested her avowed interest in an "art of the urban system" against this system's very comprehensibility to an artist.

How does *Touch Sanitation's* engagement with the functional sites of the urban system impact the form of the artwork, and its capacity to "work" within the city? Or, again, *what is the work* in the face of an urban system that seems to potentially overwhelm it, repeatedly threatening to detour *Touch Sanitation* in the process of the work's becoming? The structure of the work itself is, at least in part, an address to this problem, simultaneously involving administration and real-time action, abstract control systems and face-to-face encounters.

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*Strategies by Women Artists* (London: Institute of Contemporary Arts, 1980), Helena Reckitt and Peggy Phelan, *Art and Feminism* (London: Phaidon, 2006); and Helen Molesworth, "House Work and Art Work," *October* 92 (2000): 71-97.

<sup>325</sup> As presented in the recent exhibition "Mierle Laderman Ukeles: Maintenance Art," the dating of *Touch Sanitation* changed: It was dated 1979-1980, reflecting the time span from Ukeles' initiation of her first sweep to the completion of her tenth. Furthermore, what was before the "research phase" of *Touch Sanitation* was transferred into a newly-minted work, *Maintenance Art Works Meets the Department of Sanitation*, dated 1977-1979. Larissa Harris, one of the exhibition's curators, explained the decision to divide and re-date the work within the exhibition context as having to do with the fact that Ukeles' 1977-1978 proposals, many of them closely conceptually aligned with *Touch Sanitation*, nonetheless ultimately generated a series of works beyond *Touch Sanitation*. Larissa Harris, email correspondence with the author, February 14, 2017.

The amended documents that form one component of the work, documents that originally came about as dispatches from Sanitation headquarters, an urbanism of remote control,<sup>326</sup> both circumscribe and structure the work's performative components in the "real space" of the city. Thus the dialogue between systems management and sited action within *Touch Sanitation* redoubles the schematic-implemental logic of the urban maintenance system itself. At the same time, understanding the work as an exchange between art and the urban system pressures an expanded description of its form: The critic of *Touch Sanitation* must take account of these movements between the expansive field of the streetscape and the intricate mechanisms of municipal bureaucracy as integral to the meaning of the work.

In taking seriously the significance of a category of objects that might conventionally be understood as preparatory or documentary as absolutely integral to "the work itself," rather than a sort of backstage doppelganger to the one-time action of Ukeles' performance and the photographic documentation thereof, this study aims to map *Touch Sanitation's* own infrastructure.<sup>327</sup> The work's multimodal form is,

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<sup>326</sup> The notion of remote control (as in the institutional "brain" of a municipal headquarters) is in fact complexly worked out in Ukeles' art, and related to her interest in systems thinking and the information society. On this historical framework, see James Beniger's concept of the "control revolution" by which the information society transformed U.S. culture and economy during the postwar era. James Beniger, *Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge, Mass.: Harvard University Press, 1986).

<sup>327</sup> Ronald Feldman Fine Arts, Ukeles' longtime gallery, has developed along with the artist a somewhat standardized means of transforming her performance-based works into saleable objects. This standardized format includes a series of photographs documenting the performance itself, along with "original" text pages written by Ukeles as part of

indeed, not only a formal device underpinning the construction of *Touch Sanitation* as a "social sculpture," but also a direct reflection of Ukeles' embedded "piggybacking"<sup>328</sup> on the sanitation system. Each of *Touch Sanitation's* ten sweeps encompassed all five of New York's boroughs, which is to say each sweep covered Manhattan, Brooklyn, Queens, Staten Island, and the Bronx. Thus over the course of the work Ukeles' revisited the same territory repeatedly, but moved through different sanitation districts within these boroughs each time, in a "repetitious-differential" pattern.

On the one hand, the repetitious-differential logic of the performance seems to have been set up through *Touch Sanitation's* "research phase" during 1977-79, which saw Ukeles repeatedly moving between different types of sites--administrative offices, section break rooms, incinerators, landfills, garages. On the other hand, this research phase figures a period of formless work, one which poses a challenge to longstanding assumptions of art historical research, in which the "archive" or "studio" is typically distinct from and adjunctive to the "work," with each furthermore occupying its own distinct site. Ukeles' production of artworks in various DSNY functional sites, as well as the location of her office/studio in DSNY-managed space, places her practice within a fundamental

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the work's enactment. Sometimes notebooks and/or drawings are also included in these "sets." The works have typically been sold as unique editions. No doubt the centrality of the reprinted and framed photographs in the market versions of Ukeles' work has informed the dominance of these images in the art historical record of her oeuvre.

<sup>328</sup> This is Ukeles' term to describe the imbrication of her work in DSNY operations.

reconstruction of these artistic typologies.<sup>329</sup> One of the most radical stakes of Ukeles' art is thus that it reimagines the infrastructure of information and social relations as a physical site. *Touch Sanitation* is, in part, *sited* in an invisible zone of municipal maintenance activity: the flows of labor, information, and energy that sustain the city. At the same time, it seeks to materially represent these flows, which are typically resistant to representation because they are the material of the city's persisting to function as such. This is one reason that the focus on imagistic objectification of *Touch Sanitation* cannot account for the actual operations of the work.

Put another way, the set of documents introduced above brings this invisible zone of bureaucratic maintenance into the artistic field. Re-produced as materials for an artwork, *Touch Sanitation's* documents become *material manifestations* of the work's genesis within the infra-structures of urban maintenance (just as the embeddedness of Ukeles' studio/office in a DSNY administrative building represents an infrastructural siting of her overall practice, her artist residency as a work).<sup>330</sup> For instance, Ukeles moved through Sanitation's fifty-

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<sup>329</sup> Since the late 1970s, Ukeles' has been given office space gratis by DSNY. Her first office was located at 51 Chambers Street near New York's City Hall. She now occupies a suite of three offices at the DSNY administration building at 44 Beaver Street. This space also serves as an archive of her practice.

<sup>330</sup> There is a servant/served dichotomy at play here that relates to the broader concerns of maintenance art. To be among the population of a city whom the service infrastructure serves is also to be denied access to the functional apparatus of the infrastructure itself. Though the degree of access granted to the municipal servant is not traditionally understood as a source of cultural or social capital, one aim of Ukeles' work is to imbue this body of knowledge with value. Ukeles addresses this dynamic explicitly in her essay "Why Sanitation

eight (later, fifty-nine)<sup>331</sup> districts with copies of official district maps that would have, for sanmen, in turn referred to a "master map" of New York's street grid within a paper system of navigation. In Ukeles artwork, however, these maps become yet another kind of worksheet, and a daily charting of the artwork's course. They are components of the work's material life, annotated with route lines, notes-in-place, insights, reminders [Fig. 3.23].

Furthermore, over the course of her performance Ukeles sent a series of "telexes" that described her location on a given day, as well as the overall progress of the work [Fig. 3.24].<sup>332</sup> These telegrams were routed through the DSNY's daily communication systems, and were indistinguishable in format from other correspondence sent out by control to various DSNY sites in the city. For instance, a telex from August 1, 1979, reads:

From Control

"Touch Sanitation"

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Can Be Used as a Model for Public Art (Sanitation Manifesto)" (1984): "Sanitation is totally inter-dependent with its public: locked in--the server and the served. Sanitation, in democracy, implies the possibility of a public-social-contract operating laterally, not upstairs-downstairs, but equally across the server and the served. This is accomplished at totality of scale..." (underlining original). See Mierle Laderman Ukeles, "Why Sanitation Can Be Used as a Model For Public Art, 1984," in Phillips et al, *Mierle Laderman Ukeles: Maintenance Art*, 217.

<sup>331</sup> This change in the number of New York City's sanitation districts came about during the municipal project of coterminality, discussed at length below.

<sup>332</sup> Steisel has emphasized the centrality of this system in daily departmental communication during the historical period of Ukeles' *Touch Sanitation*. Interview with the author, October 6, 2015.

"Good Morning". The Maintenance Artist will again be in District 50 today to "Touch Sanitation."

The telex component of the work enabled its trajectory to move within two zones at once: The physical presence of Ukeles' body moved alongside the networked presence of the teleprinted notices concerning the work.<sup>333</sup> *Touch Sanitation* instantiated itself amidst the "necessary" information of the day: All districts should prepare for snow clearing in the coming days. The following sanmen will be transferred from Garage 5 to Garage 17, effective March 1. Note that transmissions on trucks issued in 1976 have been recalled. Medical examinations are scheduled for next week at the clinic. The maintenance artist (as Ukeles refers to herself in these messages) will continue Sweep No. 1 in District 50 today to "Touch Sanitation" [Fig. 3.25].<sup>334</sup>

Yet, although informational and systemic, the telex circa 1979 is also material. It comes into functional existence once it manifests as a physical document, as a message on paper. And it is printed material of a very particular kind: It manifests the dispersed spatial logic of a network by printing the same information, simultaneously, across

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<sup>333</sup> An art historical counterpart to Ukeles' use of the DSNY telex in her work is On Kawara's *I am Still Alive*, a project begun in 1969 and extending for three decades in which Kawara sent nearly nine hundred messages containing this statement to friends, acquaintances, and participants of the art world, some of them by telex. Kawara's use of the telex also reflects an investment in networked communication as a means of marking everyday activities (in this case, the persistence of the act of living, a kind of maintenance).

<sup>334</sup> My thanks to Norman Steisel for enumerating various uses of the DSNY telex system during the era of *Touch Sanitation* to me. Steisel, conversation with the author, March 21, 2017.



vast swathes of geographical terrain, by making this information available in a decentered instant of collective legibility. The Telex was a text-messaging system made up of point-to-point teleprinters. Although telex systems were not always limited to a single agency or corporation, in the case of 1970s-era DSNY they served as an internal communication system between headquarters and the Department's numerous field offices, garages, incinerators, landfills, and marine transfer stations. In this way, each instance of activating the telex was a spatial and informational mapping of the urban maintenance network. The telex also operated at a register distinct from the simultaneous "bodily mapping" of *Touch Sanitation's* performative component,<sup>335</sup> which necessarily proceeded according to a processional logic of one place after another. In an early proposal for her social sculpture, Ukeles addressed the work's foundational desire to attain the scale of the city: "I will bodily map NYC's underbelly to enable public [sic] to feel Sanitation's dumbfounding scale through simplest [sic] kind of primary measuring perceptions: 1 + 1 + 1 + 1 + 1 + 1 + = 8,500." <sup>336</sup>

The multimodal logic of *Touch Sanitation's* movements through these various registers of urbanism, which structured the work's spatiotemporal navigations over the course of three years, reached a point of intractability at the performance's end. Rather than taking place in one place, the final act of *Touch Sanitation* transpired as a function of the entire urban system. During June 1980, Ukeles drafted

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<sup>335</sup> Ukeles, "Maintenance Artworks Meets the Department of Sanitation."

<sup>336</sup> Ibid.

and sent out a final telex message from Sanitation headquarters, thus concluding her work in multiple places at the same instant, while also instantiating her art one final time within the urban social/informational network [Fig. 3.26].<sup>337</sup> A key document within the larger artwork *Touch Sanitation*, Ukeles' final telex is a trace of the scalar incommensurabilities taken up, and not necessarily resolved, in her work. It attempts to find the terms by which the one-to-one encounter with a particular site (and sanman) might be reconciled with the dispersed and numerous sites of the urban maintenance network, the abstract and rationalized field of the urban system as a whole. Ukeles wrote on June 26, 1980:

Touch Sanitation Final Message

Today I shake the last hand in Manhatan [sic] District I back where I began eleven months ago on July 24, 1979.

But I wanted to end it at the same moment all over New York City with all of you via this telex.

I hope all New Yorkers will pick up this idea to give you the well earned support you deserve.

In my en [sic] sweeps around the city I have seen you working in all 59 districts and through all seasons in every condition imaginable.

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<sup>337</sup> Yet this was not the telex Ukeles wanted to send. She spent the last workday of her artwork at a telex typewriter, drafting a treatise on her time moving through the sanitation system that extended over many pages. Due to the bulk of output it would require to send this telex to every Sanitation facility, however, Steisel did not allow Ukeles to send this first version.

Next year I hope to invite you and your families and all New York to an exhibition [sic] the video and interviews and photographs I made throughout Touch Sanitation.

Gentlemen it has been and [sic] extreme honor to be part of your world. I thank each one of you for making this vision of the most necessary system of the city - hand to hand - a real one.

Thank you for keeping New York City alive.

Mierle Laderman Ukeles<sup>338</sup>

### III. *The Urban System as Site*

Within the logic of *Touch Sanitation*, at least three definitions of the urban system operate simultaneously. The first is a *structural-spatial* definition: Sanitation is a system because it is a network of people, energy and information dispersed across space and articulated via a series of interconnected nodes. The second is *operative-functional*: The sanitation system is a *service* that catalyzes invisible quanta of energy and information in order to make these productive forces available to entities in the world, immaterial labor for spaces and people. Third, an urban system is a dynamic *constellation*, a structure made up of multiple elements and forces that, at a given moment, exists in one formation amongst several possible others (in this sense, the system projected by *Touch Sanitation* is always an open system).

This last definition of the urban system connects it to the bodily possibility of breakdown or malfunction.<sup>339</sup> As such, it

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<sup>338</sup> Mierle Laderman Ukeles, June 26, 1980 telex, artist's files, DSNY.

complicates systems theory's postwar associations with technological progress, as a kind of pseudo-science of information and people management, a definition of "system" that was particularly active in postwar discourses of urban planning.<sup>340</sup> The idea of the system as precariously dynamic, as engaged in unending processes of exchange and recalibration, on the other hand seems to imply that a system is a vulnerable thing, that it is dependent for maintenance upon a sort of fragile accord among its component parts. And indeed the historical definition of the urban system operative in *Touch Sanitation* is, to some extent, this kind of system in disorder, a failing system running sub-optimally (amidst New York City's financial/political crisis). On the other hand, the version of the urban system produced by the work is one in which collective acts of maintenance are a constant precondition of the system's operation, not only in moments of imminent breakdown, but as an enabler of the system's very persistence in time, at all times. Bringing this condition into alignment with the keywords of her practice, Ukeles referred to New York circa 1977 as "maintenance city."<sup>341</sup>

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<sup>339</sup> See Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society* (New York: Houghton Mifflin, 1950). It also seems worth underlining here that the image of the city as body (particularly the city as sick body) is an abiding motif of urbanist discourse. For one take on this tendency *vis-à-vis* sanitation, see Dominique Laporte, *The History of Shit, A Documents Book* (Cambridge, Mass.: MIT Press, 2000).

<sup>340</sup> See Keller Easterling, *Organization Space: Landscapes, Highways and Houses in America* (Cambridge, Mass.: MIT Press, 1999) and Andrew Shanken, *194X: Architecture, Planning and Consumer Culture on the American Home Front* (Minneapolis, Minn.): University of Minnesota Press, 2009).

<sup>341</sup> Ukeles in conversation with the author, August 12, 2015, New York.

Returning to Marcuse's insights regarding the capitalist city's structural tendency towards imbalance and dislocation, we might read Ukeles' concept of "maintenance city" not only as a particular episode in the history of a city, one affective state of the city among others, but also as a reading of the city more generally, as a *type* of city. Maintenance city, in other words, is an urban condition, rather than a historical anomaly, one that places emphasis on the ongoingness of urban transformation. The recursive structure of *Touch Sanitation*, based on a desire to comprehend the *entire* city systematically and evenly within each sweep, should be seen as a response to this socio-geographic concept. Referring back to the diagram that opened this chapter, we might note again that the lines of *Touch Sanitation* visually counteract the uneven and fractured ground of municipal "collection frequency" beneath them. At the same time, the repetitive sweep structure provides a framework for returning to the real space of the city again and again, for remaining "on the ground" in a laborious and inefficient mode: art conceived as an eternal return alongside municipal work that never ends.

Though systems based, *Touch Sanitation* is not *efficient*. And although part of its form is constituted in processes of information management, circulation, and exchange, it also continually tests the viability of such diagrammatic or administrative processes against the comprehensibility and navigability of live urban space. Ukeles incorporates section maps, telexes, collection frequency maps into her work because such documents and plans are central to the maintenance system's operations in real space. Yet such diagrammatic

representations of the urban system are not constants, but rather expert estimations of the system's rubric--or, to invoke Smithson again, in another context, descriptions of a malleable "syntax of sites."

In the real-time of its realization, *Touch Sanitation* was thus a heuristic project. It organized and reorganized itself according to the urban system's own vicissitudes, changing course eleven times during 1979-80 in response to the service redistricting process known as "coterminality," which set the urban territory of New York into an exceptional degree of flux during those years [Fig. 3.27].

Coterminality was an ambitious effort to rationalize and streamline the administrative layout of the city, with the boundaries of the city's extant community districts serving as a template according to which its various service districts would be redrawn. With community governance functions,<sup>342</sup> on the one hand, and service functions such as sanitation, buildings, transportation, parks, etc., on the other, now aligned one-to-one in most cases, the city would become more efficient and more user-friendly for its citizens, or so went the planning logic.<sup>343</sup> Coterminality could in turn be seen as part of an extended

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<sup>342</sup> Community Districts are governed by community boards. Each community board is composed of up to 50 persons who live, work or have other significant interest in the district, plus the Council Members serving the area. Among the important responsibilities of each Board are: the review of matters pertaining to land use in its district, evaluation of the quality and quantity of service delivery, recommendations for capital and expense budget priorities, and planning for the community's improvement.

<sup>343</sup> See New York Community Board Assistance Unit, *Coterminality for New York City* (New York: The Board, 1979) and New York Community Board

response to the aftermath of the 1975 political crisis, focusing in particular on the negative opinion of municipal service provision among New Yorkers wrought by this historical episode.<sup>344</sup> It was an attempt to align the infrastructural with the social. Which is to say coterminality's guiding concerns were not only the provision of services and optimized scientific management of financial and energy resources, but also the collective perception of the city on the part of its inhabitants (as the subjects of public service), the representation of New York to itself.<sup>345</sup>

Ukeles' work is, as we have seen, likewise a project of aligning the infrastructural with the social.<sup>346</sup> And yet the work's particular

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Assistance Unit, *Coterminality for New York: Final Report, July 15, 1979* (New York: The Board, 1979), City Hall Library, New York City.

<sup>344</sup> Turso has underlined this point as a key arena of focus among municipal agencies during the late-1970s. Interview with the author, July 22, 2016, New York

<sup>345</sup> "Until now, each agency has maintained its own peculiar pattern of administrative districts. These districts have developed as a result of historical patterns and operational necessities...this maze of overlapping districts contributed to a widespread perception by citizens that City agencies are unresponsive to neighborhood problems and needs. In addition, the Commission felt that this situation of overlapping districts made it difficult for agencies to engage in coordinated programs aimed at the particular problems of a community." New York Community Board Assistance Unit, *Coterminality for New York: Final Report, July 15, 1979*, 1.

<sup>346</sup> Notably, in 1983 Ukeles entitled a series of proposals "Infrastructure Interface Inc." and considered renaming her practice thus, replacing the term "Maintenance Art Works." This renaming was perhaps most directly reflected in a series of proposals Ukeles developed during the late-1970s for repurposing closed landfills on urban land as Earthworks, conceived either by Ukeles herself or invited artists. In 1979, she received an NEA Art in Public Places Planning Grant for her own proposals in this vein, as well as an NEA Design Arts Independent Project Fellowship to support planning of

focus on sanitation infrastructure marked it as exceptionally affected by the syntactical rearrangements of coterminality. DSNY seized on the broader municipal agenda of the coterminality project to comprehensively reassess not only its district boundaries (adding two entirely new districts in the process), but also to completely revise all of its collection routes according to transformations in the density and distribution of trash generation in the city.<sup>347</sup> This comprehensive overhaul of the urban maintenance network, registered with exceptional depth in the sanitation system as compared to the city's other service categories, concretely impacted the conception and execution of *Touch Sanitation*--"maintenance city," with its implications of a need to contain the imminent undoing of the city, redoubled here as a matter of historical exegesis.

As if to mirror the cut-and-paste logic by which Sanitation and other service departments were resetting spatial boundaries and routes, Ukeles produced as part of *Touch Sanitation* a set of itineraries whose points of orientation were excerpted directly from the DSNY publication "Field Locations,"<sup>348</sup> a comprehensive listing of the street

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works by other artists. See *Heresies* 13 (1981), *Earthkeeping/Earthshaking: Feminism and Ecology*.

<sup>347</sup> New York Community Board Assistance Unit, *Coterminality for New York: Final Report, July 15, 1979*, 52.

<sup>348</sup> What is the meaning of the "field" for *Touch Sanitation*? The term takes on particular significance in art history during this same year (1979) with the publication of Krauss' essay "Sculpture in the Expanded Field." It is notable that the "Field Locations" booklet, a key document in *Touch Sanitation*, refers to a specific municipal and functional field (the New York City sanitation system), *not* the rhetorical trope of "field" as an abstract definition of space that can be mapped and remapped.



names corresponding to various district offices and garages at a certain point in time, compiled in a manual to serve as a reference for sanmen and Departmental administrators [Fig. 3.28]. The data of "Field Locations" is precise in a dense way, calibrating sections of streets that speak to a richly internal system of signification; the deductive spatial grammar of the sanitation district numbers, followed by section numbers, adds yet another syntactical dimension to the tables. The organizing frame for these bureaucratic excerpts as repurposed for *Touch Sanitation*, however, is the artwork's own logic: as components of the artwork, the section listings do not follow sequentially as they would have in the original field manual. Instead, they jump from one borough to another according to the design of the work's sweeps. Whether consciously or not, these worksheets constitute provisional portraits of the urban system in flux, based on the originary function of the field manual. The worksheets' structure is disjunctive and agglomerative simultaneously, pages from a municipal document cut-up, redone, now describing both the same space they once did as official material and another space, a heuristic space, that of the artwork.

Yet these re-appropriations of DSNY's technical documents nonetheless are only hypotheses of the artwork's itineraries. Once tested in the live, unpredictable space of the city, they underwent constant revision (this is ultimately what it means to understand the urban system as the site, material and process of an artwork--not "systems aesthetics" or "the aesthetics of administration," not such static concepts, but constant provisionality in the work's course of

becoming). In a direct reflection of the processes of coterminality-- and, we might infer, the larger historical context of *Touch Sanitation's* genesis in a moment of fiscal breakdown--even the data of the "Field Locations" manual proved provisional and in flux. Other itineraries produced by Ukeles for the work reflect the coexistence of "new" and "old" sanitation districts within the urban syntax through which *Touch Sanitation* moved over the course of its sweeps [Fig. 3.29]. In another document, a revised itinerary drawn in the wake of coterminality, we see that multiple sweeps have been affected by the redistricting project, so that the work now moves through newly-defined urban territories, articulations of New York's functional syntax that did not exist at the moment of the artwork's inception in 1977. In registering the relationship between particular urban spaces/producers and the systemic maintenance of the city, *Touch Sanitation* thus also becomes an instrument sensitive to the city's relational realignments over the course of three years.

#### IV. *To Be Maintained in Full Public View*

Now, I will simply do these maintenance everyday things,  
and flush them up to consciousness, exhibit them, as Art.

...

The exhibition area might look "empty" of art, but it will  
be maintained in full public view.

MY WORKING WILL BE THE WORK.

Ukeles' "Manifesto for Maintenance Art!" is not only a prospectus on the cultural reassessment of traditional women's work relative to the art institution and the city, but also an exhibition proposal entitled "Care." The document proposes placing the triangulation between house work, art work and urbanism into a state of radical visibility through the rituals of exhibition production. Yet, as an exhibition proposal, it is yet to be fully realized. A core idea of this exhibition comes in the section of the manifesto titled "Personal Maintenance," and describes a series of housekeeping tasks such as sweeping, dusting, and washing that, once resituated as art through a spatial transfer, would entail maintaining a gallery space "in full public view"--a state of visibility integral to the gallery, and at the same time uncanny in the context of traditional maintenance work, which remains invisible if completed in alignment with the spatiotemporal rhythms of institutions and cities.<sup>350</sup> Ukeles' manifesto thus asks, what would it

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<sup>349</sup> Mierle Laderman Ukeles, "Manifesto for Maintenance Art!" (1969), in Alberro and Stimson, eds., 124.

<sup>350</sup> I use the term "uncanny" here to invoke the duality of its Freudian interpretation, as that which is both homely and unhomely, *heimlich* and *unheimlich* by turns--the familiar contained within the unfamiliar, which has transformed the familiar beyond conscious recognition. See Sigmund Freud, "The 'Uncanny'" (1919) in James Strachey, ed. and trans., vol. 17 of *The Standard Edition of the Complete Works of Sigmund Freud* (London, Hogarth Press, 1973-74), 217-252. On the relationship of the uncanny (and Freudian psychoanalytic theory more generally) to theories and histories of space, see Anthony Vidler, *The Architectural Uncanny: Essays in the Modern Unhomely* (Cambridge, Mass.: MIT Press, 1992) and *Warped Space: Art Architecture and Anxiety in Modern Culture* (Cambridge, Mass.: MIT Press, 2000).

mean to sustain visibility of a type of everyday labor coded both feminine and private, feminine because private (and vice versa).

In so doing, the artist links her late-1960s statement on housework not only to postmodern and psychoanalytic visual theory but also to a much older model of feminist cultural criticism, Jane Addams' 1910 dictum that "the city is enlarged housekeeping."<sup>351</sup> Written in response to another moment of widespread transformation and uncertainty in American cities, during the rapid urbanization of the Progressive Era, Addams' writing questioned why urban development (which she too pointed out was coded male and controlled by men) had superseded the maintenance of the city, the "multiform activities" of urban housekeeping, which she knowingly and cuttingly pointed out were an extension of "activities which women have always had."<sup>352</sup> In a striking moment of intellectual companionship across time with Ukeles' writing from sixty years later, Addams went on to directly indict this failure to realize the interconnectedness of personal care and urban maintenance as a failure of institutions, the state in particular. The city's models of self-maintenance were not keeping up with its plans

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<sup>351</sup> Jane Addams, "Women and Public Housekeeping," in Dawn Keetley and John Pettegrew, eds., *Public Women, Public Words: A Documentary History of American Feminism* (Lanham, Md.: Rowman & Littlefield, 2002), 116.

<sup>352</sup> *Ibid.*, 116-117. Addams also constructs a historical arc based around these claims: "From the beginning of tribal life, women have been held responsible for the health of the community, a function which is now represented by the health department; from the days of the cave dwellers, so far as the home was clean and wholesome, it was due to their efforts, which are now represented by the bureau of tenement-house inspection; from the period of the primitive village, the only public sweeping performed was what they undertook in their own dooryards, that which is now represented by the bureau of street cleaning," 117.

for growth, she wrote, before identifying the then-legalized alienation of women from civic discourse (their lack of access to the right to vote, i.e.) as an underlying cause.

A charter for a related form of historical redress, "Maintenance Art" makes a space for the manifestation of commitment-to-place and at the same time enframes that commitment within a new mode of representation [Fig. 3.30]. In this way, the call to action of "Care" is partially realized in *Touch Sanitation*, where the entire city appears to stand in now for the restaging of museum as home (the invitation to displace spaces through semantic slides is embedded in the manifesto itself). Exposition of the embodied systematicity of urban maintenance transfers the sweeping, dusting, washing, etc. of "Care" into a new register of productive work. And within *Touch Sanitation*, the city is "maintained in full public view," just as the gallery-cum-living space would have been during the proposed exhibition. This concept--a body, a space, a system maintained in full public view-- makes possible the telescoping of scales and categories of visibility in *Touch Sanitation* and many of Ukeles' other urban-engaged works. On the one hand, the urban maintenance system seems to be the epitome of a depersonalized and dispersed model of care, counterpointing the concentrated and private care of body or home. Yet, oddly, the fact of its publicness does not inherently lead to its cultural visibility, its cultural elevation as a recognized form of production (or development). This is perhaps because the very

persisting fact of the urban system is evidence of the city being maintained in "full public view," all the time.<sup>353</sup>

Every encounter within *Touch Sanitation* between sanman and artist is thus an argument that the city is contained within the individual, while at the same time containing individuals in a state of intimate codependence.<sup>354</sup> In order for the city to "work" across time, these two conditions must be affirmed in their mutual viability again and again, everyday. The city is kept alive through an ongoing series of

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<sup>353</sup> This fact is exacerbated in New York by the 1811 Commissioner's Plan's elimination of alleyways in most of the city, so that trash collection is a synesthetic public experience to an exceptional extent in the City. My appreciation to Vito Turso for pointing out this very important aspect of the experience of Ukeles's work, as well as study of New York's urban maintenance system in general. Vito Turso, interview with the author, July 22, 2016, New York

<sup>354</sup> An important reference point here is Ukeles' relationship to Jewish philosophy and Jewish mysticism, which plays a strong role in her art and thinking and also deeply informs Benjamin's theories of history. An orthodox Jew and daughter of a rabbi, Ukeles has referred to *Touch Sanitation* as a *mitzvah*, a social-political concept roughly translating as "good deed" or "gift." Mierle Laderman Ukeles letter to Jeff Oboler, Martin Steinberg Center, American Jewish Congress, August 13, 1980, artist's files, DSNY.

Elsewhere, Ukeles has spoken about the collective and durational rituals of maintenance as grounded in Jewish mystical thought: "In the beginning, before the creation of our world...The Divine was everywhere and everything was conceived as a series of perfect vessels. Then the Divine, in a willful act of love, constricted itself, withdrew, in order to make room for the world to come into being -- a world...to be ever and always recreated by people. But in the act of constriction, the great loving act of self-withdrawal, there was a shattering of these perfect vessels. And the shards, the remnants...are now everywhere in the world, and each fragment is filled with a divine spark of the original divinity that was everywhere. And it is our job to repair these vessels..." Mierle Laderman Ukeles and Doug Ashford, "Democracy is Empty," *Documents* 10 (1997): 26.

provisional accords between strangers.<sup>355</sup> And *Touch Sanitation* is a structured constellation of such accords, or handshakes, amidst the real-time systems of the city.

