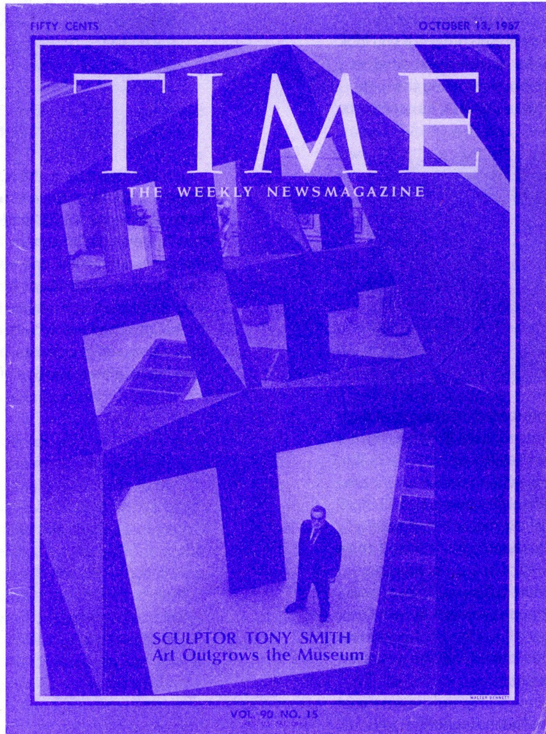
"A Definite and Persistent Monster": Tony Smith's Urban Vision

Craig Buckley



1 Tony Smith on the cover of *Time* magazine, 1967

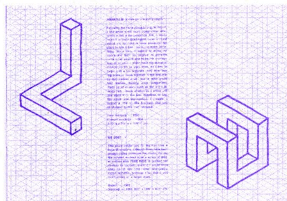
Artificial landscapes without cultural precedent began to dawn on me.
—Tony Smith

Published in *Artforum* at the end of 1966, Tony Smith's now-mythic description of a nighttime ride on the still-unfinished New Jersey Turnpike was a touchstone for a generation of artists and architects looking to break from rigid disciplinary categories of sculpture, painting, and architecture, in favor of a broad and still-undefined practice, whose domain had yet to be determined. The Turnpike comment appeared, not insignificantly, just as Smith made his own abrupt shift from one domain to another, deciding in the early 1960s to give up architecture, which had been his main practice for over two decades. If Smith's description of an uncontainable, artificial landscape of postwar urban sprawl challenged the definition of art's domain, his own work would be positioned within a very different realm. In the space of only a few years, Smith's art practice was quickly identified with a range of new civic spaces of the 1960s, from university campuses to corporate plazas and museum courtyards. If Smith's abrupt turn from architecture to sculpture was tied to personal and professional factors—a long-simmering frustration with clients, the aftereffects of a 1961 car accident—it was equally tied to a particular moment, one in which the fruits of Smith's longstanding preoccupation with basic geometrical form could be hailed and exhibited as sculpture, transposed from the domains of architecture, pedagogical exercise, and private fascination where it had been formerly situated.

Prior to the inclusion of Smith's *The Elevens Are Up* (1963)—two stark black slabs eight feet high by two feet wide by eight feet long—in the 1964 exhibition *Black, White, and Gray* at Hartford's Wadsworth Atheneum, Smith's three-dimensional constructions existed only in his New Jersey backyard and were seen by only a handful of people.[1] It was the first-ever exhibition for the fifty-two-year-old Smith, then known as an architect and teacher who occasionally painted. Other important exhibitions and commissions quickly followed, and within three years Smith would be touted by *Time* magazine as the "hottest thing in sculpture."[2] In its feature article, the magazine sketched a grand new frontier for sculpture: having "outgrown the museum," it was quickly becoming an emergent genre of public art "matching the scale of today's American cities."[3] The issue's cover[Figure 1] pictured Smith as if dwarfed by his work's sudden growth, standing at the center of a new domain fueled by the rapidly expanding institutional demand for public sculpture, commissioned by corporations, universities, manufacturers, and city administrations, as well as a public curiosity for the new art's "massive dissemination through almost instantaneous communication and reproduction."[4]

Even as he embraced the new role into which he was suddenly cast, Smith's practice pushed back against its terms. He frequently reminded interviewers, curators, and friends that his three-dimensional works were never conceived as sculptures; rather, the objects he began assembling in his backyard in 1961–62 were understood as "basic designs," explorations in form, or, more poetically and ominously, "presences."[5] From his apprenticeship with Frank Lloyd Wright in the 1930s to his observation of reconstruction in postwar Europe, retracing Smith's long engagement with ideas of spatial planning provides a different reading of the development of his work, one at odds with its familiar alignment with a renewed discourse of monumentality in the 1960s.

In the rigorous, neutral framework of the grid Smith recognized an antithesis to monumental composition. The grid is evident throughout Smith's career, serving as both field and figure, as concept and material: evident in his paintings, recurring in his architecture, theorized in his writings, and modeled in complex ways in his sculpture. In his very first catalog,[Figure 2] published in 1966, the drawings of Smith's sculptures were printed on a grid of blue lines reminiscent of graph paper, an overt echo of the gridded notebooks he used to specify details, trace sculptures, and plan buildings. In this sense, the grid can be defined by its lack of any specific territory—a space of rational, technical, universal coordinates,



2 Page from the catalog for Smith's 1966 exhibition at the Wadsworth Atheneum

autonomous from the particularities of place or the coarse reality of objects. Yet Smith was conscious not only of the historical specificity of the grid as an aesthetic device, encountered initially in European modernist abstraction in the 1930s, but also of an entirely distinct legacy of grid planning that had shaped American cities and land use, from New Haven's 1638 nine-square plan Figure 3 to Jefferson's land ordinance of 1785, to the dense gridiron of Manhattan. The sketches in Smith's notebooks rarely share these forms' ideal clarity; instead they are full of marginal notations and jottings that reveal how closely the grid was linked to concrete concerns, prosaic struggles, and Smith's own idiosyncratic spiritual