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<sup>355</sup> Stranger relationality as a key precondition of existence in the city has a long history in cultural criticism. In these analyses, strangerhood is not a "problem" to be solved through intimate interaction, but rather a social condition of being in the city that, in the words of Michael Warner, "requires our constant imagining." In this way, stranger relationality might itself be seen as a form of maintenance and of the social production of urban space. On this concept, see Warner, 74-76. Warner's scholarship has in turn drawn on a long line of writing on this concept in cultural criticism and sociology. See Georg Simmel, "The Metropolis and Mental Life" (1903), in Donald Levine, ed., *On Individuality and Social Forms: Selected Writings* (Chicago: University of Chicago Press, 1971), 324-339; Siegfried Kracauer, "The Hotel Lobby" (ca. 1922-1925), in Thomas Y. Levin, ed. and trans., *The Mass Ornament: Weimar Essays* (Cambridge, Mass.: Harvard University Press, 1995), 173-185; and Walter Benjamin, "On Some Motifs in Baudelaire" (1940), in Howard Eiland and Michael Jennings, eds., vol. 4 of *Walter Benjamin: Selected Writings* (Cambridge, Mass.: Harvard University Press, 2003).

CODA:  
INFRASTRUCTURE AS SITE

This dissertation's artworks contend with the city as a multimodal site, material, and process. Engaging with divergent registers at which the city operates in its historical situation--the phenomenology of the urban environment, the diagrammatic projection of urban systems, the political management of citizens and municipal functions--these works by Noguchi, Smithson and Ukeles exceed a mere aesthetic "rhyming" between artwork and built environment. At the same time, they complicate a central urbanist dichotomy operative in much of the writing on twentieth-century art: That between the technocratic planning of the city and the social production of urban space (embodied most famously in the Robert Moses vs. Jane Jacobs debate in the postwar New York context). Discourses on contemporary art have, for the most part, insisted upon art's fixed identification with the social critique of official planning culture, as if to suggest that art's very (semi-) autonomy is dependent upon a negatively reactive dynamic with urbanism. Yet close attention to the historical intersection of site-engaged art and 1960s city planning, management, and maintenance shows that this dichotomy is itself misaligned. When art practice and discourse turned to "site" as a key problematic during the 1960s, it was neither to address space as an abstraction nor to simply contest space's systematic representation and comprehension by/in other fields.

Krauss' "Expanded Field" and Burnham's "Systems Aesthetics" partially register this art historical turn towards spatial and



functional *terra nova* during the 1960s. Yet not only have links between these two theories remained underdeveloped in contemporary art discourse (the interdisciplinary crossings that Krauss named structurally and categorically, Burnham named in terms of information-oriented professional milieus). It also remains for art historians to more precisely describe why 1960s art became so deeply invested in the construction, representation, and experience of specific spaces during this decade. Why, in other words, would the production of a site be considered an open (or expanded) field in this historical moment? How, precisely, did the production of space operate at systemic, technical, and professional registers as site-specific art itself came into fruition? In order for contemporary art to exist as something beyond a reactive counterproposal to or decorative bauble within the urban context, we need more fully-realized analyses of artists as urban designers and art as urbanist work.

This dissertation participates in that larger project by analyzing cases of advanced art invested in the real-time dynamics of large-scale urban production. Noguchi catalyzed his urban design work to think the historical intersection of the production of urban space and the production of nature, to think the experiential extremity of this convergence as it played out in the postwar reconstruction of Lower Manhattan. At the same time, the acuity of his engagement with the twentieth-century history of land use connected his work to the political, economic and social syntax by which (urban and non-urban) space is tested and retested over time. Smithson, on the other hand, brought an artistic interest in the "unknown areas" of sites to bear

on the projective or speculative quality of infrastructure itself during the 1960s. The "unknown areas" of sites taken up in his work were part of the terrain of the master plan, not unmapped spaces but spaces known only through mapping, invisible once a site is "completed." Ukeles, finally, moved through the city in her work as an embodied instrument of urban perception, thus linking her art directly to a long historical line in visual culture and art history.<sup>356</sup> Yet the city was not only an aesthetic and psychological terrain in *Touch Sanitation*. It was also a set of real-time thresholds set up by the ongoing maintenance of the urban system, a technical and bodily organization of space with which the one-to-one program of the artwork contended again and again.

These projects read the city as a complex, as both site and system, structure and infrastructure. The social, cultural, and aesthetic aspects of networked and globalized spatial production, the transition from a place-based system of geopolitics to a flow-based system of geoeconomics, have been operative in art history and related disciplines only since the 1980s.<sup>357</sup> Art and architectural criticism's

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<sup>356</sup> Beyond the famous writings of cultural criticism discussed later in this coda, the dynamic between the individual producer and urban space is also at the center of several founding texts of social art history. See, for example, T.J. Clark, *The Painter of Modern Life* (New York: Alfred A. Knopf, 1984) and Griselda Pollock, "Modernity and the Spaces of Femininity," in *Vision and Difference: Femininity, Feminism, and Histories of Art* (London: Routledge: 2008).

<sup>357</sup> The landmark text here is Deutsche's *Evictions: Art and Spatial Politics* (Cambridge, Mass.: MIT Press, 1996), which is a compendium of her essays dating from the 1980s and 1990s. Another important reference point for contemporary art history is Michel Foucault's theorization of "heterotopias," which was translated into English in

address to infrastructure in particular is even more recent, dating back mostly to the last two decades.<sup>358</sup> Yet, at this point, "infrastructure" has something of the status of a keyword in discourse of architecture and the city, as the political and historical stakes of rule-based, abstract, networked spaces are seen to be evermore politically and socially exigent. Highly mobile, agile, repeatable forms of spatial production have been addressed in the work of numerous scholars with direct bearing on contemporary art discourse, including Rem Koolhaas/The Harvard Project on the City, Keller Easterling, Saskia Sassen, Mark Wigley, and Fredric Jameson.<sup>359</sup> Easterling has proposed an effective descriptor for the network/site hybrid, "infrastructure space," and has described its links to state and non-state administrative structures that consolidated their powers in the 1960s. These "multiple, overlapping, or nested forms of sovereignty" (we might think, in turn, of the expanded field of

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1986: Michel Foucault, "Of Other Spaces: Utopias and Heterotopias" [1967], Jay Miscowiec, trans., *Diacritics* 16.1 (1986).

<sup>358</sup> See Pierre Bélanger, "Landscape Infrastructure: Urbanism Beyond Engineering," in Spiro N. Pollalis et al, eds., *Infrastructure Sustainability & Design* (London: Routledge, 2012), 276-315; Matthew Gandy, "Landscape and Infrastructure in the Late-Modern Metropolis," in Sophie Watson and Gary Bridge, eds., *The New Blackwell Companion to the City* (Oxford: Blackwell, 2011), 57-65; and Kazys Varnelis, ed., *The Infrastructural City: Networked Ecologies in Los Angeles* (Barcelona: Actar, 2008).

<sup>359</sup> See Rem Koolhaas and Harvard Project on the City, *Mutations* (Barcelona: ACTAR, 2001); Keller Easterling, *Extrastatecraft: The Power of Infrastructure Space* (London: Verso, 2014); Saskia Sassen, *The Global City: New York, London, Tokyo* (Princeton: Princeton University Press, 1991); Mark Wigley, "Network Fever," *Grey Room* 4 (2001): 82-122; and Fredric Jameson, "Postmodernism, or, the Cultural Logic of Late Capitalism," in *Postmodernism, or, The Cultural Logic of Late Capitalism* (Durham, NC: Duke University Press, 1991).

federalism that enabled the planning of Lower Manhattan in the late-1950s, the D/FW Airport in 1965, that in turn provoked the 1975 fiscal and political crisis in New York City) manifest their power primarily within infrastructures, rather than within more visible and differentiated modes of territorialization. As a result, this discourse claims, much of what we perceive as "real" or "absolute" or "social" space today is also a point of contact or contention with globalized infrastructure networks.<sup>360</sup>

Perhaps it is beyond doubt that what Smithson called the "metaphorical dimension" of space is evermore manifest--strangely, less metaphorical--today. Yet the artworks discussed in this dissertation might contribute to a prehistory of these contemporary mutations in urbanism, particularly as the means of representing global infrastructure have become evermore coded and inscrutable (and their content evermore volatile) today. Through the work of Noguchi, Smithson and Ukeles, 1960s zoning reports, master plans, and urban management schemas read as maps of networked connections between sites, bodies, and political systems, articulated in a historical syntax of representation with direct bearing on the present. For these documents are blueprints for what has variously been called the hyperspace, no-place, and infrastructure space of the late-20<sup>th</sup> and early-21<sup>st</sup> centuries. They materially manifest the mega-project era's ambitions, aporias, fallout--the technical groundwork of the postmodernist production and experience of space.

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<sup>360</sup> Easterling, *Extrastatecraft*, 15.

At the same time, the critical coordination of sites and networks, visible and invisible (or pseudo-visible) urban systems operative in contemporary discourse on the city is not really new. And infrastructure space is not an invention of the later twentieth-century (not exclusively an offshoot of cybernetics, late-capitalist globalization, and the digitalizing of information exchange, i.e.). As much as it is an episode in the contemporary history of urban development, infrastructure space is a lens through which the city might be understood on systemic-spatial terms, extending back to the nineteenth-century at least. Which is to say art and cultural criticism's exposing of the city's systemic logic *through* phenomenological experience of urban sites is integral to the very impulse to analyze "the urban."

Charles Baudelaire's *flânerie*, André Breton's libidinal-repetitious constellating of urban sites, Guy Debord's *detournement* of the city's technocratic layout, Michel de Certeau's syntax of everyday urban itineraries, Jameson's cognitive surrender to the synesthetic overload of late-capitalist hyperspace: These well-known episodes in visual culture are also working theories of the city. They are furthermore articulated at moments when the city itself is precarious and provisional ground--deducted and reconstructed by Hausmannization, newly managed and overseen by the postwar military industrial complex, defamiliarized by the global rubric of corporate modernism. At such junctures, the desire to analyze the urban experience is also an impulse to reclaim one's relationality to the city through acts of representation.

Yet the prehistory of infrastructure space is perhaps even more indebted to the urbanism articulated in Walter Benjamin's essays on Baudelaire, which formed part of an unfinished book project on the poet.<sup>361</sup> In these essays, Benjamin works to re-inscribe the *flâneur* model in a precarious and pseudo-visible conception of the city, rejecting the notion of the *flâneur* as a centered subject moving with intact consciousness through urban space, as if a perfect instrument for the city's representation. Benjamin's modern subject instead experiences exposure to the urban landscape as a decentering of self at the hands of the crowd and the streets (ciphers for the city): To find oneself amidst the modern city is also to lose all sense of self, via repeated encounters with thresholds of anxious indecision (to go out/to stay in, to dwell/to walk, to join the crowd/to represent it as in a sketch).<sup>362</sup> This spatial incoherence is furthermore exacerbated by Benjamin's model of urban time. Benjamin speaks of a shattering of long experience (*Erfahrung*) by shock experience (*Chockerlebnis*), a breakdown of diachronic time in which the present no longer reliably invokes the past as a collection of imagistic experiences.<sup>363</sup> This temporality is an urban condition, a precarious moment of encounter

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<sup>361</sup> See Walter Benjamin, *The Arcades Project* (1927-1940) Howard Eiland and Kevin McLaughlin, trans., (Cambridge, Mass.: Harvard University Press, 1999); "The Paris of the Second Empire in Baudelaire" (1938) and "On Some Motifs in Baudelaire" (1940), in Howard Eiland and Michael Jennings, eds., vol. 4 of *Walter Benjamin: Selected Writings* (Cambridge, Mass.: Harvard University Press, 2003).

<sup>362</sup> Here Benjamin places Baudelaire alongside Edgar Allen Poe's anxiety-ridden urban parable, "The Man of the Crowd" (1840). See Benjamin, "On Some Motifs in Baudelaire," 324-327.

<sup>363</sup> Benjamin, "On Some Motifs in Baudelaire," 315-318.

between the city and the bodily sensorium. It is furthermore generated by the city, incoherent relative to any singular subject, a collective time to which the urban walker involuntarily, even traumatically, gives himself over. And if the crowd is Benjamin's model of urban collectivity, then his model of urban spatiality are those sites of circulation and transfer that are both spaces and throughways: The streets, the arcades, the sewers, the city as *Passagenwerk*.

At one point, in fact, in a fragment of *The Arcades Project*, Benjamin reads Baudelaire's modern city as the intermeshing of the aesthetic experience of moving through urban space and the invisible sub-networks that make the city possible: "The Paris of [Baudelaire's] poems is a submerged city, and more submarine than subterranean. The chthonic elements of the city--its topographic formations...--have evidently found in [the poet] a mold."<sup>364</sup> *Chockerlebnis* is thus constituted for Benjamin not only in encounters with strangers in the city, but also with the dimensionality of the urban system itself, its vicissitudes, transformations, its daily rituals of renewal. The city's syntax is not only a technical production available to vision, but also an invisible precondition of everyday life. Art mediates between the two:

Our waking existence...is a land which, at certain hidden points, leads down into the underworld--a land full of inconspicuous places from which dreams arise. All day long, suspecting nothing, we pass by them...By day, the labyrinth of urban dwellings

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<sup>364</sup> Benjamin, "Paris, Capital of the Nineteenth Century" [Exposé of 1935], in Eiland and McLaughlin, trans., *The Arcades Project*, 10.

resembles consciousness; the arcades (which are galleries leading into the city's past) issue unremarked onto the streets.<sup>365</sup>

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<sup>365</sup> Benjamin, "The Arcades of Paris" (1928/29), in *Ibid.*, 875.



APPENDIX I:  
OVERVIEW OF THE MEGA-PROJECT ERA IN U.S. URBAN POLICY<sup>366</sup>

I. 1933–c. 1950: Prehistory of the Mega-Project Era:

Synopsis: Cities and other localities receive limited funding from state and federal government, and those projects that do reflect a federalist structure of funding tend to not impose significant disruption on the built environment.

Key episodes:

- New Deal federal jobs programs such as the Works Progress Administration (WPA) encourage large number of small-scale, labor intensive projects (WPA has an official dollar ceiling of \$25,000).
- Federally-funded cultural programs such as the Public Works of Art Project (PWAP) encourage the production of representational painting, particularly murals, on the site of government buildings.
- Improvements on local airports support military activity during World War II.
- Urban-based infrastructure and planning activity centers around projects such as downtown beautification and local-access roads.
- “Culture of planning” emerges during wartime in anticipation of 194X, with widespread urban revitalization plans embodied in the charter of the National Planning Resources Board (NPRB).

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<sup>366</sup> Adapted from Alan Altshuler and David Luberoff, *Mega-Projects: The Changing Politics of Urban Public Investment* (Washington, DC: Brookings Institution, 2003)

- Within New York, small-scale urban beautification projects (particular leisure spaces) predominate under the tenure of Robert Moses as Parks Commissioner.
- Design of Japanese American internment camps throughout western U.S. and Arkansas represents a large-scale planning project executed during wartime, and involves several military contractors.

## II. C. 1950–late 1960s: The Mega-Project Era

Synopsis: An unprecedented infusion of federal funds into municipal and state-level projects allows city governments to undertake massive transformation programs, with focus on retrofitting cities for the technologies, circulation patterns, and service economies of the mid-twentieth century.

Key episodes:

- Federal Housing Act of 1949 includes Title I housing provision, which incentives private and municipal investment in urban slum clearance by writing down cost of land acquisition. In these write downs, federal government covers two-thirds of difference between cost of slum land and its reuse value.
- Federal Airport Act of 1946 and National Airport Plan of 1948 set the groundwork for extensive federal investment in construction of new airports and major expansions of existing airports, giving such agencies as the Civil Aeronautics Board (CAB) and, later the

CAB and the Federal Aviation Authority (FAA) broad power in shaping major public works projects in U.S. cities.

- Federal agencies such as CAB, FAA and Federal Highway Association (FHA) begin to function almost as a fourth branch of federal government, overseeing investments in housing, highways, airports, safety, yet with no direct electorate.
- In the wake of the Federal-Aid Highway Act of 1956, interstate highway construction focuses more heavily on expressways in and around cities: By 1964, 2,612 miles of expressways had been built in US urban areas and 1,600 miles were under construction.
- The Interstate Highway Program in particular results in massive displacement of urban residents (particularly in older, high-density cities) and destruction and reconstructions of entire urban districts.
- 1961 New York Zoning Resolution paves the way for superblocks, urban plazas, and increased area for commercial space.
- Cities begin to invest more heavily in tourist facilities (physical spaces for activities aimed at large numbers of nonresidents): Examples include Chicago's McCormick Place (1960), Houston's Aerodrome (1965), and the Atlanta Civic Center (1967).

### III. Mid-1960s—Early 1970s: Era of Transition

Synopsis: Organized local political response within cities forms in recognition of community and environmental impact of mega-projects,

such that municipal governments begin to adopt rules aimed at restricting the physical disruption of urban space.

Key episodes:

- During the 1960s, movements for civil rights, citizen participation, and environmental protection directly implicate the spatial and socioeconomic impact of megaprojects.
- Urban riots of 1965–67 take place in several of the “model cities” of urban renewal programs, such as Newark and Detroit.
- Martin Anderson, Herbert Gans, and Jane Jacobs launch influential critiques of the social and cultural impact of mega-projects.
- Citizen resistance to airport expansion and construction foments, resulting in the cancellation, for instance, of plans for a new Miami airport adjacent to the Florida Everglades and a fourth airport for the New York region in New Jersey’s Great Swamp.
- Federal highway aid declines by roughly a quarter between 1968 and 1973.

#### IV Mid-1970s–c. 1980: The Fallout of the Mega-Project Era

Synopsis: Urban fiscal crises, shift in federal spending towards Social Security and health programs, intensified citizen resistance to disruptive projects shift results in dramatic decline in US infrastructure investment during the 1970s and early 1980s.

Key episodes:

- New York City fiscal crisis of 1975 provokes widespread reanalysis of urban governance and spending.
- Direct public investment in rapid transit, shopping centers, convention center, and sports facilities (spaces of the “experience economy”) increases as investment in clearance-based urban renewal, construction of new urban expressways, and development of new airports declines.
- Public-private partnerships begin to define the scale, siting and design of urban sites, replacing the older urban renewal model of detailed planning without direct developer input.

APPENDIX II:  
SUMMARY OF THE "FLOOR AREA RATIO" AND "PLAZA BONUS" CLAUSES OF THE  
1961 NEW YORK CITY ZONING RESOLUTION<sup>367</sup>

Part I. Definition of "Plaza"<sup>368</sup>

A "plaza" is an open area accessible to the public at all times, which is either:

(a) A continuous open area along a front lot line, not less than 10 feet deep (measured perpendicular to the front lot line), with an area of not less than 750 square feet, and extending for its entire depth along the full length of such front lot line or for a distance of at least 50 feet thereof; or

(b) A continuous open area on a through lot, extending from street to street and not less than 40 feet in width; or

(c) On a corner lot, an open area of not less than 500 square feet, which is bounded on two sides by two intersecting street lines and which has a minimum dimension of 10 feet; or

(d) An open area of not less than 8,000 square feet, with a minimum dimension of 80 feet and which is bounded on one side by a front lot line or which is connected to the street by means of an arcade or by an open area not less than 40 feet wide.

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<sup>367</sup> Adapted from New York City Planning Commission and New York Department of City Planning, *Zoning Maps and Resolution*, (New York: The Department, 1961), 123-129.

<sup>368</sup> *Zoning Maps and Resolution*, Chapter 3: Bulk Regulations for Commercial or Community Facility Buildings in Commercial Districts / Section 33-11: Definitions.

Part II. Range of Floor Area Ratios

Table I. Maximum Floor Area Ratio by District (*Chase Manhattan Plaza location [zoning district C5-3] marked by asterisk*):<sup>369</sup>

MAXIMUM FLOOR AREA RATIO	DISTRICT
0.50	C3
1.00	C4-1 C8-1
2.00	C1-6 C1-7 C2-6 C1-8 C2-7 C1-9 C2-8 C7 C8-2 C8-3
3.40	C4-2 C4-3 C4-4 C4-5 C4-6
4.00	C5-1
5.00	C8-4
6.00	C6-1 C6-2 C6-3
10.00	C4-7 C5-2 C5-4 C6-4 C6-5
* 15.00	* C5-3 C6-6 C6-7

<sup>369</sup> *Zoning Maps and Resolution*, Chapter 3, Section 33-12: Maximum Floor Area Ratio.

Part III. Description of Floor Area Bonus for Plazas<sup>370</sup>

In these districts, for each square foot of plaza or portion of a plaza provided on a zoning lot, the total area permitted on that zoning lot under the provisions of section 33-12 (Maximum Floor Area Ratio) for a commercial building may be increased as follows:

Table II. Plaza Floor Area Bonus by District (*Chase Manhattan Plaza location [zoning district C5-3] marked by asterisk*):

FLOOR AREA BONUS Permitted additional <i>floor area</i> per square foot of <i>plaza</i> (in square feet)	DISTRICT
* 10	* C5-3 C6-6 C6-7
6	C5-2 C6-4 C4-7 C5-4 C6-5
4	C6-1 C6-2 C6-3

<sup>370</sup> *Zoning Maps and Resolution*, Chapter 3, Section 33-13: Floor Area Bonus for a Plaza / Subsection 33-131: Commercial Buildings in Certain Specified Commercial Districts.



APPENDIX III:  
TIMELINE OF THE DALLAS-FORT WORTH REGIONAL AIRPORT PROJECT

- September 1964: Civil Aeronautics Board (CAB) refuses funding for expansion or new construction of separate airports at Dallas and Fort Worth, legislating allocation of funds for a regional airport to be shared by the cities
- May 1965: Municipalities of Dallas and Fort Worth sign memorandum of understanding agreeing to locate the airport on a site exactly midway between the two cities
- May 1965: Formation of a Regional Airport Board tasked with building and operating the new airfield (this Board is "client" to Tippetts-Abbett-McCarthy-Stratton [TAMS])
- September 1965: TAMS submit report outlining the "precise size, location and configuration" of the new airport
- July 1966: Robert Smithson hired by TAMS as sub-contractor, under job title "Artist-Consultant"
- July 1967: Smithson's contract with TAMS is terminated as TAMS' own extent of involvement with future site developments becomes uncertain.
- 1968: Thomas Sullivan's restructuring of the D/FW Airport project limits TAMS' role to engineering and systems design. Gyo Obata of Hellmuth, Obata + Kassabaum is selected as head design architect.
- 1969: Preliminary site preparation begins
- 1974: D/FW Airport opens

- 1985: Endpoint for the master plan's projections of airport sound studies
- 2001: Endpoint for master plan's projections of air traffic patterns and circulation, as well as layout of terminal structures

INTRODUCTION FIGURES



FIGURE 0.1 Site model, Chase Manhattan headquarters, New York, 1957, showing preliminary version of Isamu Noguchi's plaza site design

**DALLAS FORT WORTH REGIONAL AIRPORT LAYOUT PLAN**  
 TIPPETTS - ABBETT - McCARTHY - STRATTON

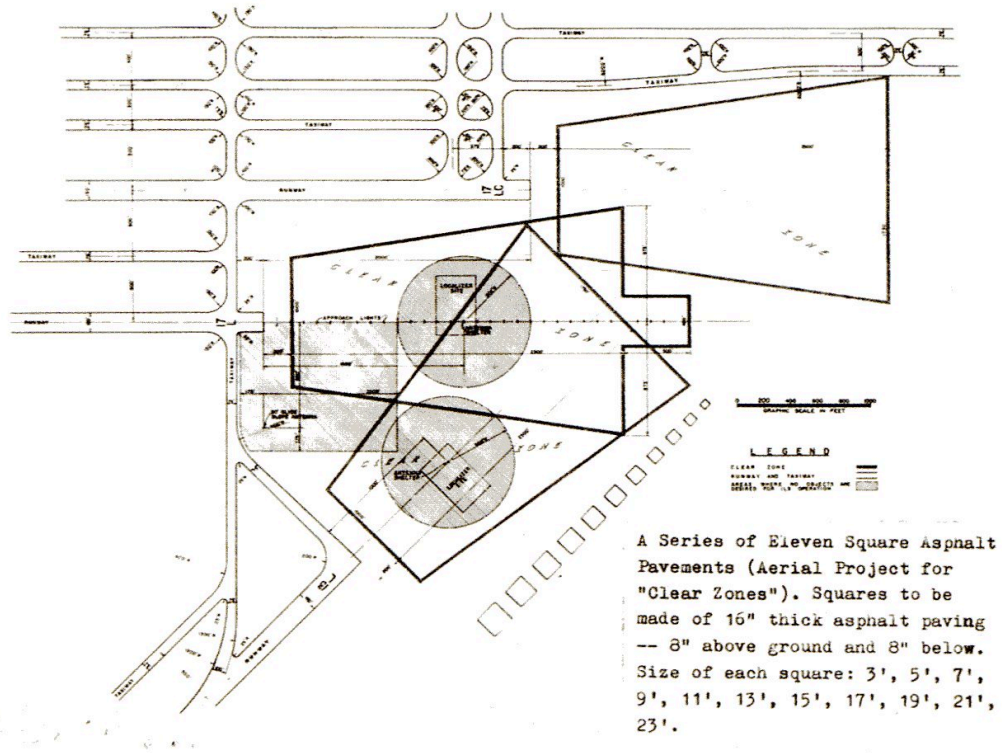
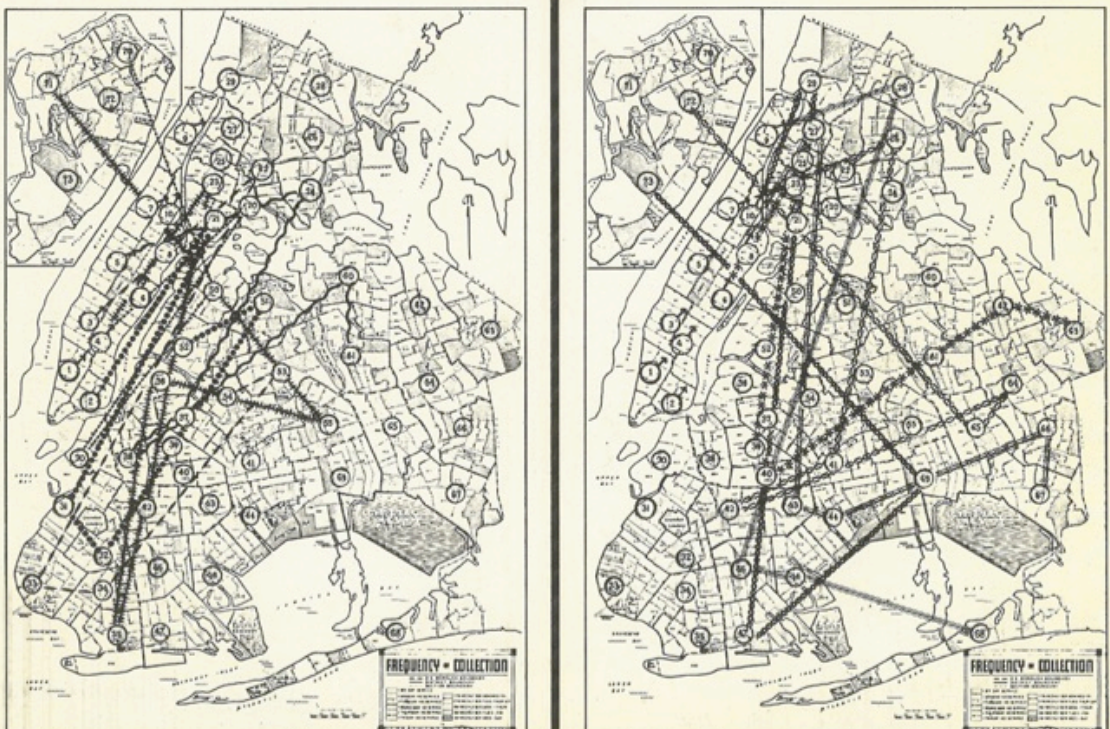


FIGURE 0.2 Robert Smithson, *Dallas-Fort Worth Regional Airport Plan* (1966)

SWEEP 1		SWEEP 2		SWEEP 3		SWEEP 4		SWEEP 5		SWEEP 6		SWEEP 7		SWEEP 8		SWEEP 9		SWEEP 10	
-----		●●●●●●●●		- - - - -				~~~~~		*****		○○○○○		▬▬▬▬▬		▨▨▨▨▨		○○○○○○○○	
N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT	N.Y.C. BOROUGHS DISTRICT	SAN. DISTRICT
MAN. 1		MAN. 2		MAN. 3		MAN. 4		MAN. 5		MAN. 6		MAN. 7		MAN. 8		MAN. 9		MAN. 10	
BX. 20		BX. 21		BX. 22		BX. 23		BX. 24		BX. 25		BX. 26		BX. 27		BX. 28		BX. 29	
BKLYN. 30		BKLYN. 31	32	BKLYN. 33	34	BKLYN. 35	36	BKLYN. 37	38	BKLYN. 39	40	BKLYN. 41	42	BKLYN. 43	44	BKLYN. 45	46	BKLYN. 47	
QNS. 50		QNS. 51	52	QNS. 53	54	QNS. 55	56	QNS. 57	58	QNS. 59	60	QNS. 61	62	QNS. 63	64	QNS. 65	66	QNS. 67	68
S.I. 70		S.I.		S.I.		S.I.		S.I.		S.I.		S.I.	72	S.I.		S.I.		S.I.	73



NOTE: Waste Disposal sites are visited in Collection Districts in which they are located. Headquarters, Clinic & Training are placed in last.

FIGURE 0.3 Mierle Laderman Ukeles, map from *Touch Sanitation Performance* (1977-80)

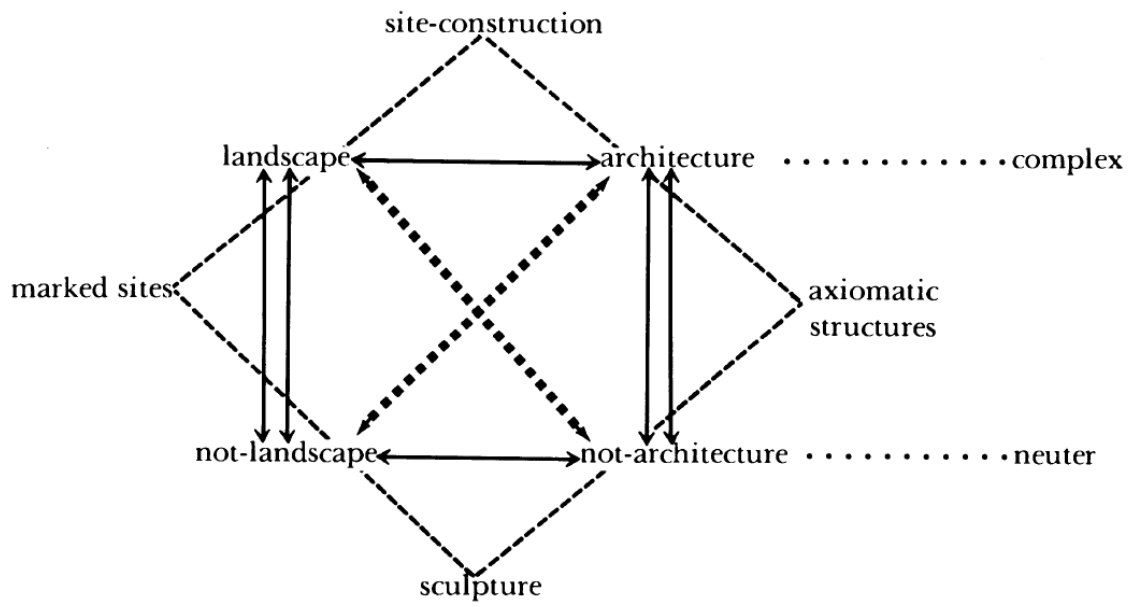


FIGURE 0.4. "Klein group diagram" from Rosalind Krauss, "Sculpture in the Expanded Field" (1979)

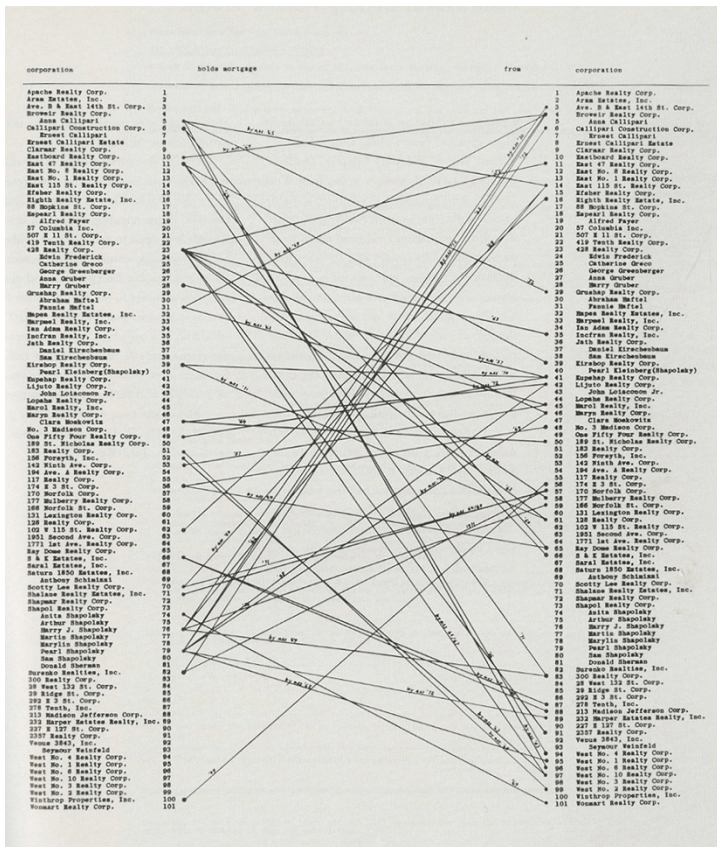


Figure 0.5 Hans Haacke, Shapolsky et al. Manhattan Real Estate Holdings, a Real Time Social System, as of May 1, 1971 (1971)

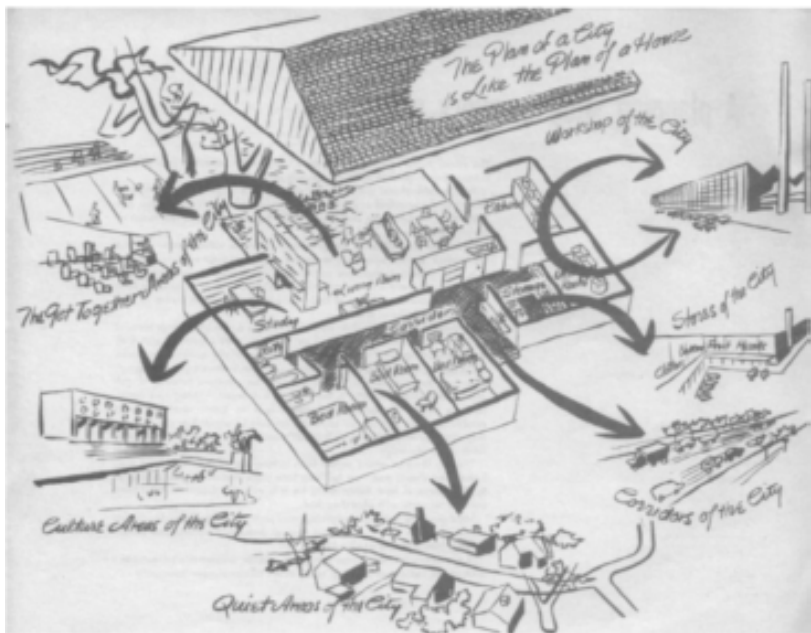


FIGURE 0.6 Oscar Stonorov and Louis I. Kahn, diagram of the house compared to the city, from *You and Your Neighborhood*, 1944



FIGURE 0.7 Office interior of Union Carbide Building, New York, 1960, designed by Gordon Bunshaft of Skidmore, Owings and Merrill



FIGURE 0.8 Museum Tower above Museum of Modern Art, New York (Cesar Pelli, 1984) from 53<sup>rd</sup> St.





FIGURE 0.9a Kleinweber, Yamasaki & Hellmuth, Pruitt-Igoe Houses, St. Louis, Missouri, 1950-4



FIGURE 0.9b Destruction of the Pruitt-Igoe Houses, national television broadcast, 1972



FIGURE 1.1a Diagram of Lower Manhattan from Downtown Lower Manhattan Association, *Lower Manhattan: Recommended Land Use, Redevelopment Areas, Traffic Improvements: 1<sup>st</sup> Report, 1958*

## POST WAR CONSTRUCTION

Since 1945, \$148 million dollars in public funds have been allocated to street improvements and other public works in lower Manhattan. Proposed projects are estimated at \$135 million, including the Lower Manhattan Expressway. Current and completed privately financed projects amount to an estimated \$300 million. While these are im-

pressive figures, the area has not kept pace with Midtown. Many firms and businesses have left lower Manhattan in recent years and deterioration of a large part of the area continues. The maps and tables that follow indicate some of the factors of congestion and deterioration that render the area at once a problem and an opportunity for constructive planning.

### KEY TO MAP ON OPPOSITE PAGE

Map Location No.	Building Title	Year of Completion	No. of Stories	Map Location No.	Building Title	Year of Completion	No. of Stories
<b>PRIVATE BUILDINGS</b>							
<b>Built, Under Construction or Major Rehabilitation</b>							
1	Fulton Fish Market (99 South St.) (Major Rehabilitation)	1950	1	34	International Bldg. (80 Wall St.)		33
2	250 Church St. (leased to N. Y. C. Welfare Dept.)	1950	15	35	Battery Park Houses (Title I Project)		39
3	161 William St.	1951	21	36	Park Row Project (Title I Project)		21
4	Dun & Bradstreet (99 Church St.)	1951	11	<b>PUBLIC BUILDINGS &amp; PARKS</b>			
5	National Sugar (100 Wall St.)	1953	2	<b>Built, Under Construction or Major Rehabilitation</b>			
6	U. S. Trucking Corp. Term. (172 Greenwich St.)	1954	2	37	U. S. Post Office (15 Peck Slip)	1950	4
7	Seaman's Bank (30 Wall Street)	1955	12	38	Battery Park Garage (75 Washington St.)	1950	6
8	156 William St.	1955	12	39	Battery Park Reconstruction	1952	
9	Beekman Downtown Hospital (170 William St.)	1955	8	40	State Insurance Fund Building (199 Church St.)	1955	15
10	44 Wall St. (Major Rehabilitation)	1957	21	41	City Hall (Major Rehabilitation)	1955	3
11	50 Varick St.	1957	7	42	Staten Island Ferry Terminal	1956	2
12	2-6 York St.	1957	1	43	U. S. Post Office (73 Pine St.)	1957	12
13	20 Broad Street	1957	27	44	Manhattan Base of the U. S. Coast Guard	1959-60	3
14	Coffee & Sugar Exchange (79 Pine St.)	1957	12	<b>Proposed</b>			
15	19 Rector St.	1957	10	45	N. Y. C. Executive Office Building		—
16	72 Wall St.	1957	15	46	Federal Office Building		—
17	123 William St.	1957	26	<b>HIGHWAYS &amp; STREETS</b>			
18	156 William St. (Annex)	1957	7	<b>Built or Under Construction</b>			
19	81 Maiden Lane	1958	13	47	Miller Highway Extension	1948	
20	100 Church St.	1958	20	48	Brooklyn Battery Tunnel	1950	
21	110 William St.	1958	31	49	Brooklyn Battery Tunnel & West St. Connection	1950	
22	189 Broadway	1958-59	1	50	Battery Park Underpass	1951	
23	Con Edison (Sub-station) (195 West B'way)	1958-59	1	51	South St. Elevated Highway	1954	
24	Atlantic Building (45 Wall St.)	1959-60	27	52	Park Row Widening	1956	
25	Produce Exchange (2 Broadway)	1959-60	30	53	Ramps to South St. Elevated Highway	1956	
26	Chase Manhattan Bank (28 Nassau St.)	1959-60	60	54	Holland Tunnel Rotary	1958	
27	113 Maiden Lane	1959-60	13	55	Brooklyn Bridge Approaches	1958	
28	80 Pine St.	1959-60	38	56	Pearl-Water St. Widening	1960	
29	Western Electric Building (222 B'way)	1959-60	31	<b>Proposed</b>			
30	N. Y. U. Graduate School (100 Trinity Place)	1959-60	10	57	Brooklyn Bridge Approach Extension		
31	30 West Broadway	1959-60	14	58	Lower Manhattan Crosstown Expressway		
<b>Proposed</b>							
32	24 Pine Street		21	59	Water St. Widening Extension		
33	91 Broad St. (Major Rehabilitation)		7	60	Ramps from Park Pl. to Vestry St.		

8

FIGURE 1.1b Key for diagram of Lower Manhattan from Downtown Lower Manhattan Association, *Lower Manhattan: Recommended Land Use, Redevelopment Areas, Traffic Improvements: 1<sup>st</sup> Report, 1958*

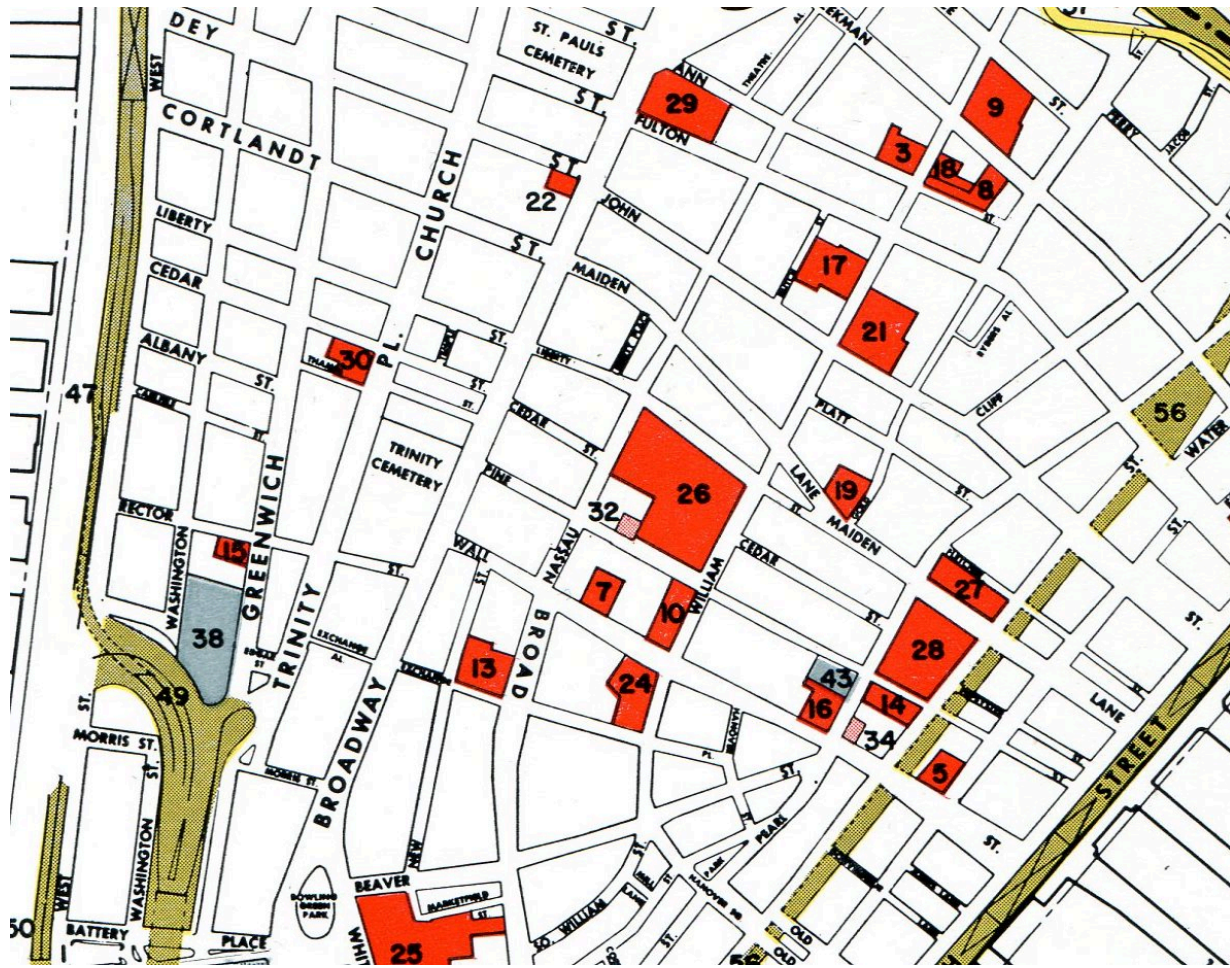


FIGURE 1.2 Detail: diagram of Lower Manhattan from Downtown Lower Manhattan Association, *Lower Manhattan: Recommended Land Use, Redevelopment Areas, Traffic Improvements: 1<sup>st</sup> Report, 1958*



FIGURE 1.3 Cover of *Skyscraper Management* (September 1956) featuring early design for Chase Manhattan headquarters



FIGURE 1.4 Constantin Brancusi, *Endless Column* ensemble in Târgu Jiu, Romania (commissioned 1935, dedicated 1938)



FIGURE 1.5 Isamu Noguchi, *Sunken Garden, Chase Manhattan Plaza* (1961-1964)



FIGURE 1.6 Isamu Noguchi, *Sunken Garden, Chase Manhattan Plaza* (1961-1964)

*Opposite page.* Air view of tower surrounded by older skyscrapers.

*Right.* Section.

*Far right.* Tower among adjacent tall buildings.

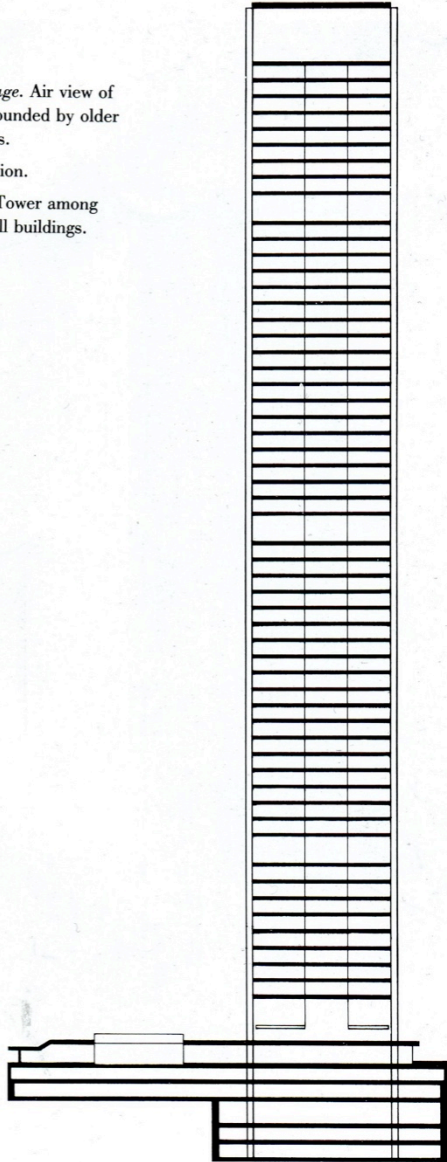


FIGURE 1.7 Section, Chase Manhattan headquarters, with plaza at left





FIGURE 1.8a Chase Manhattan Plaza

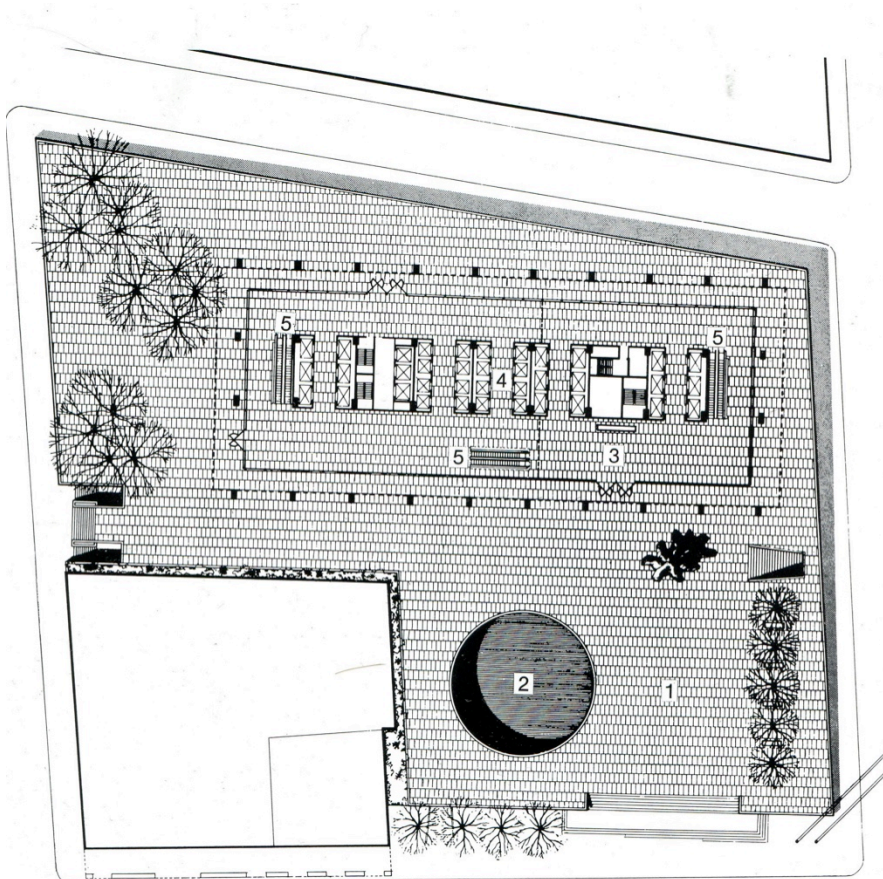


FIGURE 1.8b Final plan of Chase Manhattan headquarters and plaza, with Noguchi's garden indicated as "Figure 2"



FIGURE 1.9 Isamu Noguchi, *Kouros* (1945)



FIGURE 1.10 Michael Heizer, *Double Negative* (1969), Mormon Mesa, Nevada

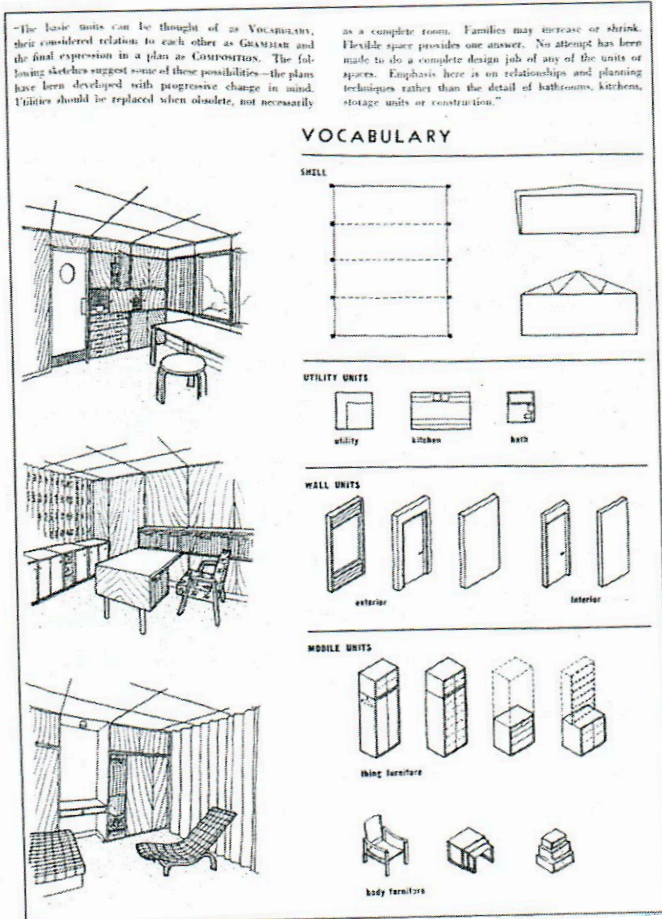


FIGURE 1.11 SOM, "Flexible Space," from "The New House of 194X," *Architectural Forum* 77.3 (September 1942): 101

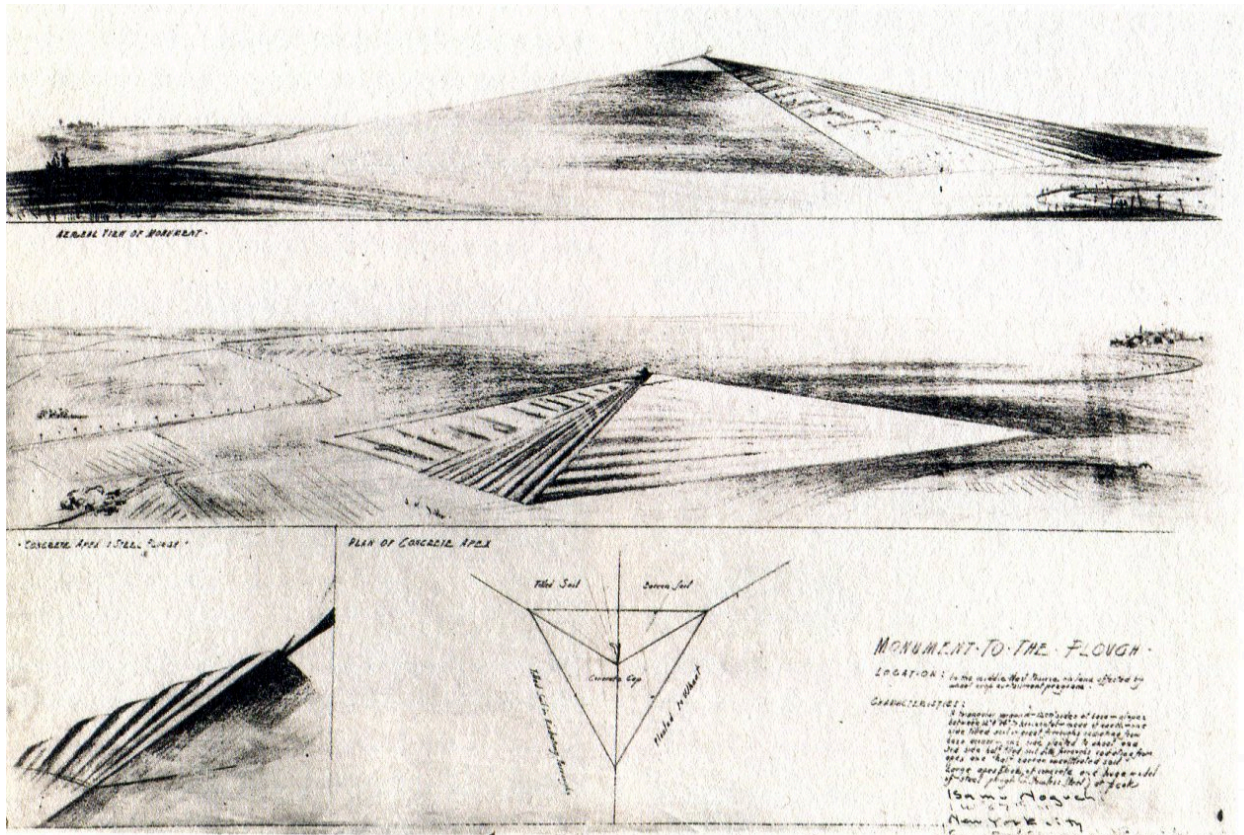


FIGURE 1.12 Isamu Noguchi, *Monument to the Plow* (1933), facsimile of drawing [original lost]

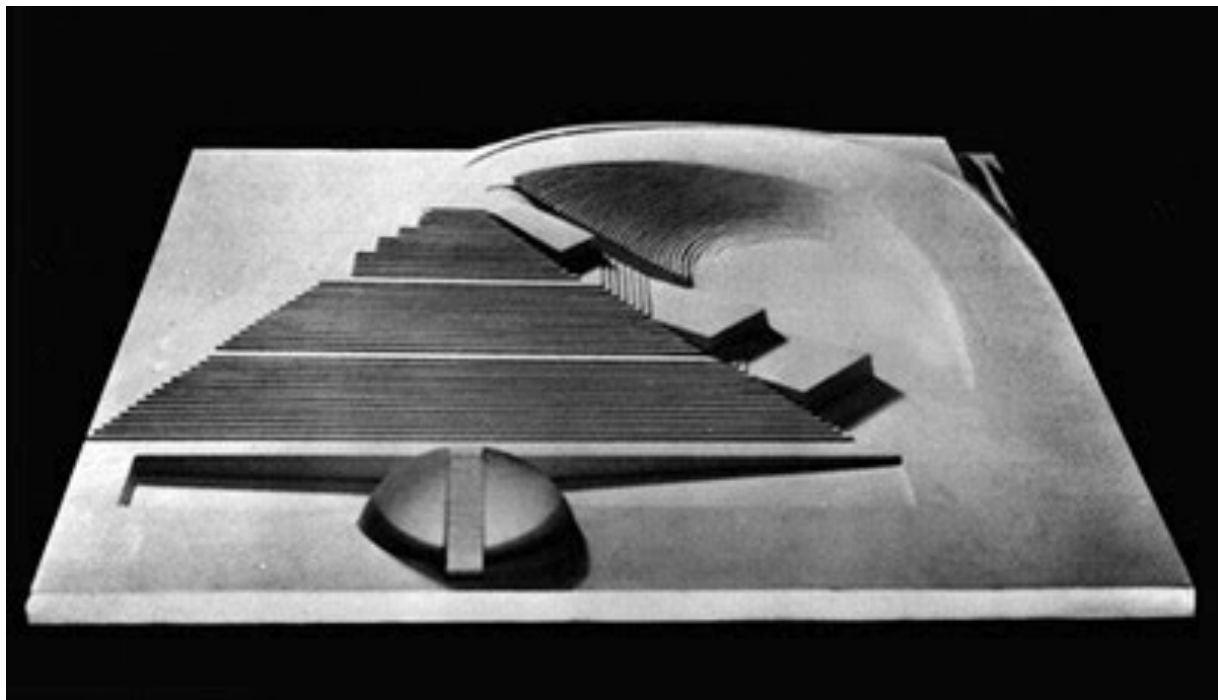


FIGURE 1.13 Isamu Noguchi, *Play Mountain* (1933), plaster model

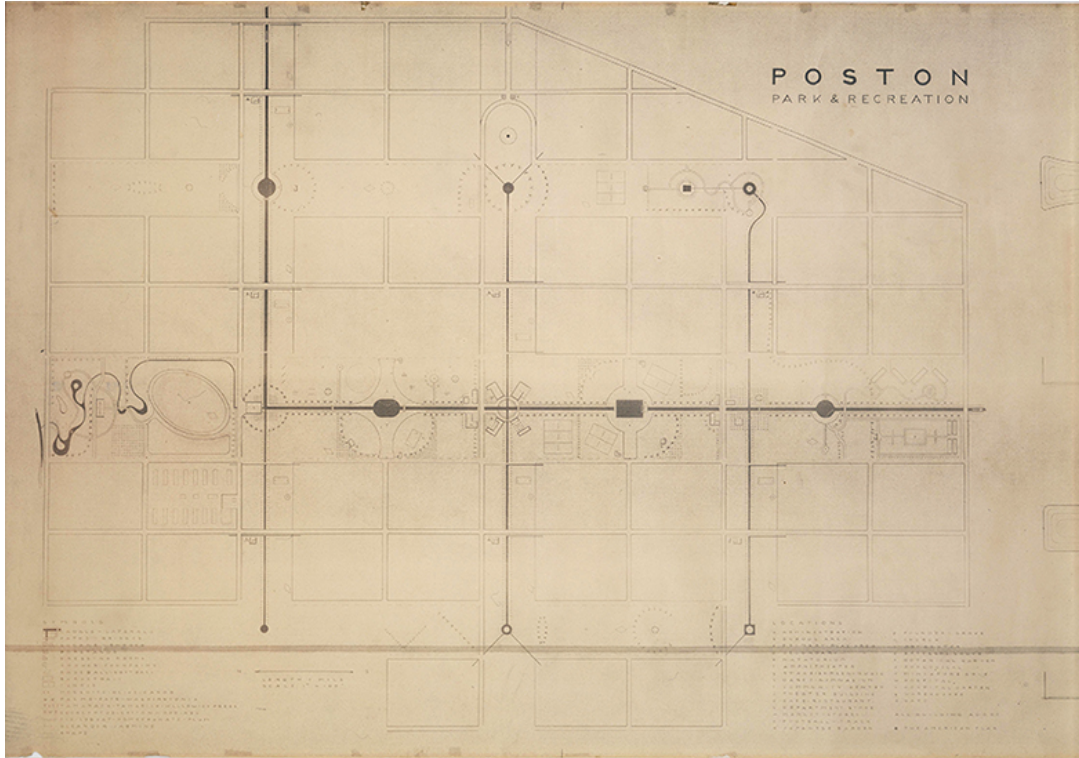


FIGURE 1.14 Isamu Noguchi, *Poston Park and Recreation Areas at Poston, Arizona* (1942), blueprint

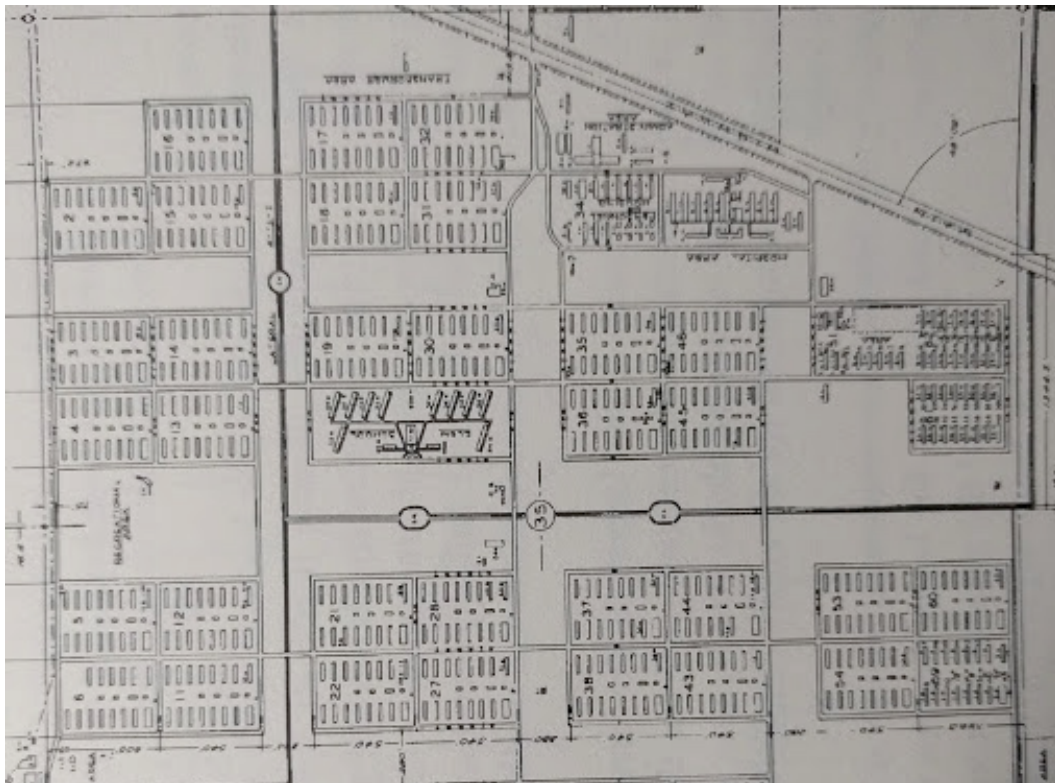


FIGURE 1.15 Plan of Poston I Japanese-American Internment Camp, Poston, Arizona, 1942

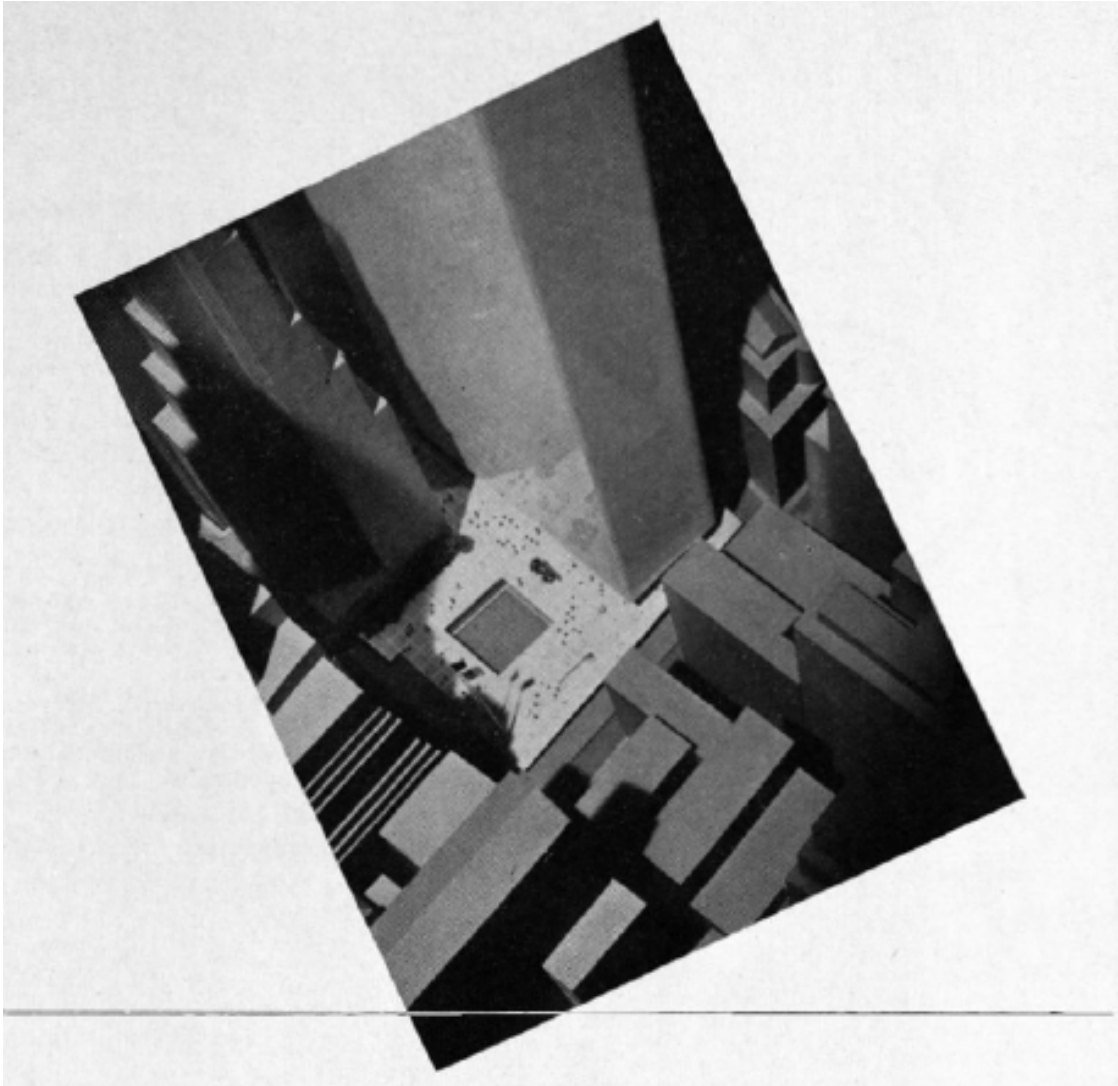


FIGURE 1.16a SOM, preliminary model of Chase Manhattan headquarters site, early 1956

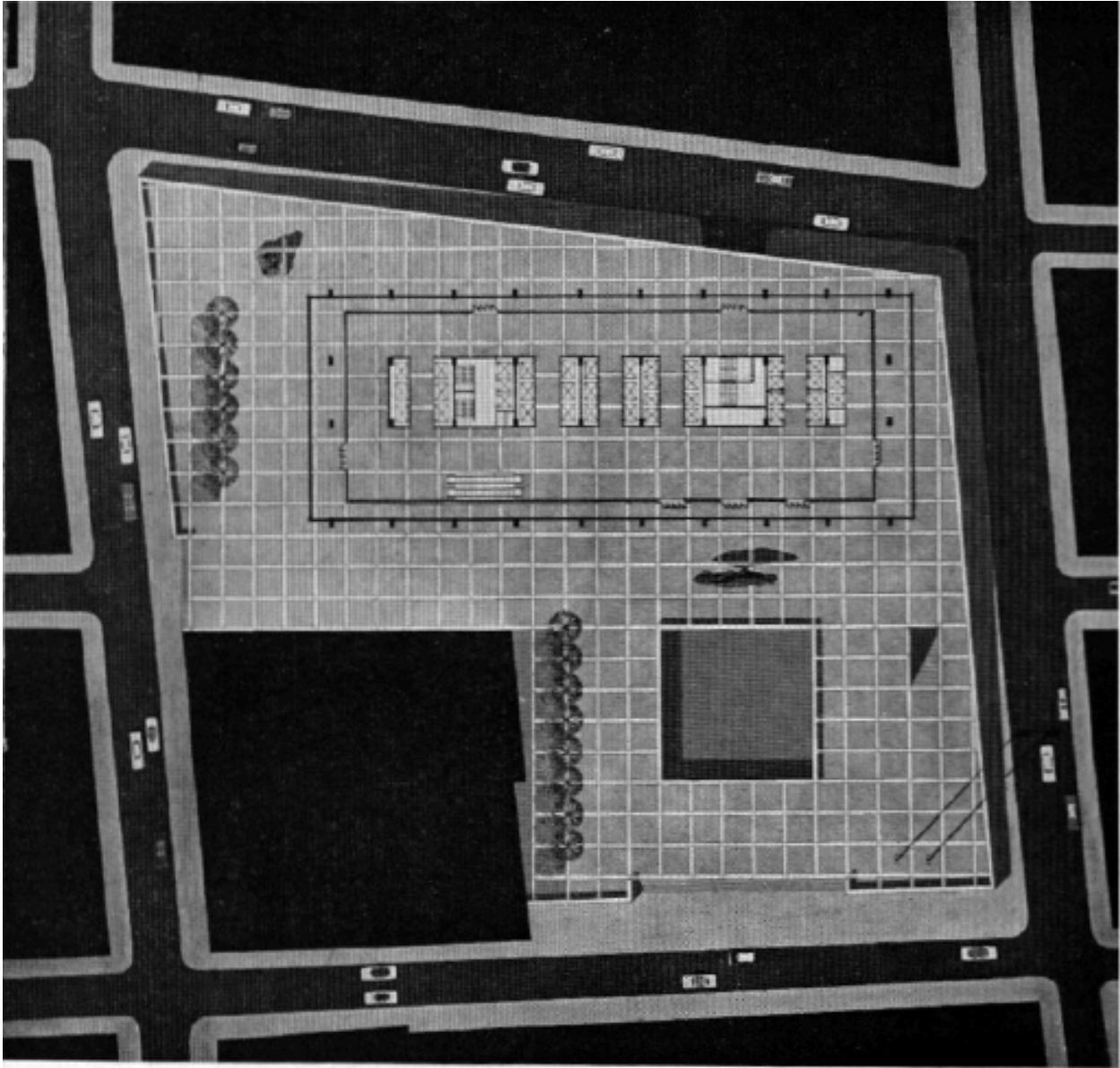


FIGURE 1.16b SOM, preliminary site plan of Chase Manhattan headquarters, early 1956



NEW YORK

CHICAGO

SAN FRANCISCO

**SKIDMORE, OWINGS & MERRILL**

ARCHITECTS - ENGINEERS  
575 MADISON AVENUE  
NEW YORK 22, N. Y.

Nº 4254

TO: MR. ISAMU NOGUCHI  
GREAT NORTHERN HOTEL  
118 WEST 57 STREET  
NEW YORK, NEW YORK

DATE: 10/12/56

TYPE OF  
PACKAGE

SUBJECT: CHASE MANHATTAN BANK  
CENTRAL OFFICE BUILDING

WE ARE SENDING HEREWITH UNDER-SEPARATE COVER THE FOLLOWING:

- ORIGINALS
- BLUE PRINTS
- SHOP DRAWINGS
- SAMPLES
- B. & W. PRINTS
- PHOTOSTATS
- SPECIFICATIONS
- OZALID PRINTS
- 

NUMBER ORDER	DRAWING OR SPEC. NO.	REVISED DATE	
1	SK-1	10/1/56	SITE PLAN
1	SK-7	"	GROUND FLOOR PLAN
1	SK-15	"	NORTH ELEVATION
1	SK-16	"	WEST & SOUTH ELEVATIONS
1	SK-17	"	EAST ELEVATION
1	SK-18	10/3/56	SECTION THRU BAY 10-11
			<i>for your use + information</i>

- SENT VIA:
- AIR MAIL
  - FIRST CLASS MAIL
  - PARCEL POST
  - EXPRESS
  - OUR MESSENGER
  - YOUR MESSENGER
  -

SKIDMORE, OWINGS & MERRILL

BY *Frank Behmer*

(ORIGINAL)

FIGURE 1.17 Facsimile transmittal from SOM to Isamu Noguchi, October 12, 1956

Great Northern Hotel  
118 West 57th Street  
New York 19, New York

November 15, 1956

Skidmore, Owings & Merrill  
575 Madison Avenue  
New York 22, New York

Re: The Chase Manhattan Bank - Head Office Building  
Studies for the Plaza

Gentlemen:

In accordance with our discussions regarding studies for the Plaza area of the Chase Manhattan Bank, Head Office Building, I am submitting the following proposal.

I shall undertake to consult with you closely on studies for the Plaza as a whole. These will include the shape and size of the light court, and the placement and mass of sculpture, planting, trees, benches, parapets, pools, fountains, pavement patterns, and any other pertinent features. For the consulting services as outlined I shall expect to receive payment in the amount of \$3,500.

I understand that this agreement in no way constitutes a commitment to me, either by you or by the Chase Manhattan Bank, for further work on the project.

If the foregoing terms are satisfactory to you, please indicate your approval by signing two (2) copies of this letter and returning them to us, retaining the other for your files.

Very truly yours,

  
Isamu Noguchi

ACCEPTED:

SKIDMORE, OWINGS & MERRILL

By 

Date Nov. 15 1956

FIGURE 1.18 Contract between Isamu Noguchi and SOM: Artist consultancy on overall layout of Chase Manhattan Plaza, November 15, 1956

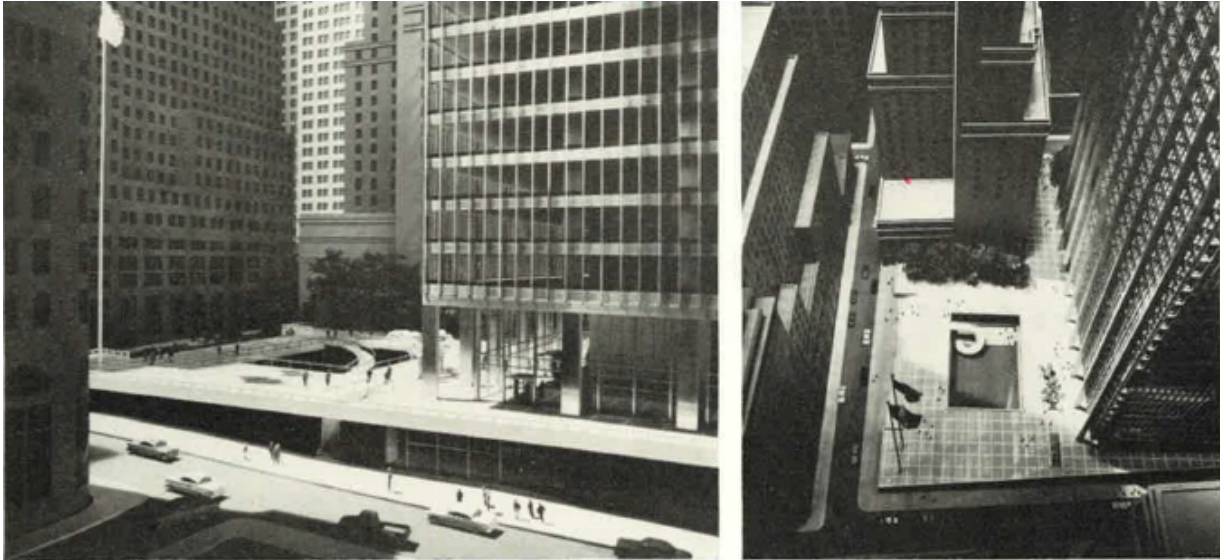


FIGURE 1.19 Views of SOM site model, Chase Manhattan headquarters, 1956



FIGURE 1.20 View of "cantilevered" section of Chase Manhattan plaza on William Street, as executed in final construction of the plaza

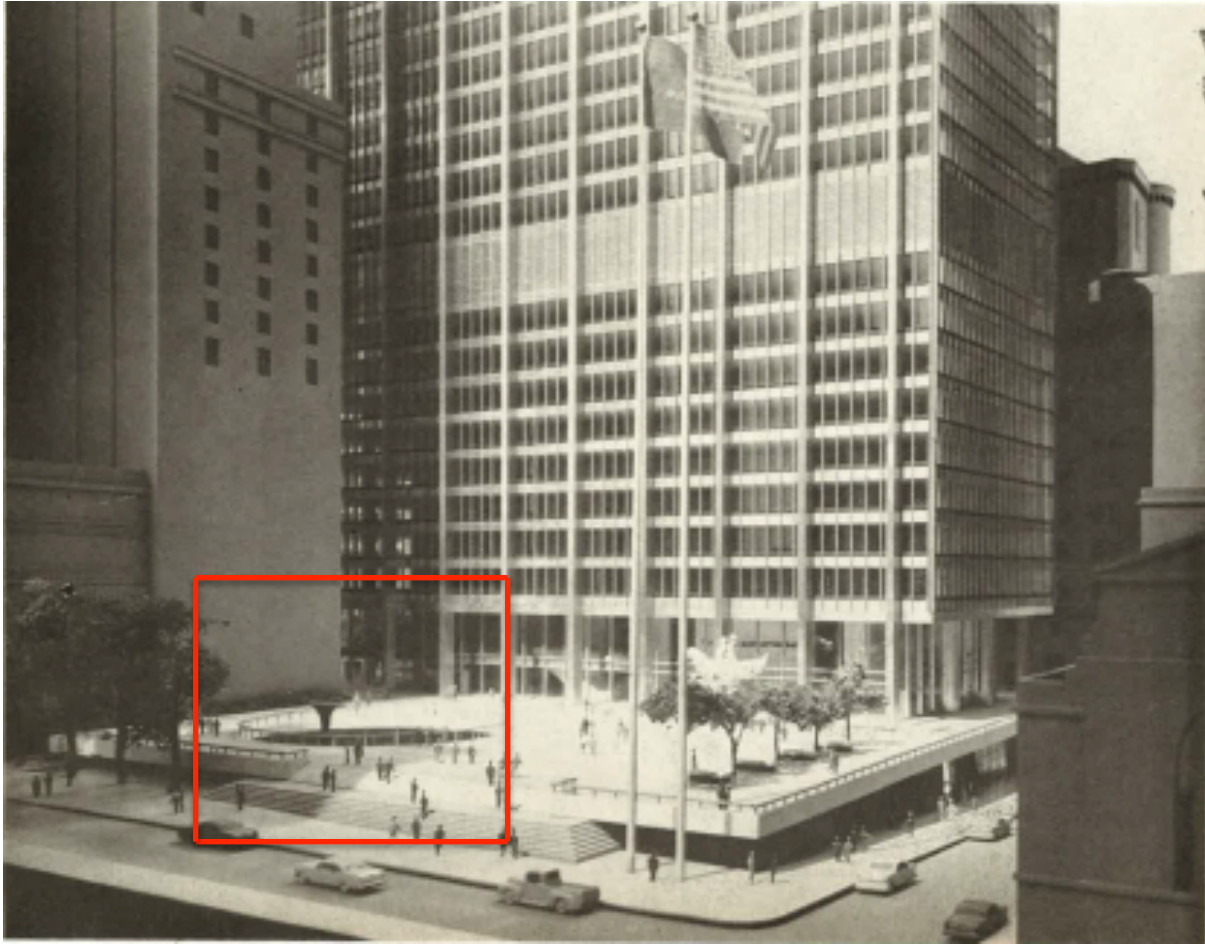


FIGURE 1.21 Detail of 1957 SOM site model for Chase Manhattan Plaza showing sculptural elements in Isamu Noguchi's circular sunken garden rising above plaza level



FIGURE 1.22 Jean Dubuffet, *Group of Four Trees* (1971), permanently installed on Chase Manhattan Plaza



FIGURE 1.23 Alexander Calder, *Flamingo*, Federal Building Plaza, Chicago (1974)



FIGURE 1.24 Nancy Holt, *Dark Star Park*, Rosslyn, Virginia (1984)



FIGURE 1.25 Gordon Bunshaft, Lever House, 390 Park Ave, New York, 1952



FIGURE 1.26 Mies van der Rohe and Philip Johnson, Seagram Building, Midtown Manhattan, 1954-58



FIGURE 1.27 Isamu Noguchi, unrealized proposal for Lever House Garden, 1951-1952, model





FIGURE 1.28 Diagram showing existing land use in Lower Manhattan as of 1958 in Downtown Lower Manhattan Association, *Lower Manhattan: Recommended Land Use, Redevelopment Areas, Traffic Improvements: 1<sup>st</sup> Report, 1958*

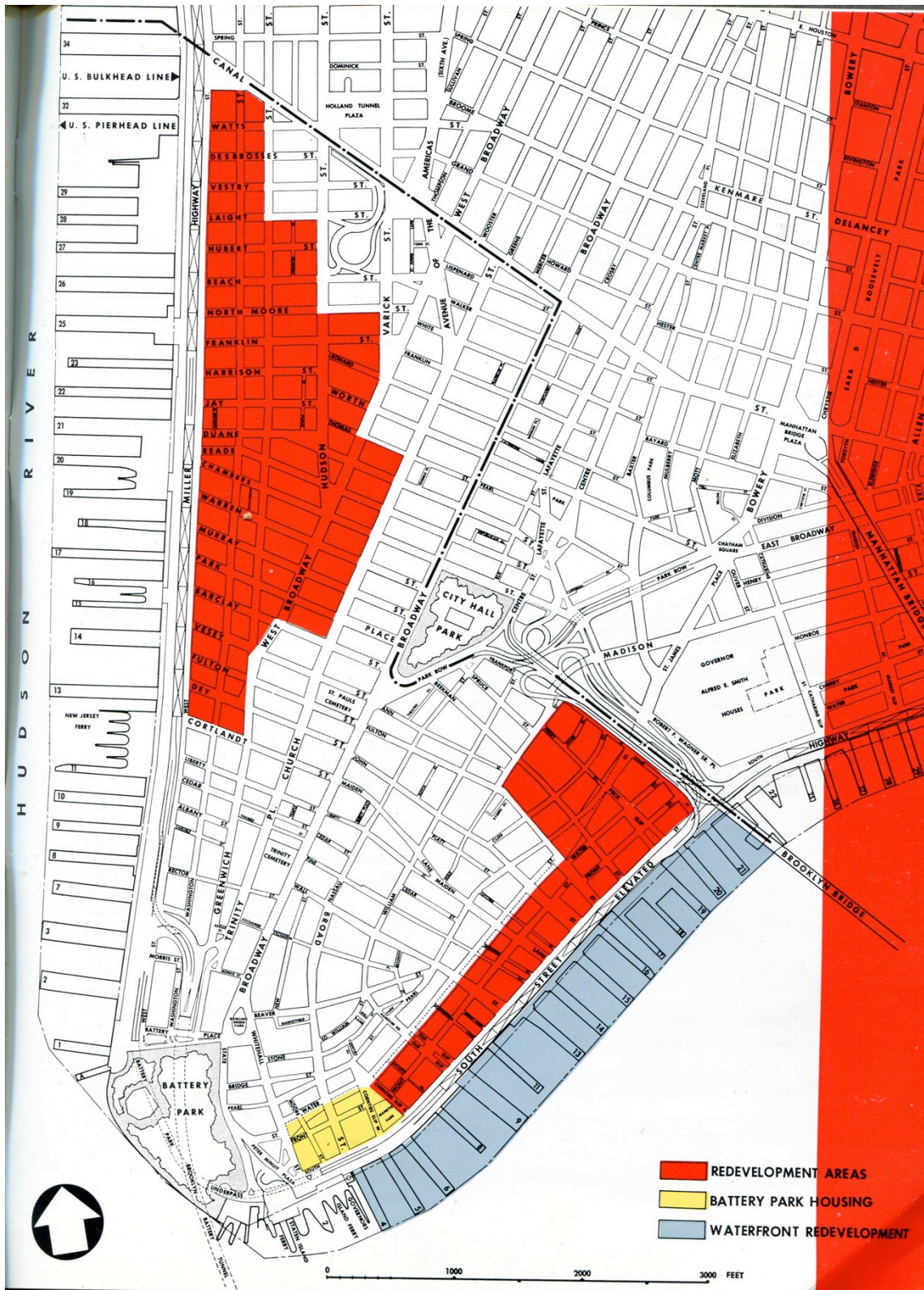


FIGURE 1.29 Diagram showing two primary targeted zones of redevelopment in Downtown Lower Manhattan Association, *Lower Manhattan: Recommended Land Use, Redevelopment Areas, Traffic Improvements: 1<sup>st</sup> Report, 1958*



FIGURE 1.30 Initial proposal for World Trade Center Complex alongside East River in Downtown Lower Manhattan Association, *World Trade Center: A Proposal for the Port of New York*. New York: The Association, 1960



FIGURE 1.31 Emery Roth & Sons, 380 Madison Avenue, New York, 1953



FIGURE 1.32 View of Lower Manhattan from the east, early 1960s



FIGURE 1.33 Demolition for future site of Chase Manhattan Bank headquarters, early 1956



FIGURE 1.34 Isamu Noguchi, *Sunken Garden*, *Chase Manhattan Plaza* (1961-1964), view from garden level looking up towards plaza and tower



FIGURE 1.35 Isamu Noguchi, *Sunken Garden, Chase Manhattan Plaza* (1961-1964)



FIGURE 1.36 Garden of Ryōan-ji Temple, Kyoto



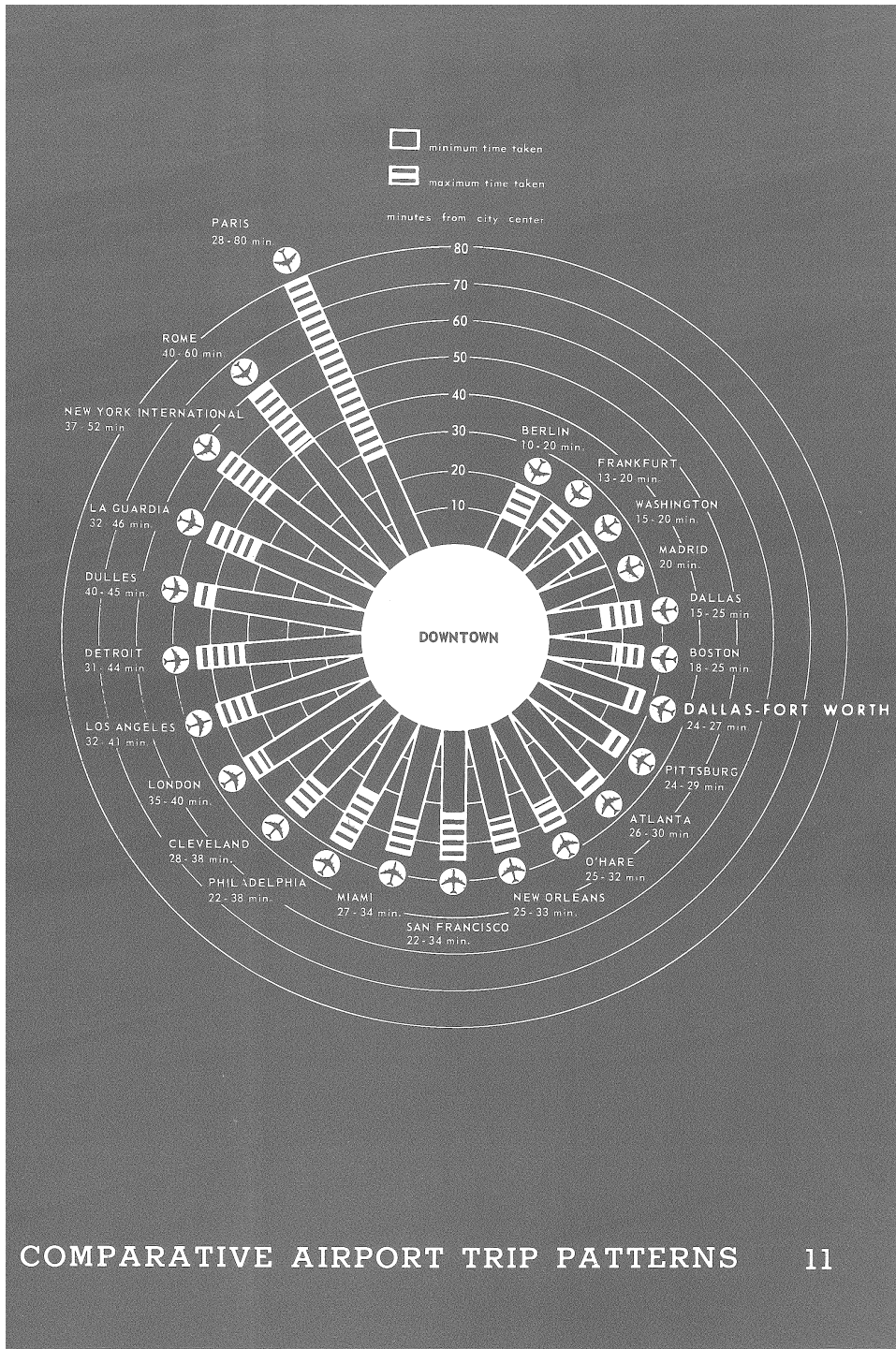


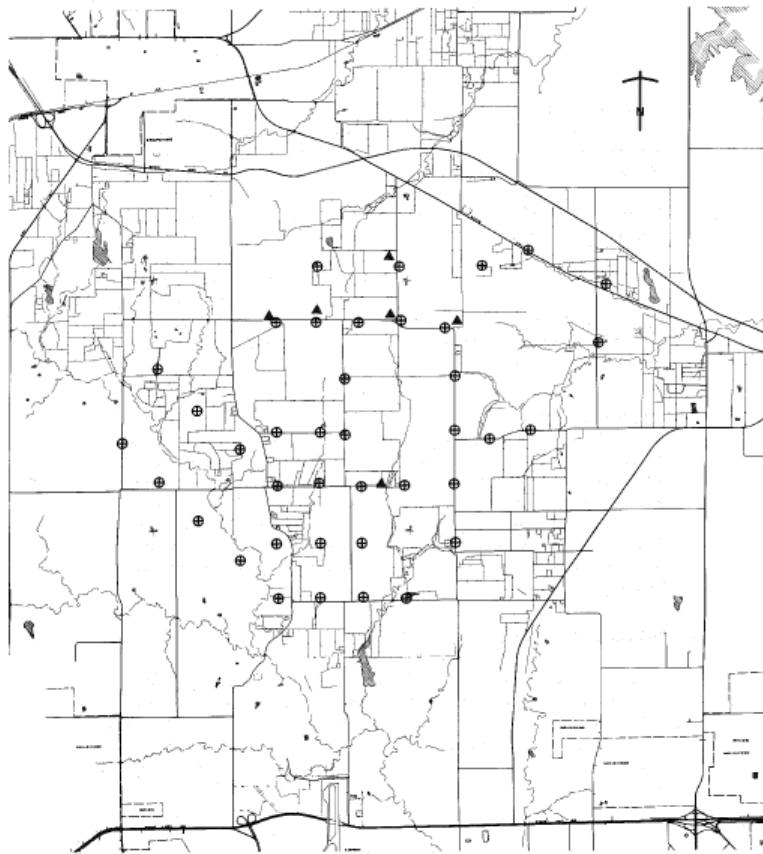
FIGURE 2.1 Diagram from TAMS, *Airport Master Plan*, 1967



FIGURE 2.2 Robert Smithson. *Spiral Jetty* (1970), Great Salt Lake, Utah



FIGURE 2.3 Gyo Obata, D/FW Airport, final terminal layout design under construction in 1973



**FIGURE 6**  
**BORING LOCATION PLAN**

LEGEND  
 ⊕ AUGER BORINGS  
 ▲ CORE BORINGS



DALLAS FORT WORTH REGIONAL AIRPORT LAYOUT PLAN  
 TIPPETT - ARBETT - M-CARTHY - STRATTON

22

FIGURE 2.4 "Soil Boring" Location Diagram, TAMS, *Airport Layout Plan*, 1966

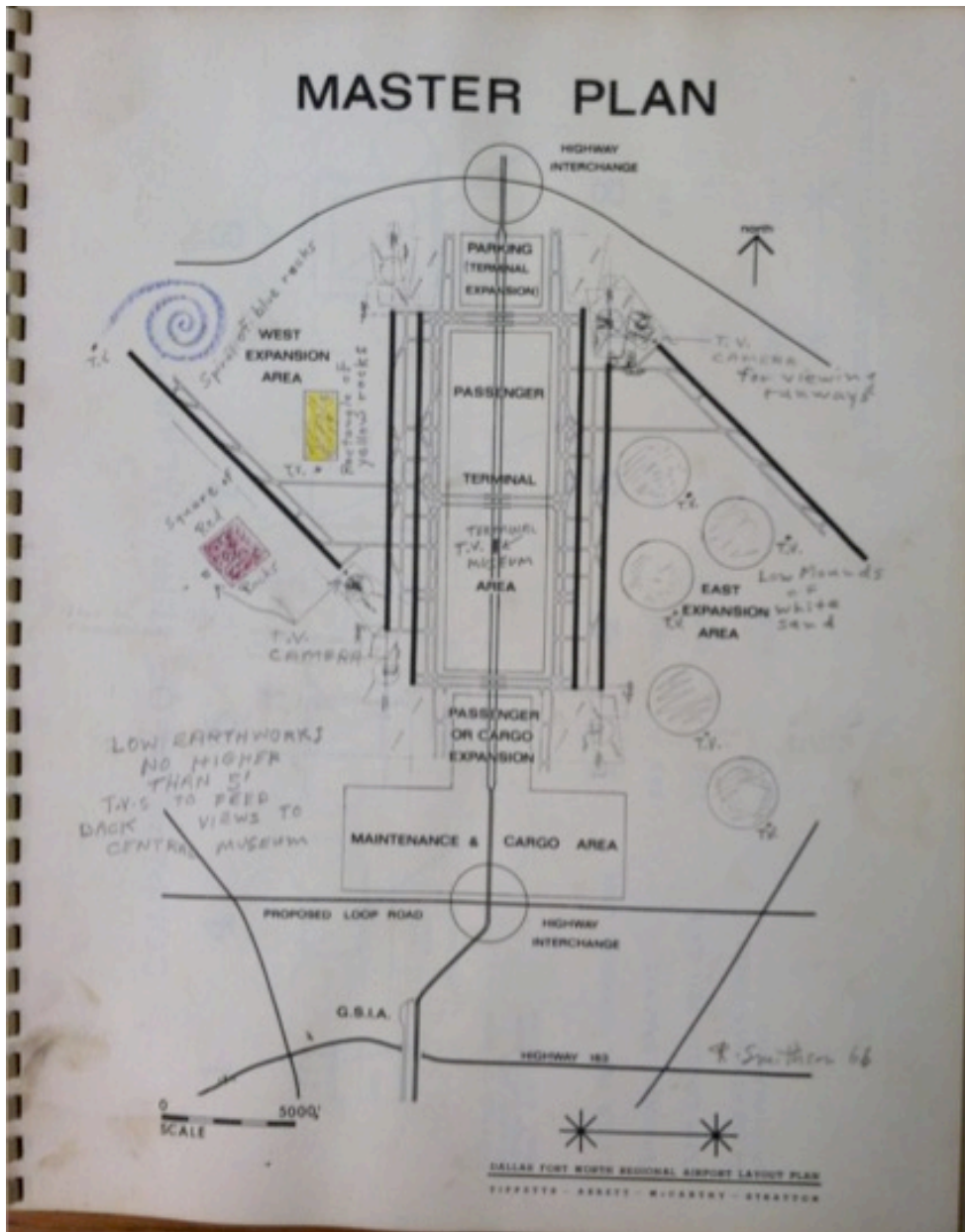


FIGURE 2.5 Smithson's annotations on his personal copy of TAMS, *Terminal Area Concepts*, 1967, from Robert Smithson and Nancy Holt Papers, Smithsonian Archives of American Art

TABLE 11

RUNWAY LENGTHS

	Magnetic Designation	First Stage	Ultimate
Primary Runway	35L/17R	-	12,000 ft.
	35LC/17RC	11,000 ft.	14,000 ft.
	35RC/17LC	11,000 ft.	14,000 ft.
	35R/17L	-	12,000 ft.
Secondary (Crosswind) Runway	31L/13R	9,000 ft.	11,000 ft.
	31R/13L	9,000 ft.	11,000 ft.

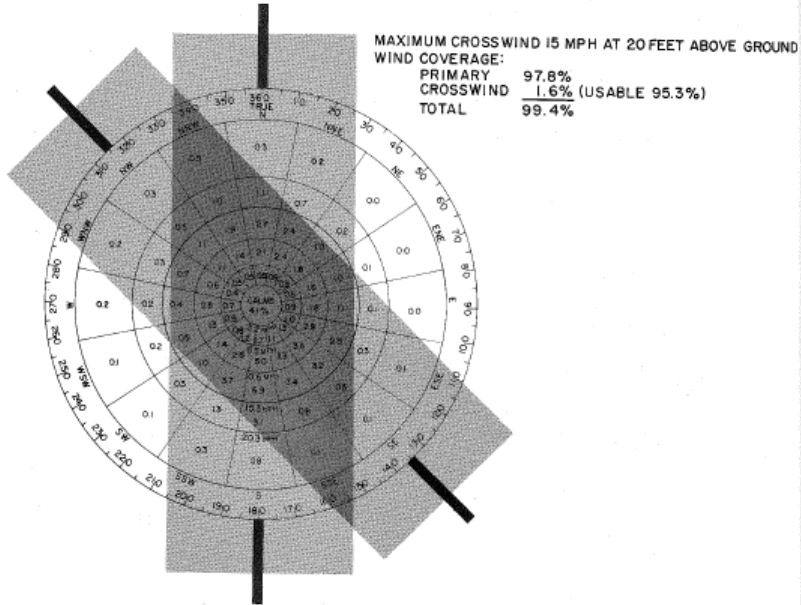


FIGURE 4

WIND ROSE - COVERAGE



DALLAS FORT WORTH REGIONAL AIRPORT LAYOUT PLAN  
 TIFFETTS - ABBETT - Mc CARTHY - STRATTON

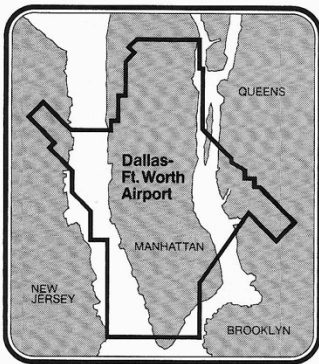
FIGURE 2.6 Wind rose from TAMS, Airport Layout Plan, 1966



FIGURE 2.7 Robert Smithson, *Oberhausen Non-Site* (1968)

# An airport as big as Manhattan.

It's the nation's largest airport. And the most efficient for airlines and passengers. The new Dallas/Fort Worth Airport, just 25 minutes from downtown Dallas or Fort Worth. A \$500 million facility spread over 17,000 acres. That's three times as big as Kennedy, and larger than Manhattan Island.



This enormous land area (9 miles long, 8 miles wide) solves the major problems facing existing airports. We'll have uncongested airspace. Plenty of room for runways, aprons, terminals, parking and air cargo facilities. At opening there will be four multi-level terminals with a total of 65 passenger gates, all capable of handling the new generation of aircraft. Passenger parking will be within 500 feet of boarding. At

maturity, the airport complex will include 225 passenger gates, fronting an 18-lane linear spine freeway. By 1985, we will handle over 100,000 passengers daily.

Air cargo design and capacity are equally as bold. The ultimate plan provides for two separate air cargo cities. A total of 200 fully automated gates capable of handling as much cargo as any seaport in the world.

### We're right in the middle of things.

Our location is equidistant between the 4 major population centers of North America—New York, Chicago, Los Angeles and Mexico City. And the new airport can only add to our importance as an economic center. Already, Dallas and Fort Worth have exceeded national growth rate to become the largest metropolitan region in the Southwest. Today, 2.3 million people in an 11-county area, and a projected 4 million by 1985.

True, the sky is our ocean, putting us within 4 hours non-stop to any U.S. mainland city, within 14 hours to any country in the world. But our area is also served by six spokes of Interstate Highway systems, 4 U.S. highways, 7 major State highways and 9 rail lines.

### Industrial sites and office space.

The Dallas/Fort Worth area has long been oriented toward a healthy business climate and corporate

profits. Dun & Bradstreet reports that only New York and Chicago have more million dollar companies than Dallas/Fort Worth. The Airport can only accelerate this trend. Today, an unprecedented number of industrial parks dot our 11-county area. Plus, more than 5 million square feet of new office space. Obviously, the local business community has made a hard dollar commitment to growth.

### What is The Southwest Metroplex?

Simply stated, The Southwest Metroplex is a complex of metropolitan areas. A planned 11-county economic region encompassing more than 8,360 square miles. It's a megapolis with leg room.

There's a lot more to our story. And if you'd like to learn more, we'll send information on The Southwest Metroplex, industrial sites, office space, quality of life and the new Dallas/Fort Worth Airport.

Write: Mr. Richard D. Jones, Executive Director, North Texas Commission, 600 Avenue H East, Suite 101, Dept. 1409, Arlington, Texas 76011. Telephone 817/265-7101.

 **Dallas/Fort Worth**  
**The Southwest Metroplex®**

FIGURE 2.8 D/FW Airport advertisement, early 1970s

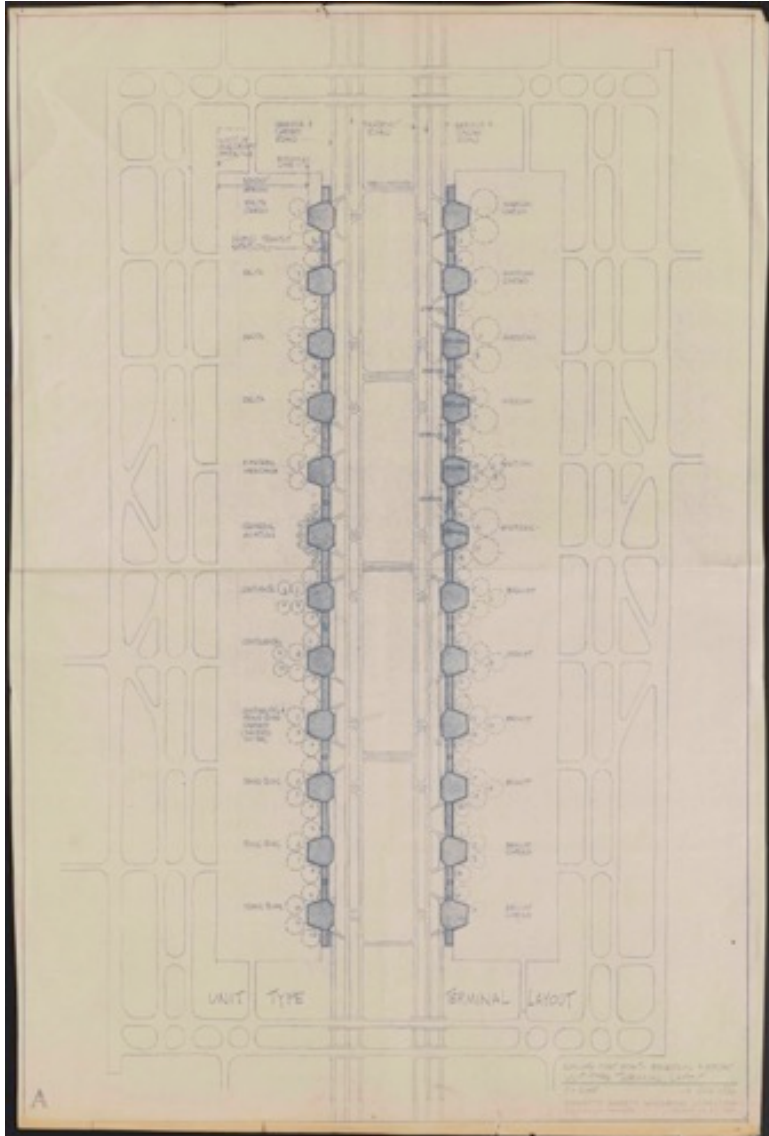


FIGURE 2.9 early site plan for Dallas-Fort Worth Regional Airport, June 1966, from Robert Smithson and Nancy Holt Papers, Smithsonian Archives of American Art





FIGURE 2.10 Future site of D/FW Airport, early 1960s. From Scott, Stanley H. and Levi H. Davis. *A Giant in Texas: A History of the Dallas-Fort Worth Regional Airport Controversy, 1911-1974*



FIGURE 2.11 Terminal City plan, Idlewild, New York International Airport (now John F. Kennedy International Airport), New York. c. 1957, artist's conception of completed airport from a vintage postcard

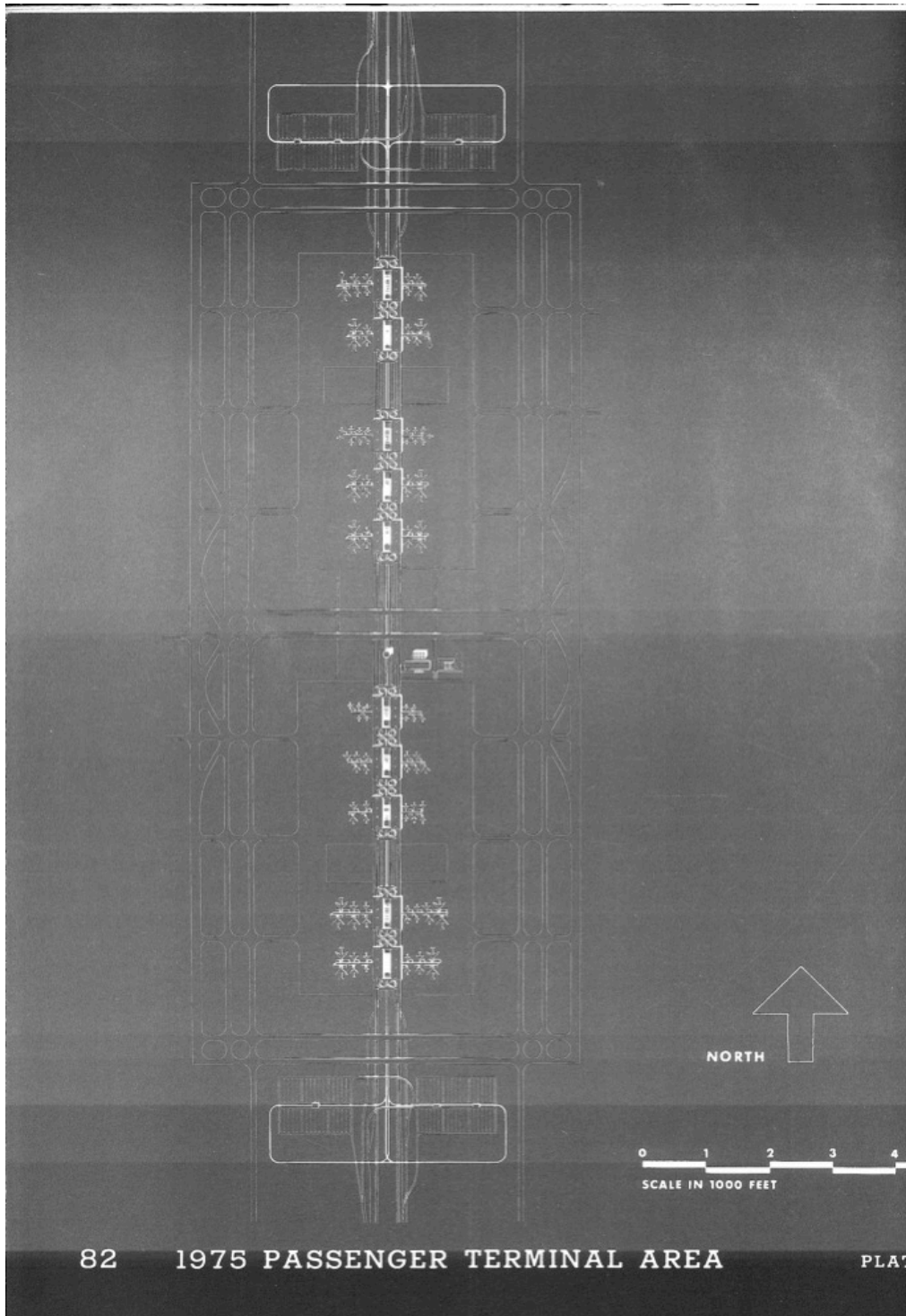


FIGURE 2.12a TAMS, *Airport Master Plan*, 1967, projected passenger terminal area density in 1975

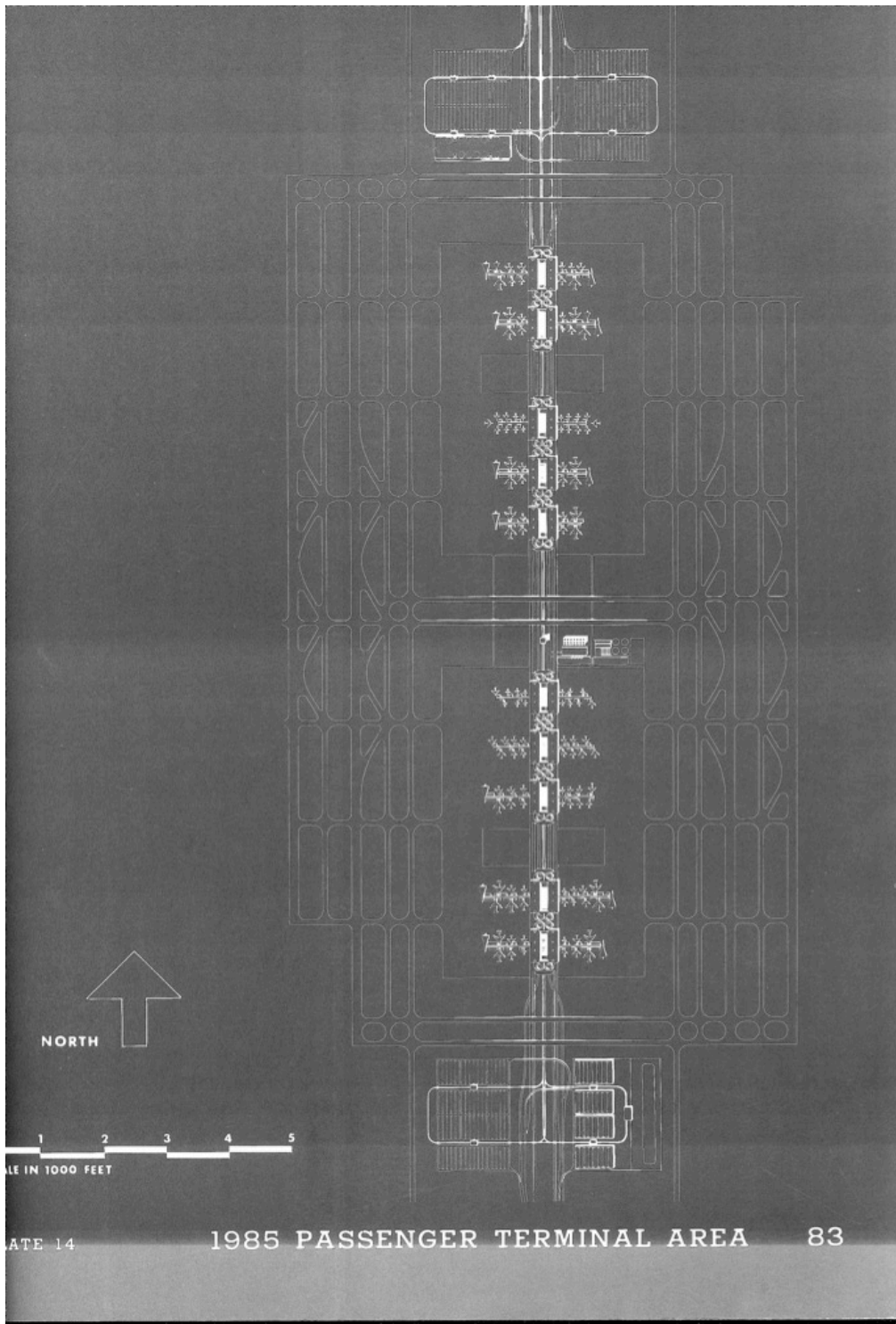


FIGURE 2.12b TAMS, *Airport Master Plan*, 1967, projected passenger terminal area density in 1985

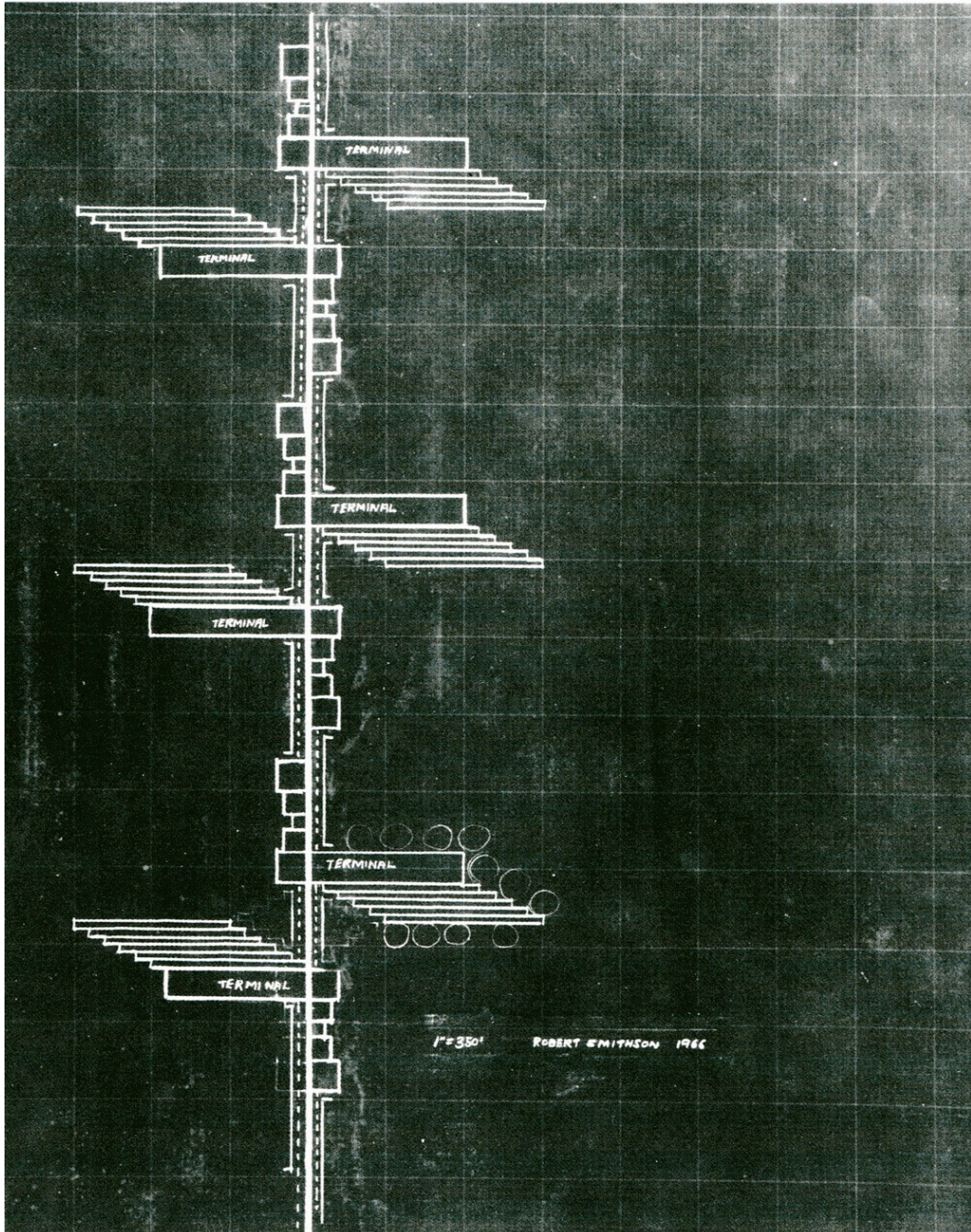


Figure 2.13 Robert Smithson, *Terminal: Plans for Dallas-Fort Worth Regional Airport* (1966)

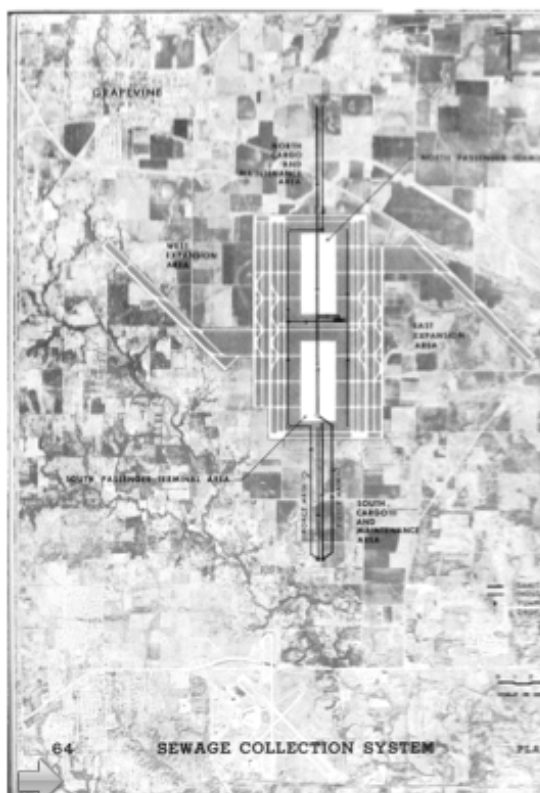
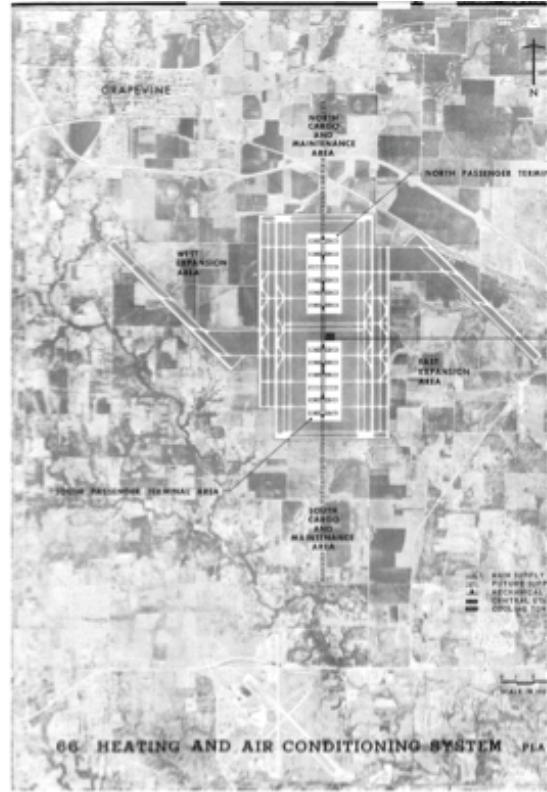
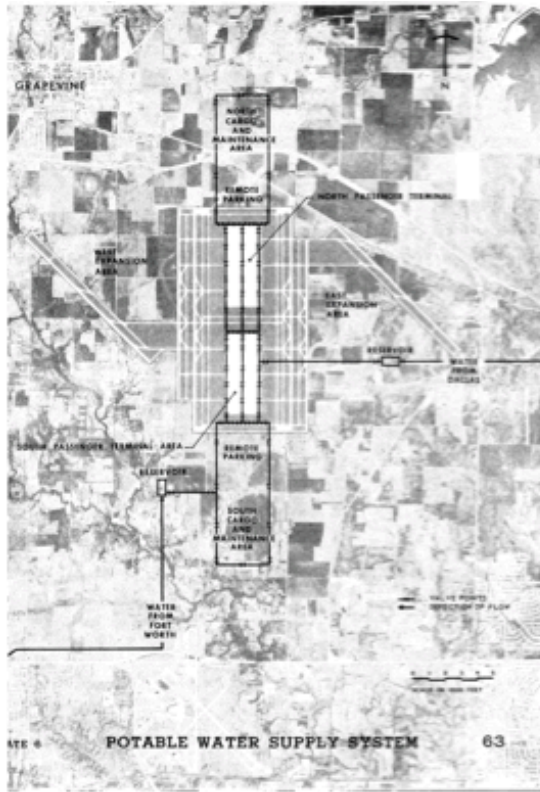


FIGURE 2.14 TAMS, pages from *Airport Master Plan*, 1967

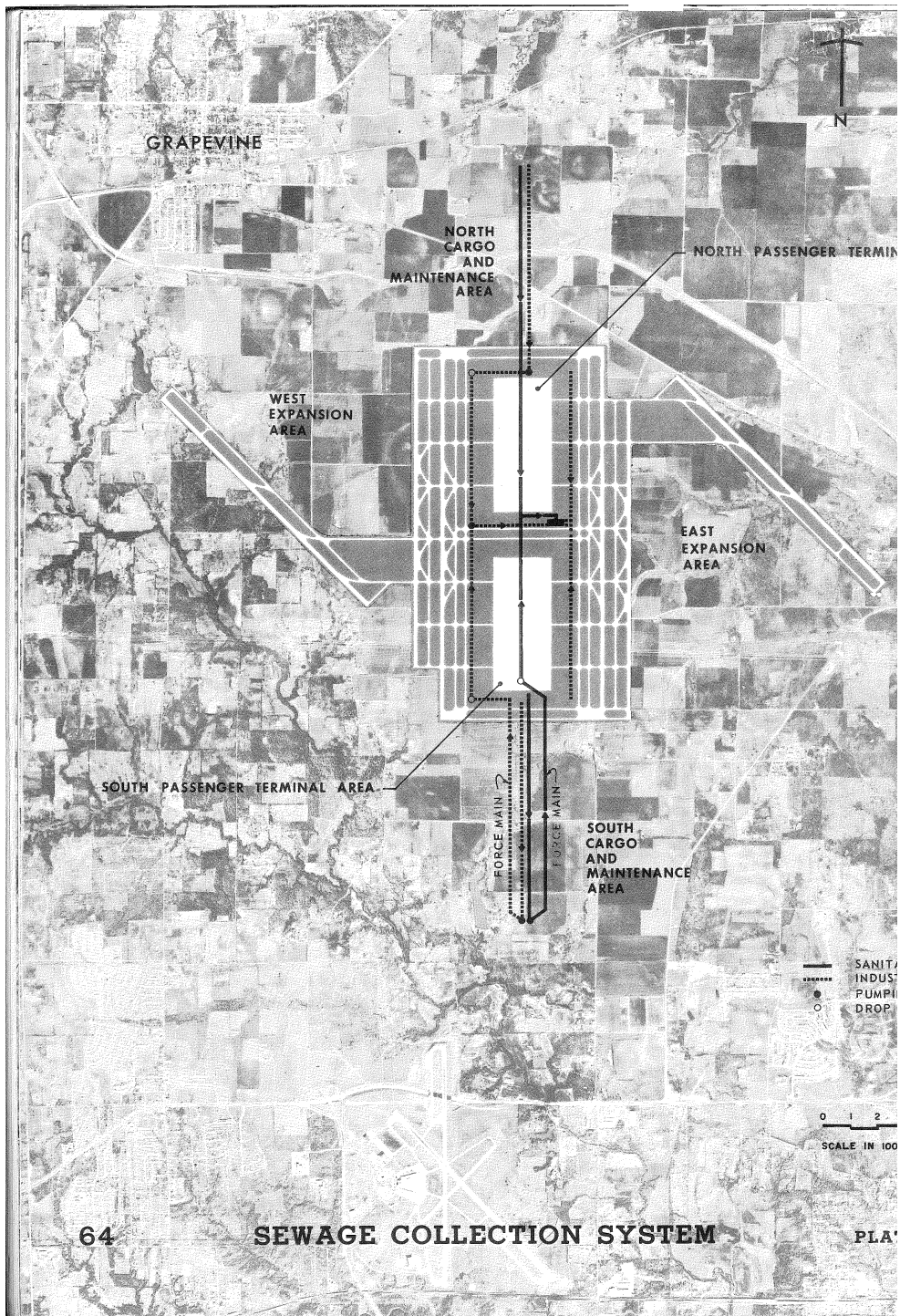


FIGURE 2.15 TAMS, diagram from *Airport Master Plan, 1967*

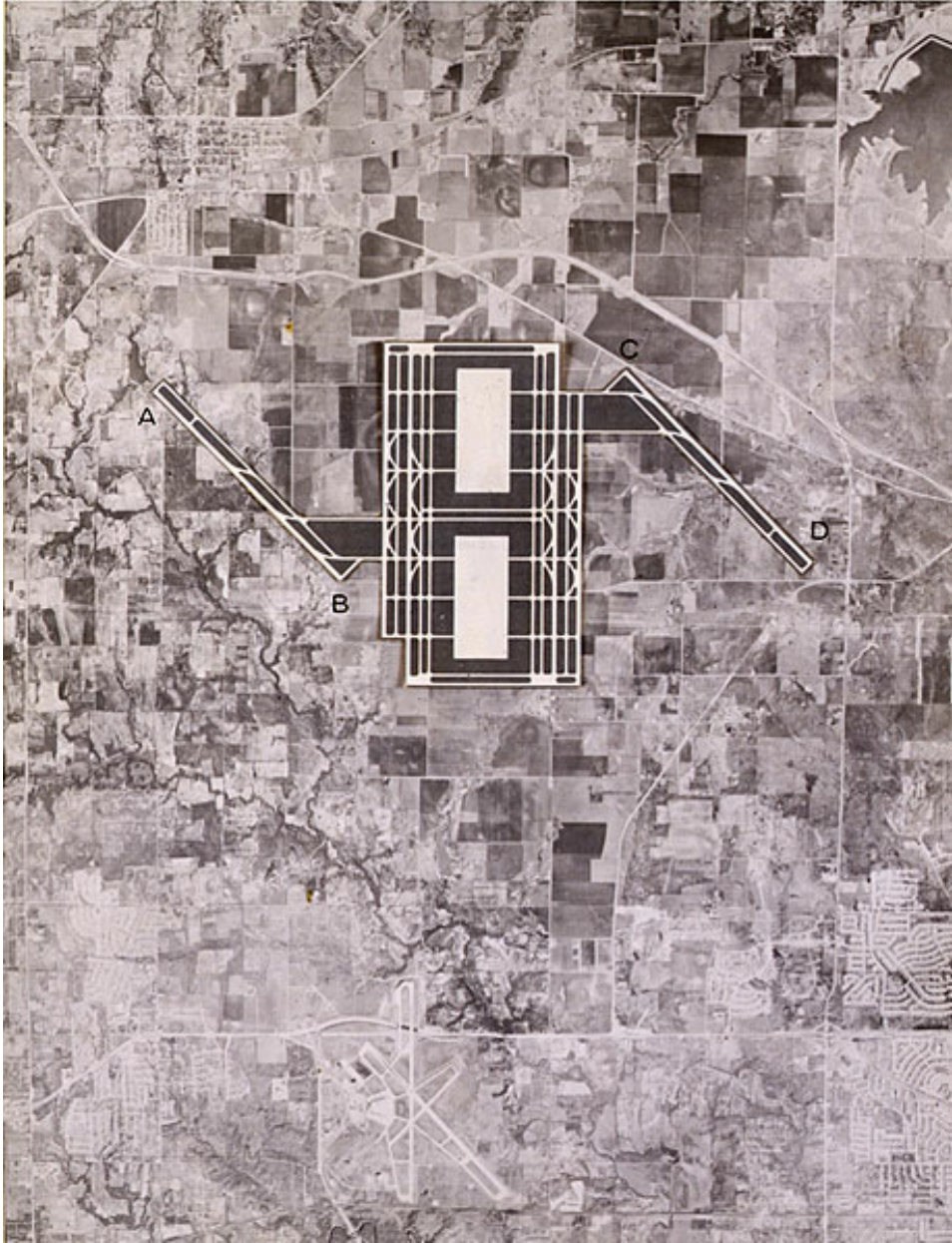


FIGURE 2.16 Robert Smithson, *Aerial Map - Proposal for Dallas-Fort Worth* (1967)





FIGURE 2.17 TAMS Portfolio, from Robert Smithson and Nancy Holt Papers, Smithsonian Archives of American Art

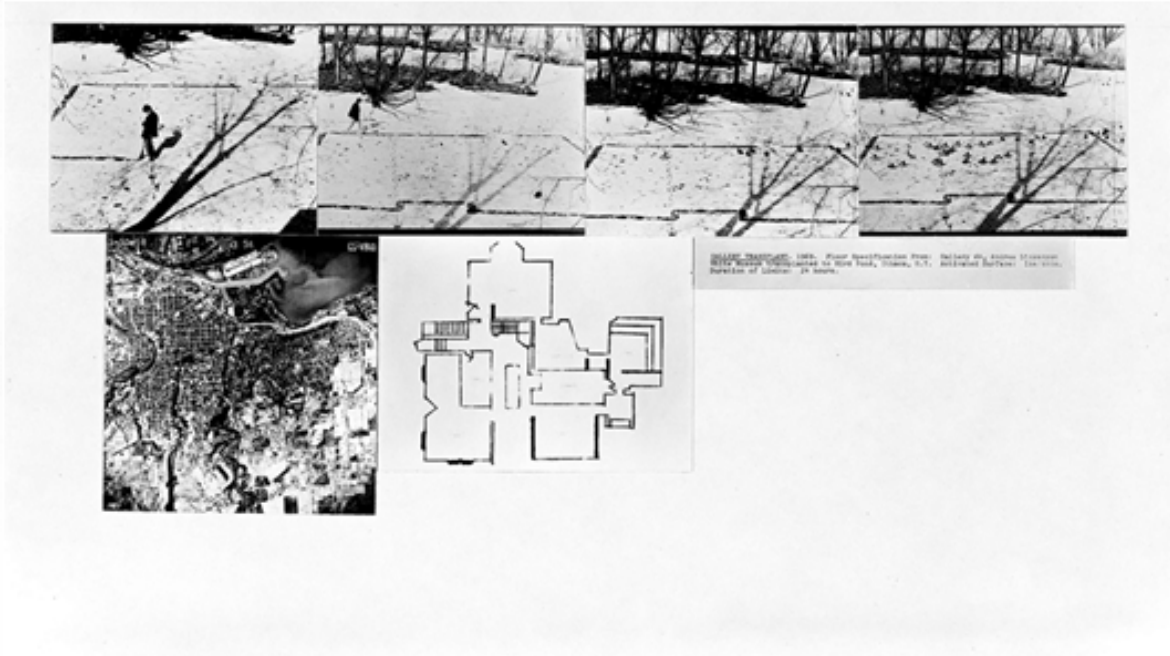


FIGURE 2.18 Dennis Oppenheim, *Gallery Transplant* (1969)

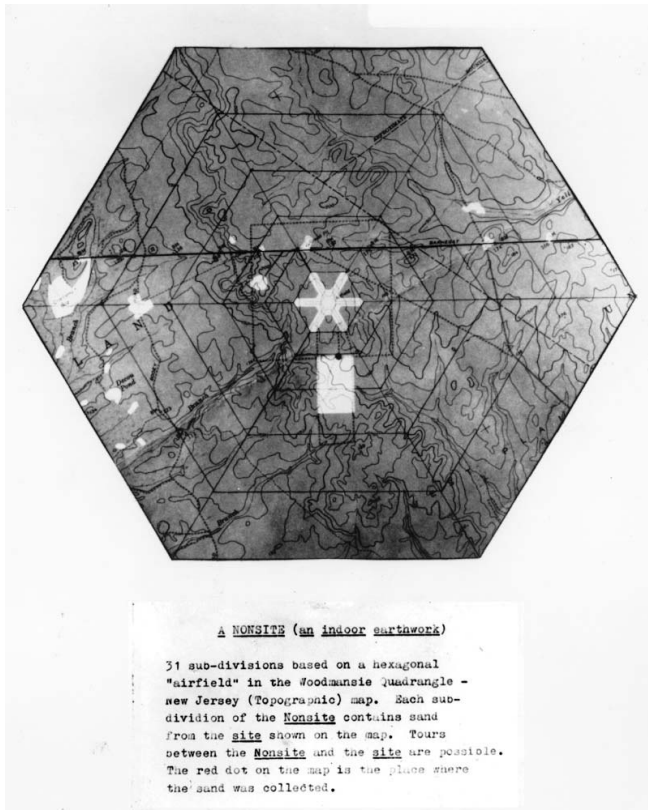


FIGURE 2.19 Diagram and text from Robert Smithson, *A Nonsite (Pine Barrens)* (1968)



FIGURE 2.20 Robert Smithson, *Leaning Strata* (1968)



FIGURE 2.21 Robert Smithson, *Island of Sulfur (Dollar Bay)* (1970)

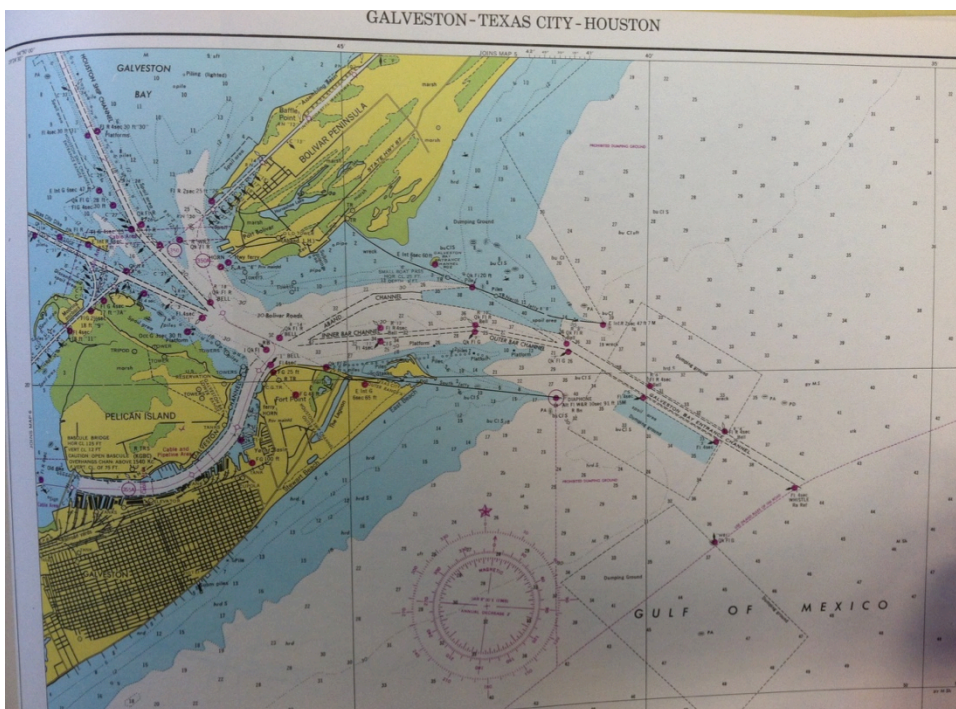


FIGURE 2.22 Page from Department of the Army, *Maps of Gulf Intercoastal Waterway, Texas* (1966), from Robert Smithson and Nancy Holt papers, Archives of American Art

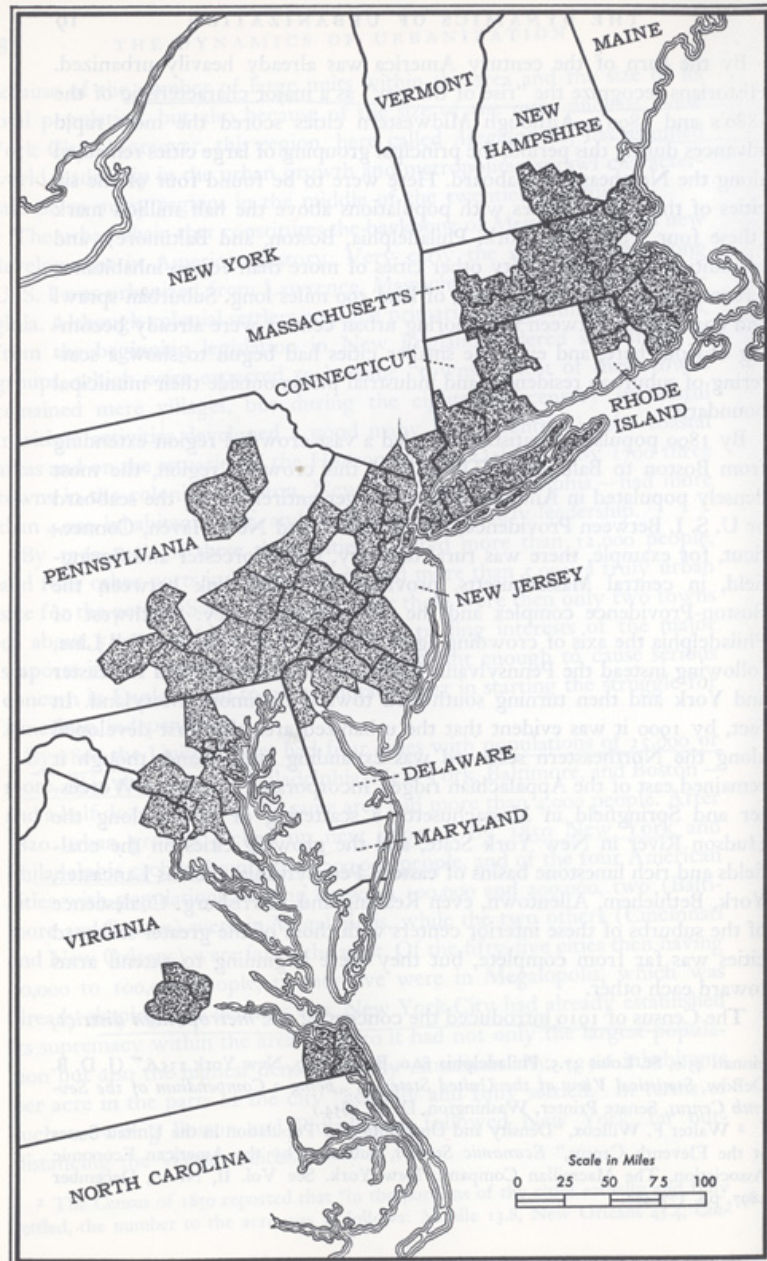


FIGURE 2.23 Diagram from Jean Gottmann, *Megalopolis*, 1961

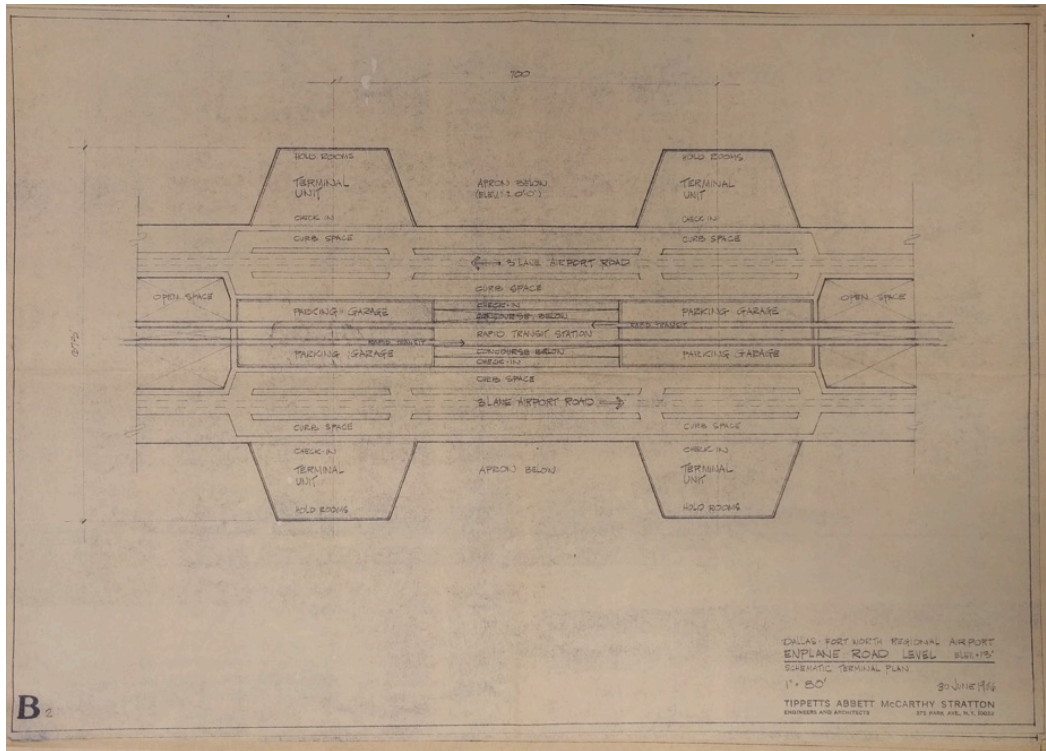


FIGURE 2.24a TAMS, D-FW Airport blueprint (plan), from Robert Smithson and Nancy Holt papers, Archives of American Art

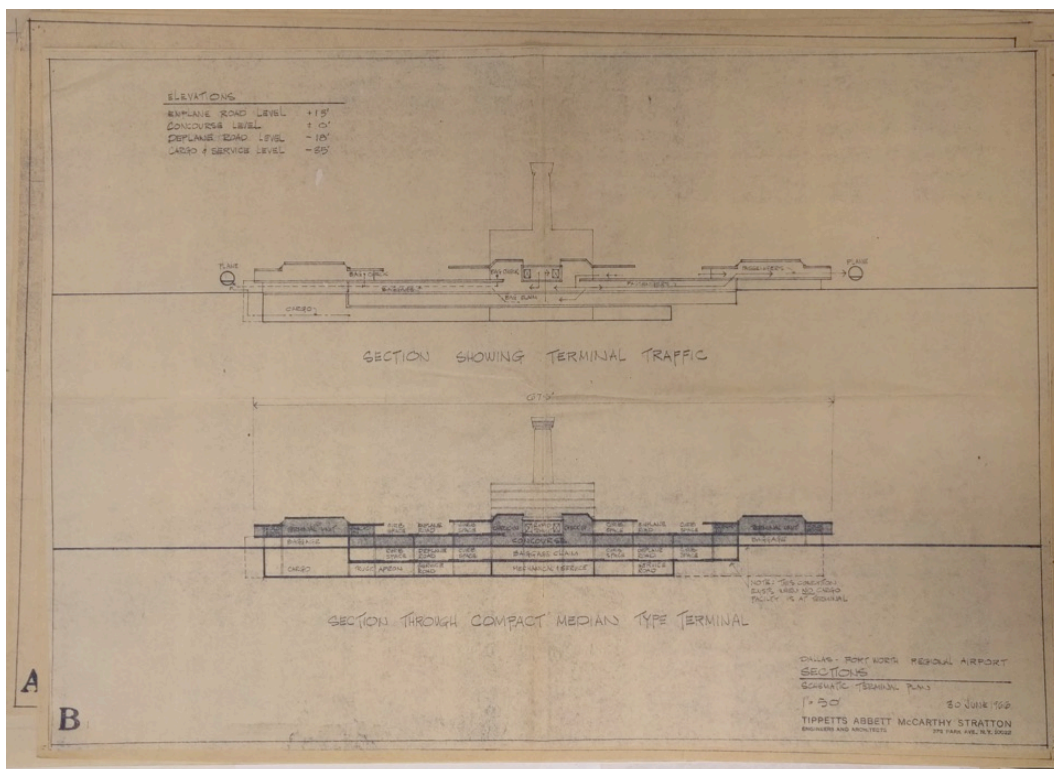


FIGURE 2.24b TAMS, D-FW Airport blueprint (elevation), from Robert Smithson and Nancy Holt papers, Archives of American Art

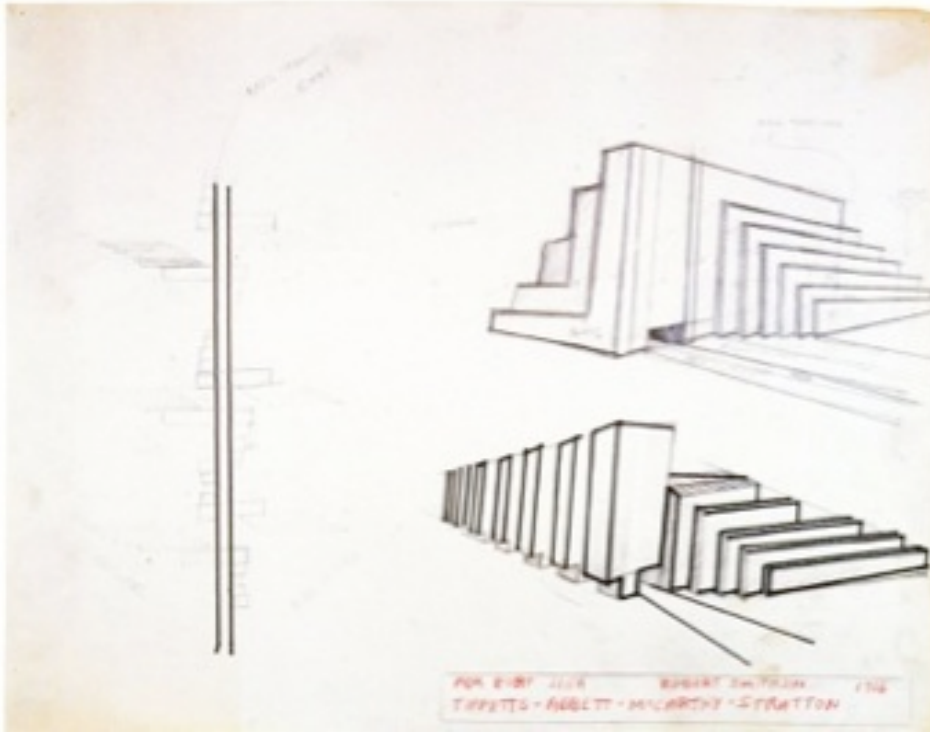


FIGURE 2.25a Robert Smithson, *Airport Idea* (Tippetts, Abbett, McCarthy, Stratton) (1966)

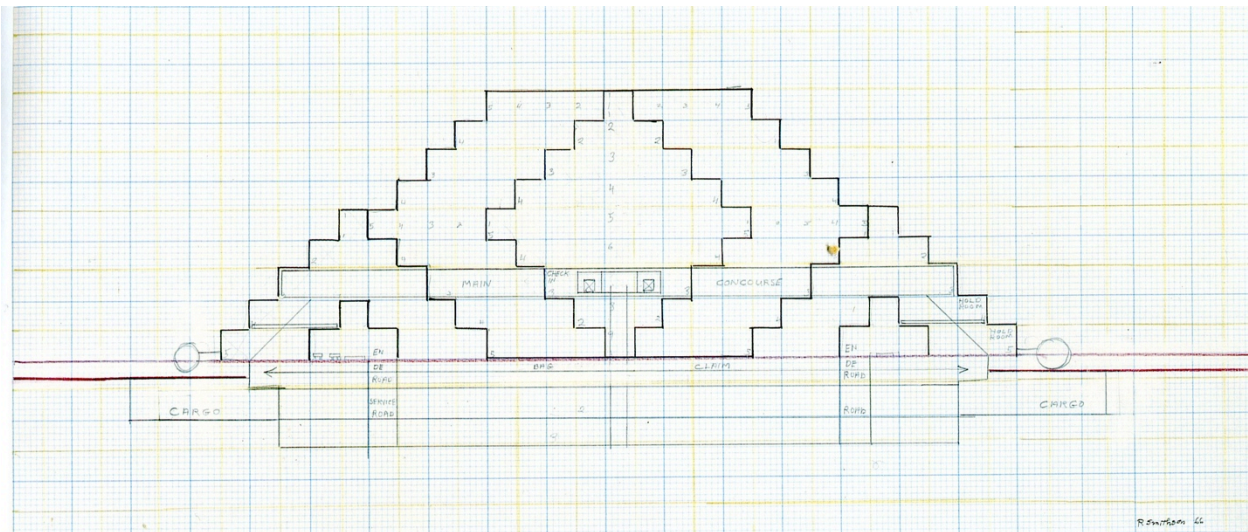


FIGURE 2.25b Robert Smithson, *Airport* (1966)

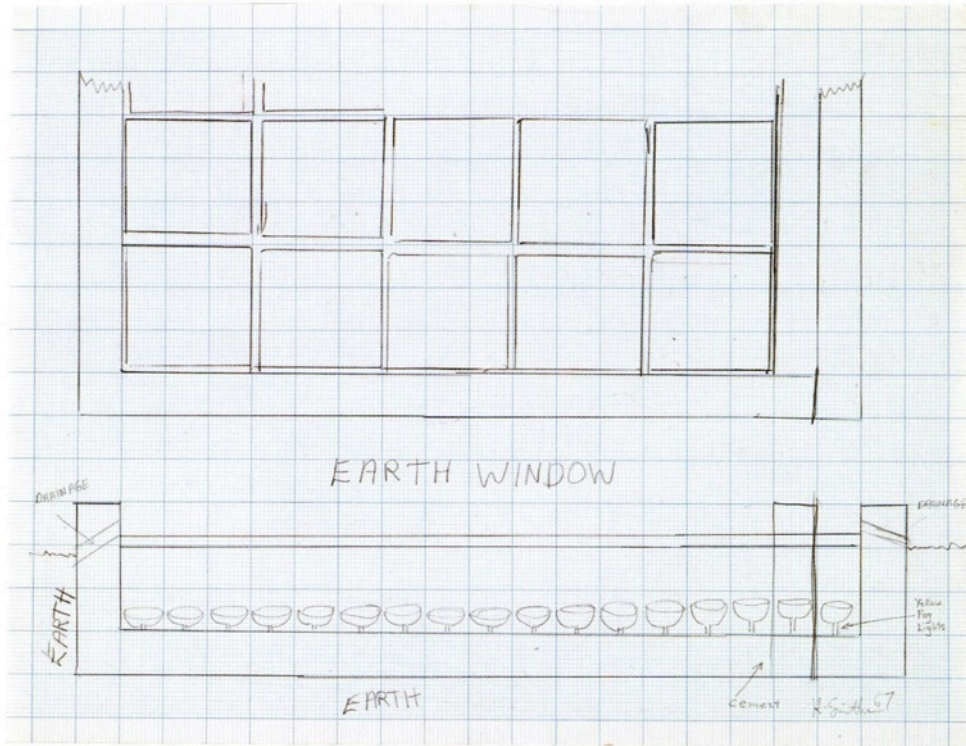


FIGURE 2.26 Robert Smithson, *Earth Window* (1966)

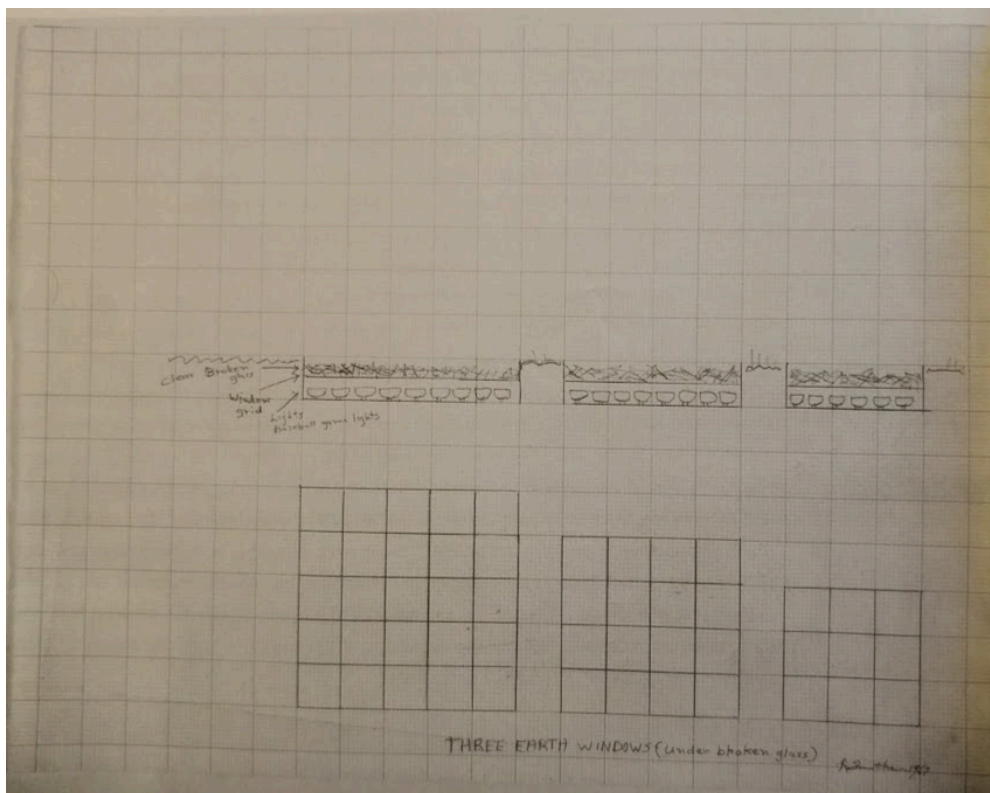


FIGURE 2.27 Robert Smithson, *Three Earth Windows (Under Broken Glass)* (1966)



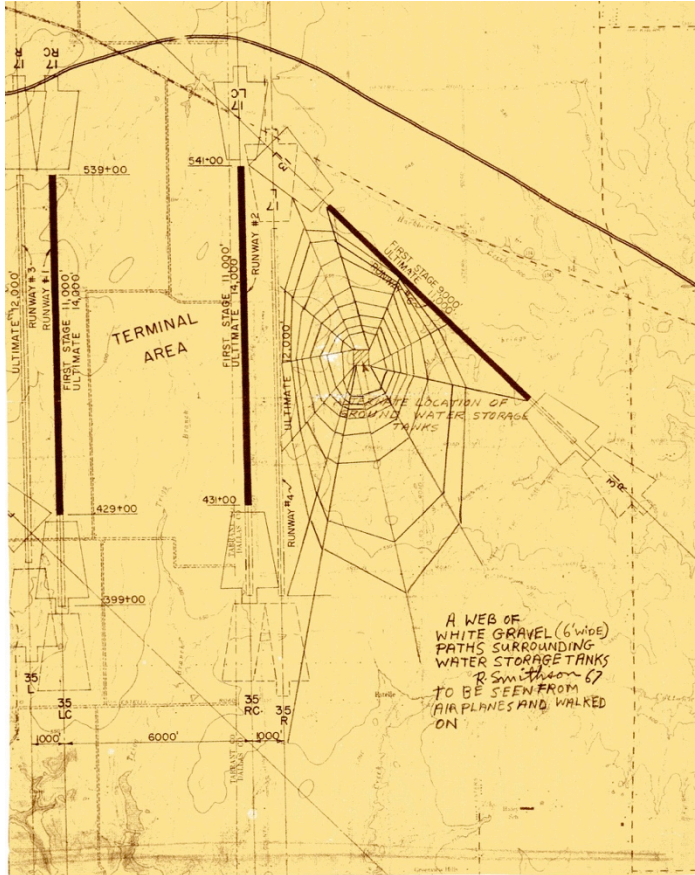


FIGURE 2.28 Robert Smithson, *A Web of White Gravel Paths Surrounding Water Tanks* (1967)

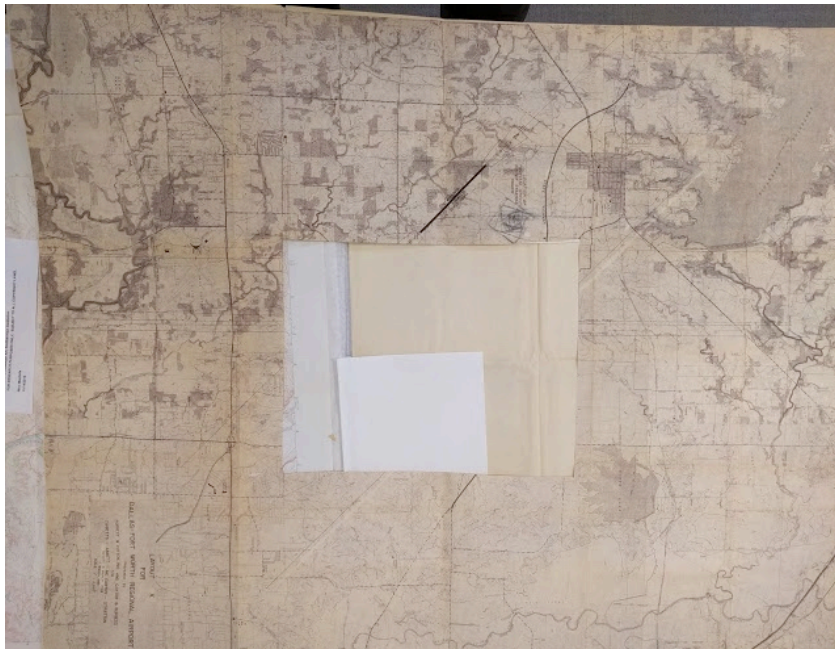


FIGURE 2.29 Source map for *A Web of White Gravel Paths Surrounding Water Tanks*, from Robert Smithson and Nancy Holt Papers, Archives of American Art

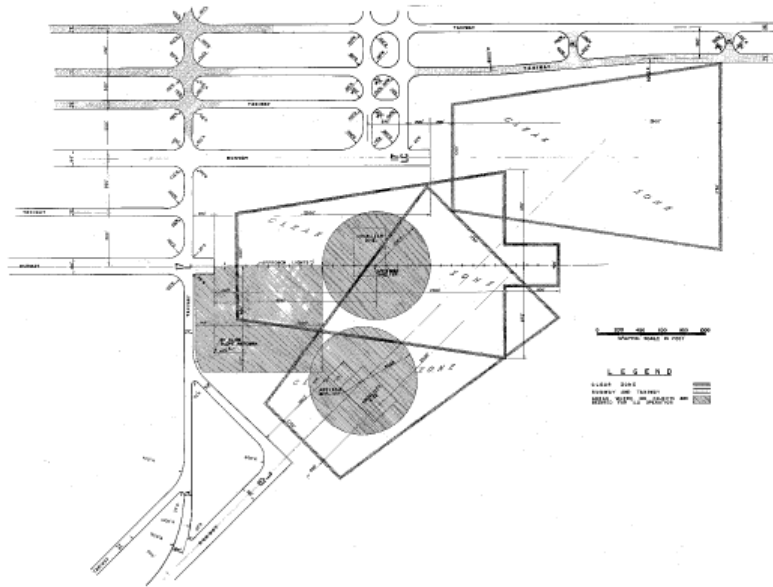


FIGURE 20  
 RUNWAY INSTRUMENTATION  
 RUNWAYS 2,4 AND 6  
 ULTIMATE PLAN



DALLAS FORT WORTH REGIONAL AIRPORT LAYOUT PLAN  
 TIPPETTS - ABBETT - MCCARTHY - STRATTON

FIGURE 2.30 TAMS, diagram from *Airport Layout Plan*, 1966

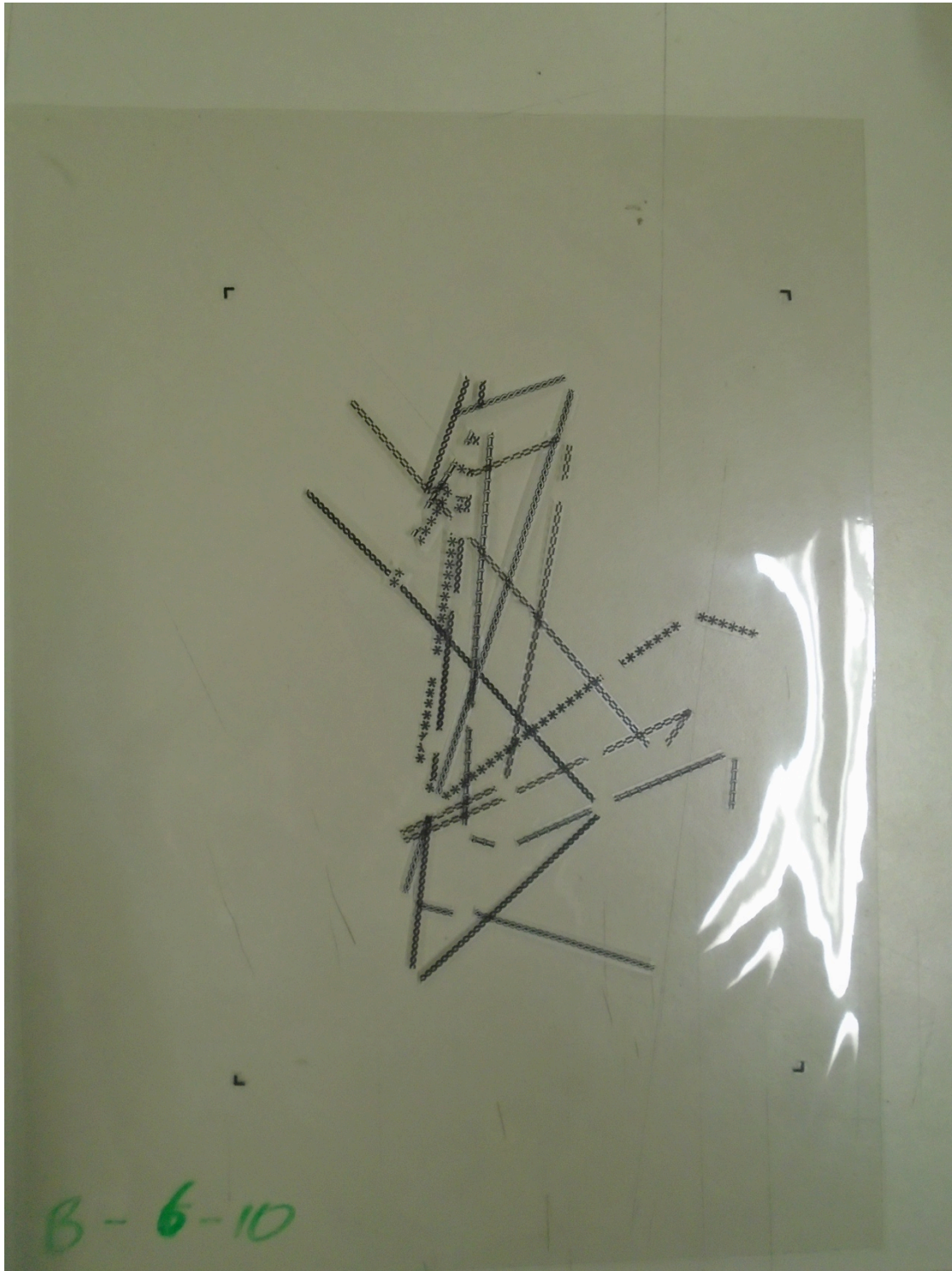


FIGURE 3.1 Transparency used in construction of sweep map for Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980)



FIGURE 3.2 Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), "Handshake Ritual"



FIGURE 3.3 Mierle Laderman Ukeles, *Touch Sanitation Performance*, (1977-1980), "Follow in Your Footsteps"



FIGURE 3.4 Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), "Roll Call"



FIGURE 3.5 Installation view of Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), Queens Museum, New York, 2016

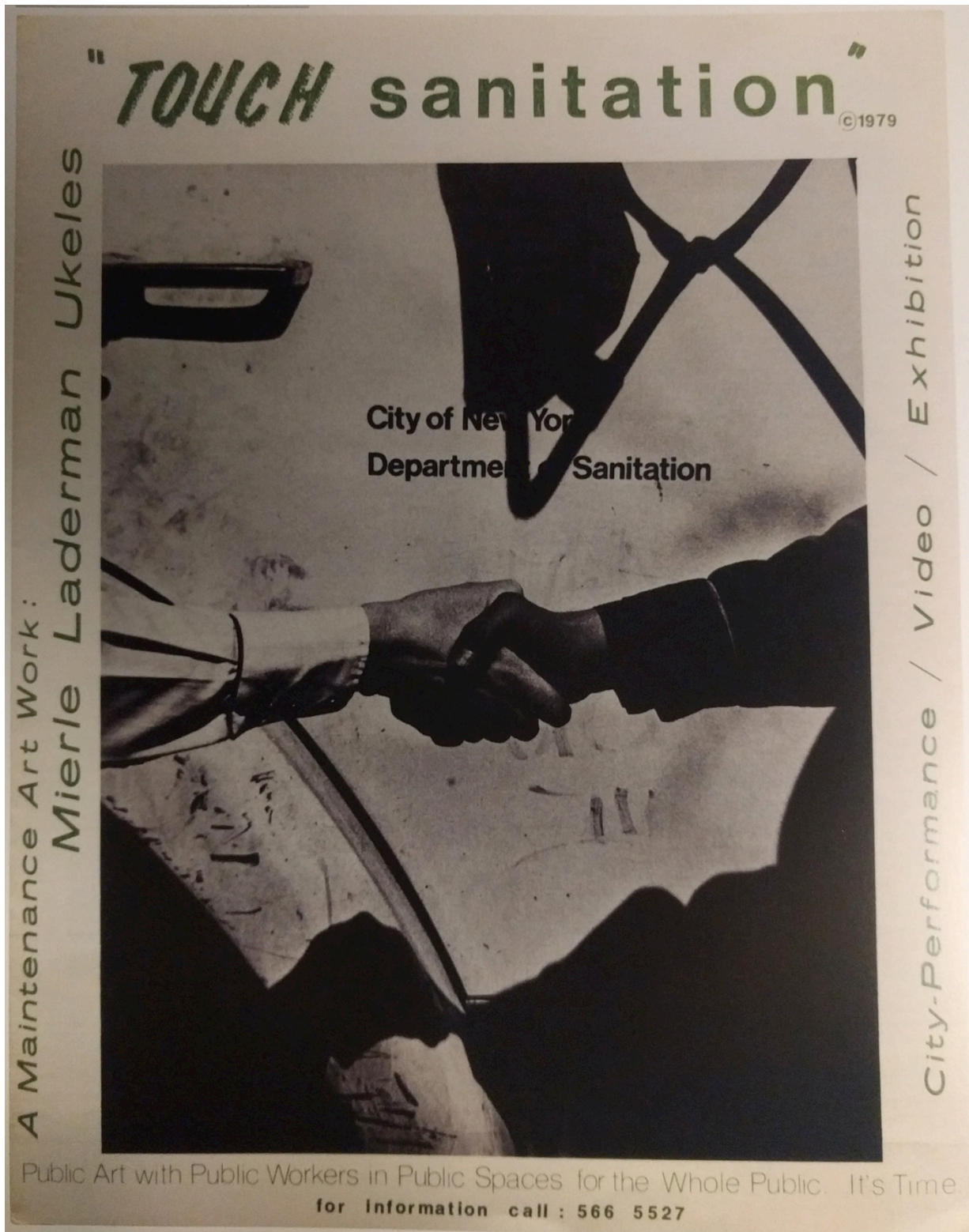


FIGURE 3.6 Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), cover of pamphlet distributed by Ukeles to sanitation workers during the performance

S W E E P 8

April 15 to April 22, 1980

"Round Robin": Phenomenon that happens to workers with low seniority (up to 10 years in Dept.) where they get called back to work after only 8 hours off between shifts. I did it over 4 days & cried a lot.

New	MANHATTAN 8	6a.-3p.	Photo Day 14
New	MANHATTAN 9	same nite, 8 hours off	11p.-8a.
New	BRONX 9	12noon-9p	
New	BROOKLYN 14 &		
New	BROOKLYN 15	next a.m., 8 hours off	5a.-2:30p. Photo Day 15
New	QUEENS 11	6a.m.-2:30	
New	QUEENS 12	8:15a-4:15p	

S W E E P 9

April 24 to May 5, 1980

New	MANHATTAN 10	4a.m.-6p.	Video Day 5
New	BRONX 10 &		
New	BRONX 11	8:15a-4:12p.	
New	BROOKLYN 16 &		
New	BROOKLYN 17	6a.m.-3p.	
New	QUEENS 13	8:15a.-4:15p.	

S W E E P 10

May 9 to June 26, 1980

New	MANHATTAN 12	6:30a-3:30p.	
New	BRONX 12	6:30a. 3:30p.	
New	BROOKLYN 18	5:45a.-3:30p	
New	MANHATTAN 11	6a.m.-3:30p.	Photo Day 16
New	QUEENS 14	6a.m.-4p.	Photo Day 17
---	CENTRAL REPAIR SHOP &		
---	OFFICERS' PROMOTION CEREMONY	7a.m.-4:30p	Photo Day 19
---	CENTRAL CLINIC	7:30a-4:30p	Photo Day 20
New	STATEN ISLAND 3	5:15a.-3:30p	Photo Day 18
---	RESOURCE RECOVERY OFFICE	9a.m.-5p.m.	
---	FINAL TELEX PREPARATION	1p.m.-midnite	
---	HEADQUARTERS STAFF OFFICES	9a.m.-5p.	Photo Day 21
---	FRESH KILLS MARINE-FED LANDFILL (3,000 acres, largest in world)	7:30a.-6p.	Video Day 6
FINALE:	RETURN TO BEGINNING DISTRICT--		
New	MANHATTAN 1	4a.m.-12 noon	Video Day 7 Photo Day 22 Press Conferen
	PROMOTION CEREMONY: MAINTENANCE ARTIST TO HONORARY DEPUTY COMMISSIONER OF DEPARTMENT AND MEMBER SANITATIONMEN'S (sic) UNION.		

FIGURE 3.7 Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), Schedule of TSP Sweeps 8-10





FIGURE 3.8 Subway entrance on E 14<sup>th</sup> Street near Union Square, c. 1975



FIGURE 3.9 Installation view of Mierle Laderman Ukeles, *I Make Maintenance Art One Hour Every Day* (1977) and Mierle Laderman Ukeles, *Washing/Tracks/Maintenance/Inside*, 2013



FIGURE 3.10 Henry Moore, *The Dallas Piece*, installed 1978 on Dallas City Hall plaza (designed by I.M. Pei)

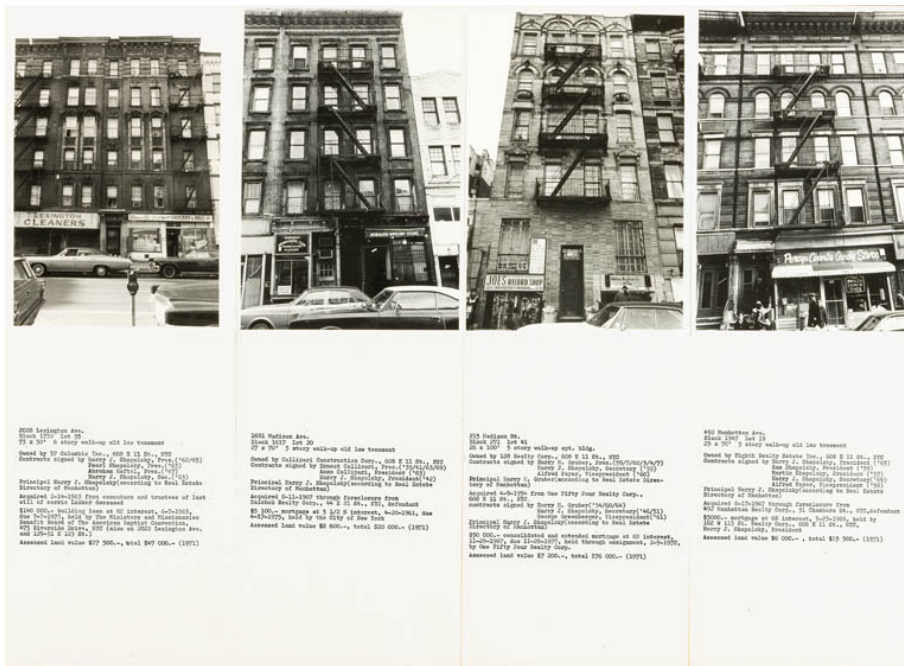


FIGURE 3.11 Hans Haacke, *Shapolsky et al. Manhattan Real Estate Holdings, a Real Time Social System*, as of May 1, 1971 (1971)

# MANIFESTO!

## MAINTENANCE ART

Proposal for an exhibition "CARE"

MIERLE LADERMAN UKELES  
© 1969

---

### I. IDEAS

#### A. The Death Instinct and the Life Instinct:

The Death Instinct: separation; individuality; Avant-Garde par excellence; to follow one's own path to death—do your own thing; dynamic change.

The Life Instinct: unification; the eternal return; the perpetuation and MAINTENANCE of the species; survival systems and operations; equilibrium.

#### B. Two basic systems: Development and Maintenance. The sourball of every revolution: after the revolution, who's going to pick up the garbage on Monday morning?

Development: pure individual creation; the new; change; progress; advance; excitement; flight or fleeing.

Maintenance: keep the dust off the pure individual creation; preserve the new; sustain the change; protect progress; defend and prolong the advance; renew the excitement; repeat the flight;

FIGURE 3.12 Mierle Laderman Ukeles, "Manifesto for Maintenance Art!" (1969), original copy with handwritten annotations

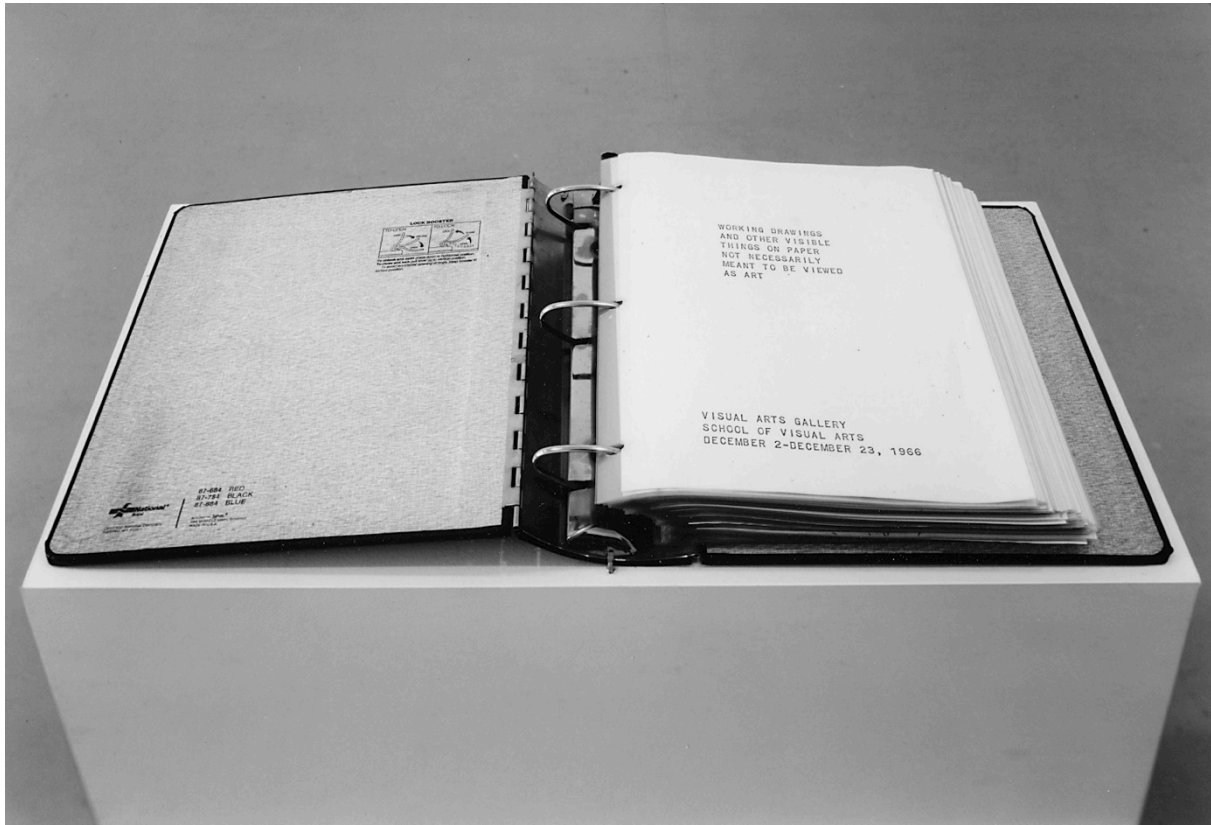
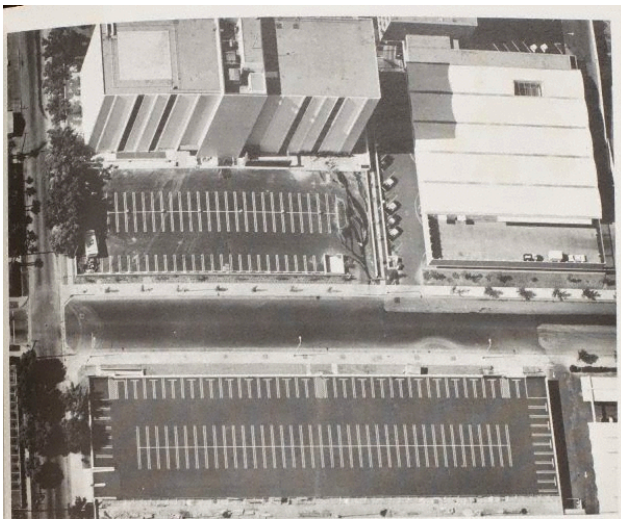


FIGURE 3.13 Mel Bochner, *Working Drawings and Other Visible Things on Paper Not Necessarily Meant to be Viewed as Art* (1966)



FIGURE 3.14 Dan Graham, *Homes for America* (1966–1967)



(Top) Van Nuys Police lot  
(Bottom) Public Parking, Van Nuys County Bldg. Multi-level

FIGURE 3.15 Ed Ruscha, *Thirtyfour Parking Lots in Los Angeles* (1967, printed 1974)

**BOTTOM LEFT:**  
Sanitation worker in Manhattan.  
*Sam Falk*

**BOTTOM RIGHT:**  
Bronx alley.  
*Herb Gero*

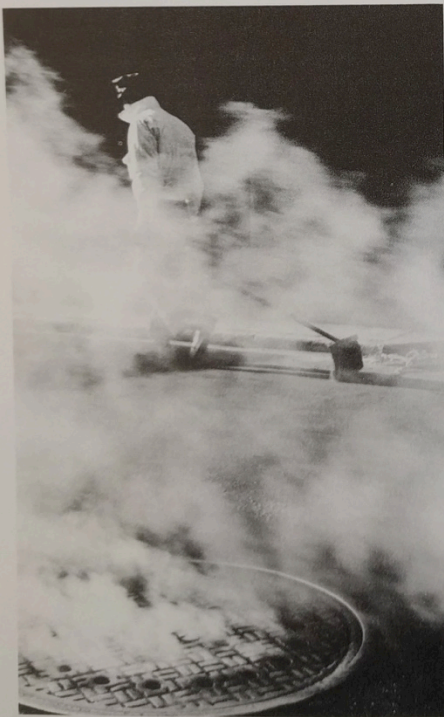


FIGURE 3.16 Page from New York City Planning Commission, *Plan for New York City, 1969: A Proposal*



FIGURE 3.17. Mierle Laderman Ukeles, *Washing/Tracks/Maintenance: Outside* (1973)



FIGURE 3.18 Mierle Laderman Ukeles, *A.I.R. Wash* (1974)

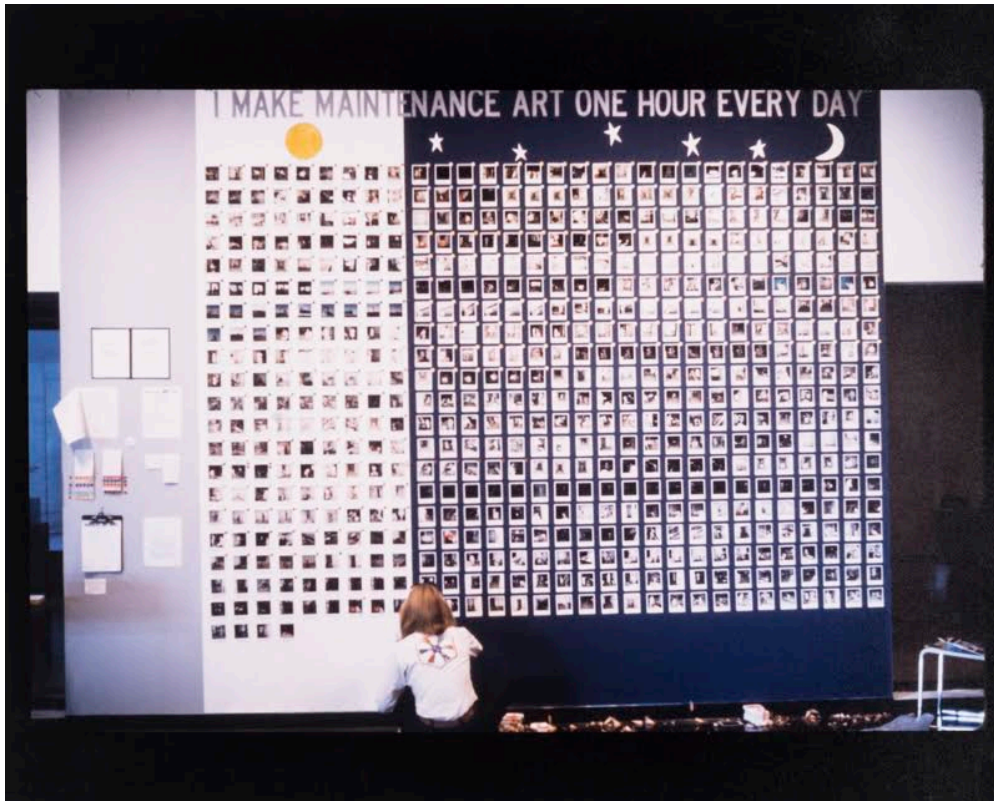


FIGURE 3.19 1976 Installation view of Mierle Laderman Ukeles, *I Make Maintenance Art One Hour Every Day* (1976) at Whitney Museum, 55 Water Street, New York, 1976



FIGURE 3.20 View of 55 Water Street (bottom left) under construction, 1971



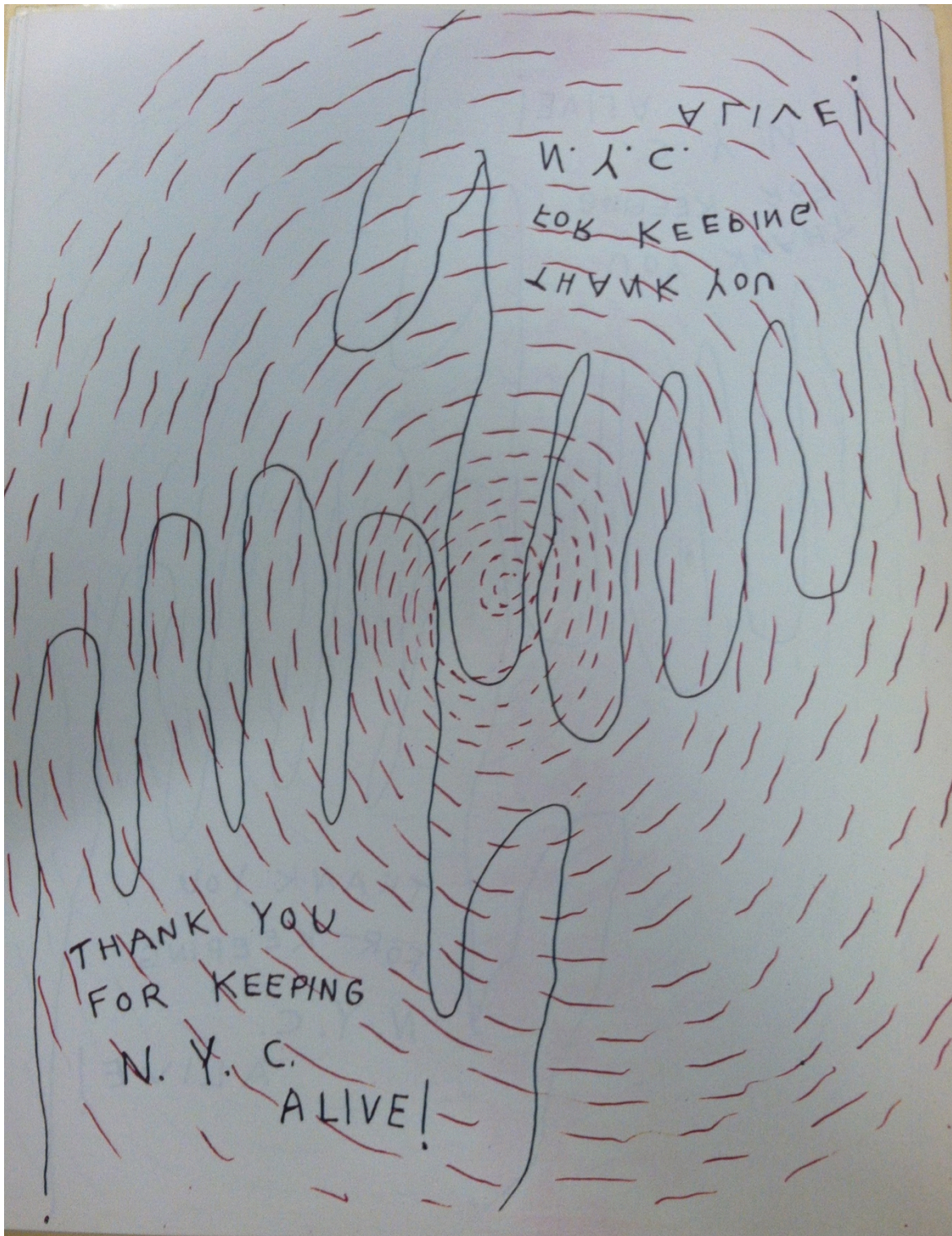


FIGURE 3.21 Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), drawing of two hands superimposed on spiraling lines

# MAINTENANCE ART WORKS

MIERLE LADERMAN UKELES

2 Washington Square Village  
New York, New York 10012

October 5, 1976

Hon. Anthony Vaccarello  
Commissioner of Sanitation, New York City  
125 Worth Street  
New York, New York 10013

Dear Commissioner Vaccarello:

Since your department was mentioned in a review in the Village Voice of my Maintenance Art Works in the Whitney Museum, I thought you might be interested in seeing the reference. I enclose it herein.

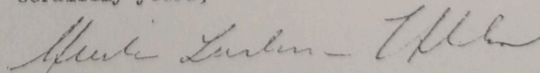
Perhaps you might be interested in having an artist-in-residence in the Sanitation Department. This is one of the categories of grants from the National Endowment of the Arts. If so, may I be the first to apply. Actually, I think Commissioner Lang recently established the same kind of residence in the Department of Parks.

Because I like to collide by maintenance art-work system directly with real-life systems, perhaps we could work out a complete switch with you applying directly for an N.E.A. grant for yourselves and me applying directly for a federal grant in maintenance-research systems ( or some such animal).

In any case, I invite you to see my work at the Downtown Whitney, 55 Water Street (until Oct. 20), Mon.-Fri., 11-3p.m. And, also, I invite you to a special Maintenance Art performance entitled: "Maintaining New York City in crisis: 'What Keeps NYC Alive?'" on Wed., Oct. 13, from 11-3 at the same address.

Looking forward to your thoughts on the matter, I am,

Cordially yours,



cc: Mr. David Bourdon, Village Voice

FIGURE 3.22 Letter from Mierle Laderman Ukeles to Anthony Vaccarello, DSNY Commissioner, October 5, 1976

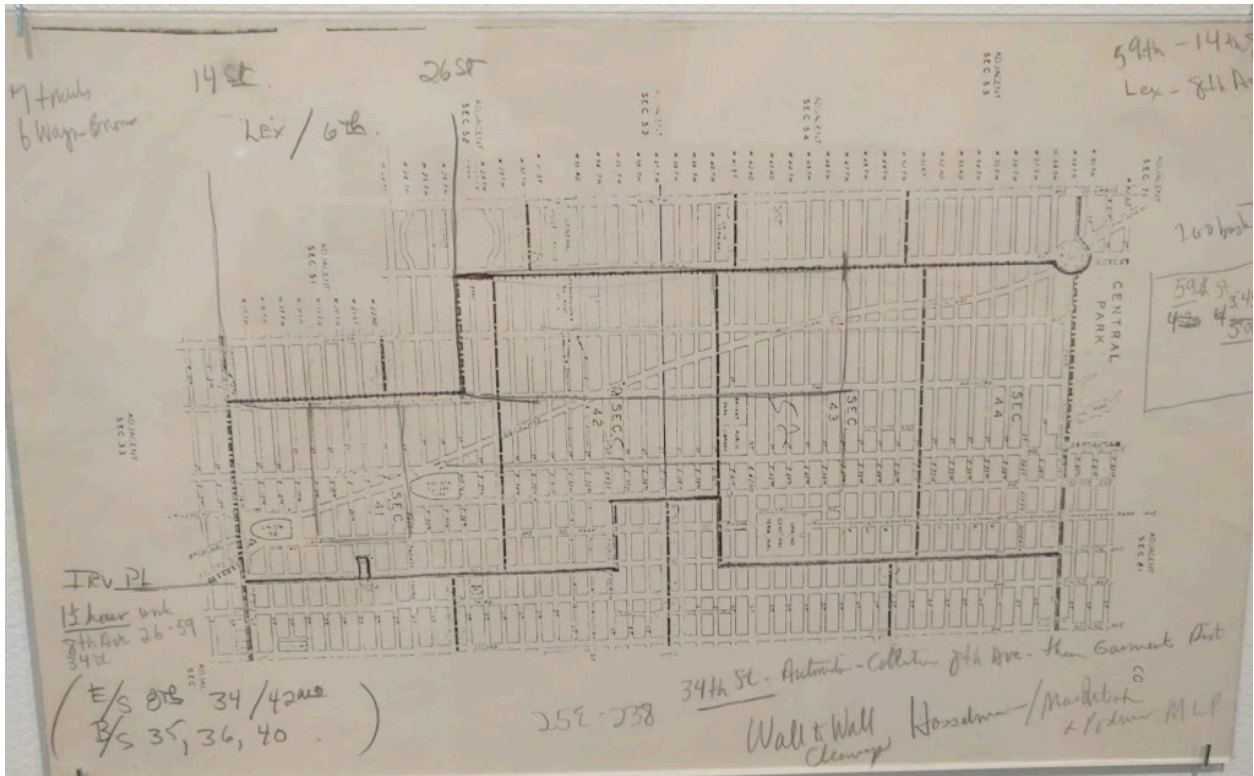


FIGURE 3.23 Ukeles, *Touch Sanitation Performance* (1977–1980), annotated DSNY District Map

TBHM KEVKDVKJVXKVKUVKANKVVKQVKSVKFMXXVKBVKZVLEV LJ  
MLXMLUMLANLVVLQNCBSMLFVLXVLBVLZVNEVNDVNKMNUNAVN VVNQVN SVNFVN XV

KEVKDVKJNY  
KEVKDVKJNY

FROM CONTROL

TOUCH SANITATION

"TOUCH SANITATION" MAINTENANCE ARTIST WILL BE IN DISTRICT 50, TO TODAY  
TOUCH SANITATION. THIS IS THE END OF "SWEEP NO. 1."

"GOOD MORNING". THE MAINTENANCE ARTIST WILL AGAIN BE IN DISTRICT 50  
TODAY TO "TOUCH SANITATION".

FRIDAY AUGUST 3RD 1979 5/30 A.M.

TAG

WEDNESDAY - AUGUST 1, 1979

5/30 AM

FIGURE 3.24 Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), telex

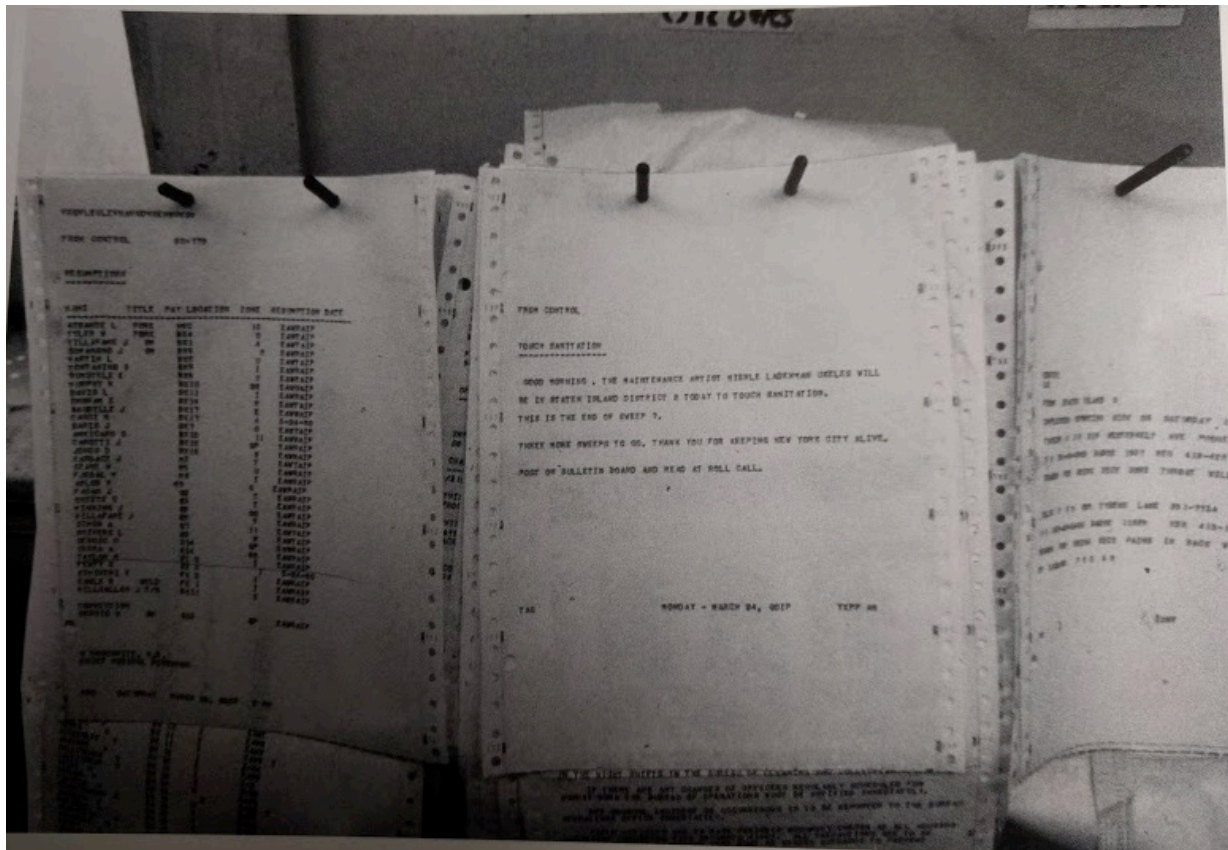


FIGURE 3.25 Telex posted among other telexes at DSNY facility during the course of *Touch Sanitation*

NEW YORK CITY DEPARTMENT INTERDEPARTMENTAL TELEX TRANSMITTED CITYWIDE AT LAST MOMENT.

K MVADVAJVAKVAUVAANAQVASVAFVAXMABVAZVBDMBJVBABVVBQVBSVBFVBBVBMCE

JUNE 26, 1980

TOUCH SANITATION FINAL MESSAGE  
-----

TODAY I SHAKE THE LAST SANMANS HAND IN  
MANHATAN DISTRIC 1 BACK WHERE I BEGAN ELEVEN  
MONTHS AGO ON JULY 24, 1979.

BUT I WANTED TO END IT AT THE SAME MOMENT  
ALL OVER NEW YORK CITY WITH ALL OF YOU VIA  
THIS TELEX.

I HOPE ALL NEW YORKERS WILL PICK UP THIS  
IDEA TO GIVE YOU THE WELL EARNED SUPPORT YOU  
DESERVE.

X

IN MY EN SWEEPS AROUND THE CITY I HAVE  
SEEN YOU WORKING IN ALL 59 DISTRICS AND  
THROUGH ALL SEASONS IN EVERY CONDITION INAGIN-  
ABLE.

F

NEXT YEAR I HOPE TO INVITE YOU AND YOUR  
FAMILIES AND ALL NEW YORK TO AN EXHIBITION  
THE VIDEO AND INTERVIEWS AND PHOTOGRAPHS I  
MADE THROUGHOUT TOUCH SANITATION.

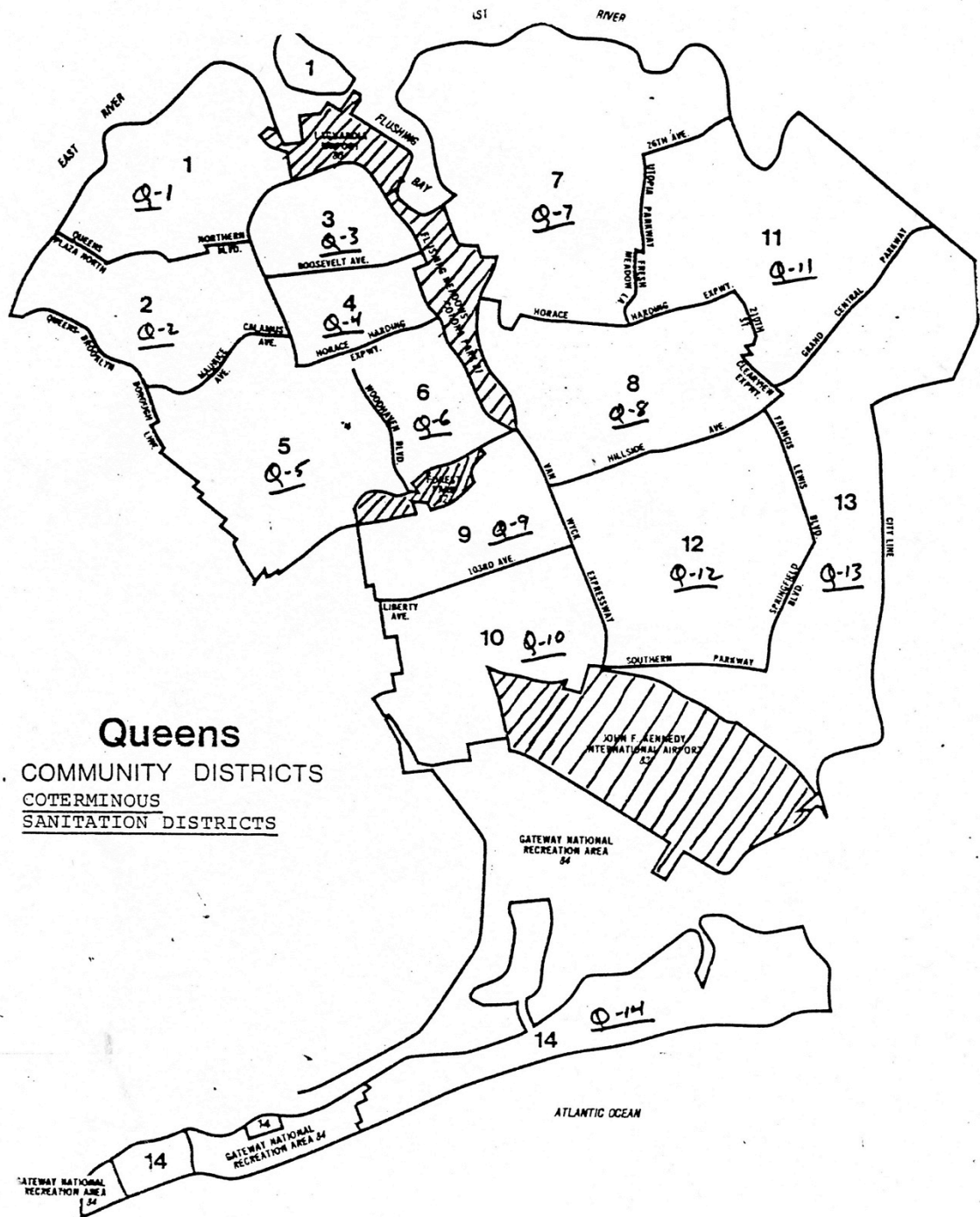
GENTLEMEN IT HAS BEEN AND EXTREME HONOR  
TO BE PART OF YOUR WORLD. I THANK EACH ONE  
OF YOU FOR MAKING THIS VISION OF THE MOST  
NECESSARY SYSTEM OF THE CITY - HAND TO HAND -  
A REAL ONE.

THANK YOU FOR KEEPING NEW YORK CITY ALIVE.

READ AT ROLL CALL AND POST FOREVER IN YOUR  
BEAUFUL SPIRIT.

----- MIERLE LADERMAN UKELES -----

FIGURE 3.26 Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), final telex



**Queens**  
 COMMUNITY DISTRICTS  
 COTERMINOUS  
 SANITATION DISTRICTS

THE NEW YORK DEPARTMENT OF CITY PLANNING

FIGURE 3.27 Sanitation Redistricting Map for Queens from New York Community Board Assistance Unit, Coterminality for New York: Final Report, July 15, 1979

# S W E E P 3

**Manhattan (west)**    Dates Tentative: \_\_\_\_\_    Dates Confirmed: \_\_\_\_\_    Finished: \_\_\_\_\_

DISTRICT 3 - 650 W 57TH STREET	- BET 11TH & 12TH AVENUES - HDQTS & GAR	10019	285-3754
Section 31 - 136 W 20TH STREET	- 6TH & 7TH AVENUES	10011	
32 - 136 W 20TH STREET	- SAME	10011	
33 - 412 W 42D STREET	- 9TH & DYER AVENUES	10036	
34 - 641 10TH AVENUE	- 45TH & 46TH STREETS	10019	
35 - 650 W 57TH STREET	- 11TH & 12TH AVENUES	10019	
Garage 3A - 650 W 57TH STREET	- SAME	10019	581-2766

**Bronx (east):**    Dates Tentative: \_\_\_\_\_    Dates Confirmed: \_\_\_\_\_    Finished: \_\_\_\_\_

District 22 - 616 Casanova Street	- Bet Randall & Spofford Aves Hdqts. & Gar	10474	328-2888
Section 221 - 1787 West Farms Rd	- 173rd St & Cross Ex Expw	10460	542-3232
222 - 1787 West Farms Rd	- 173rd St & Cross Ex Expw	10460	
223 - 2374 Bathgate Ave	- Third Av & 187th St	10458	315-3555
224 - 2374 Bathgate Ave	- Third Av & 187th St	10458	
Garage 22A - 1787 West Farms Rd	- 173rd & 176th Streets	10460	542-3232

**Brooklyn (west):**    Dates Tentative: \_\_\_\_\_    Dates Confirmed: \_\_\_\_\_    Finished: \_\_\_\_\_

District 33 - 129 51st Street	- Bet 1st & 2nd Avenues Hdqts. & Gar	11220	492-6447
Section 331 - 6735 3rd Avenue	- Senator & 68th Streets	11220	
332 - 621 86th Street	- Ft Hamilton Pkwy & Gatling Pl	11209	
333 - 621 86th Street	- Ft Hamilton Pkwy & Gatling Pl	11209	
334 - 6202 10th Avenue	- 62nd & 63rd Streets	11219	
335 - 7324 15th Avenue	- 73rd & 74th Streets	11228	

and

District 34 - 5608 19th Avenue	- Bet 56th & 57th Streets Hdqts. & Gar	11204	232-4620
Section 341 - 5601 19th Avenue	- 56th & 57th Streets	11204	
342 - 7302 20th Avenue	- 73rd & 74th Streets	11204	
343 - 7302 20th Avenue	- 73rd & 74th Streets	11204	
344 - 1842 Bath Avenue	- 18th Avenue & 20th Street	11214	
345 - 1884 McDonald Ave	- 18th Avenue & Dahill Road	11223	

**Queens (west):**    Dates Tentative: \_\_\_\_\_    Dates Confirmed: \_\_\_\_\_    Finished: \_\_\_\_\_

District 53 - 52-35 58th Street	- On 53rd Ave East of 58th St Hdqts.	11377	651-2000 266-8
Garage 53 - 52-35 58th Street	- 53rd Ave East of 58th St	11377	263-7
Section 531 - 52-35 58th Street	- 53rd Ave East of 58th St	11377	269
532 - 52-35 58th Street	- 53rd Ave East of 58th St	11377	265
533 - 52-35 58th Street	- 53rd Ave East of 58th St	11377	270
534 - 52-35 58th Street	- 53rd Ave East of 58th St	11377	272
535 - 52-35 58th Street	- 53rd Ave East of 58th St	11377	264

and

District 54 - 51-13 Flushing Ave	- Bet Metropolitan Av & 54th St Hdqts.	11378	386-4830
Garage 54 - 58-74 54th Street	- Flushing & Grand Avenues	11378	386-2650
Section 541 - 51-13 Flushing Ave	- Metropolitan Av & 54th St	11378	
542 - 51-13 Flushing Ave	- Metropolitan Av & 54th St	11378	
543 - 51-13 Flushing Ave	- Metropolitan Av & 54th St	11378	
544 - 51-13 Flushing Ave	- Metropolitan Av & 54th St	11378	
545 - 51-13 Flushing Ave	- Metropolitan Av & 54th St	11378	
Garage 54A - 58-70 54th Street	- Flushing & Grand Avenues	11378	386-1750

FIGURE 3.28 Mierle Laderman Ukeles, *Touch Sanitation Performance* (1977-1980), sweep itineraries constructed as a collage from cut-out sections of DSNY "Field Locations" Manual



		<u>S W E E P 4</u>	<u>November 21 to Dec. 5, 1979</u>
Old	MANHATTAN 4	3, 5, 6	8:45a.m.-4:30p
New	BRONX 4		8:45a.m.-4:45p
Old	BROOKLYN 35	11, 13, 15	2p.m.-10p
Old	BROOKLYN 36	1	6a.m.-2p.m.
Old	QUEENS 55	6, 9, 10	8:45a.m.-4:45p
Old	STATEN ISLAND 71	1, 2	6a.m.-2p.m.
		<u>S W E E P 5</u>	<u>Dec. 10, 1979 to Jan. 23, 1980</u>
New	MANHATTAN 5		1p.m.-9p.m.
New	BRONX 5		8a.m.-4:30p.
Old	BROOKLYN 37	1, 4	6a.m.-2:30p.
New	BROOKLYN 2		8:30a.-4:30p.
Old	QUEENS 60	7, 11	6a.m.-2p.m. Photo Day 6
Old	QUEENS 61	7, 8, 11	8:30a.-4:30p.
		<u>S W E E P 6</u>	<u>Feb. 7 to Feb. 21, 1980</u>
New	MANHATTAN 6		6a.m.-2p.m.
New	BRONX 6		12n-6p.m.
New	BROOKLYN 3		8:15a.-4p.
New	BROOKLYN 5		6a.m.-2p.m. Photo Day 7
New	QUEENS 7		8:15a.-2:45p.
New	MANHATTAN 5 at Midnight Shift		9p.m.-9a.m. Video Day 4 & Photo Day 8
		<u>S W E E P 7</u>	<u>March 12 to March 24, 1980</u>
New	MANHATTAN 7		6a.m.-2p.m. Photo Day 9
New	BRONX 7 &		8a.m.-4p.m. Photo Day 9
New	BRONX 8		8a.m.-4p.m. Photo Day 10
New	BRONX 8 Return for SNOW Operations		8a.m.-4p.m. Photo Day 11
New	BROOKLYN 8 &		8a.m.-4p.m. Photo Day 11
New	BROOKLYN 9		8a.m.-4p.m. Photo Day 12
New	QUEENS 8		6a.m.-1p.m. Photo Day 12
New	QUEENS 10		8:15a.m.-4p.
New	STATEN ISLAND 2		5:45a.-2p.m. Photo Day 13

FIGURE 3.29 Mierle Laderman Ukeles, *Touch Sanitation* (1977-1980), revised itinerary for the artwork



FIGURE 3.30 Mierle Laderman Ukeles, *Washing/Tracks/Maintenance: Inside* (1973)

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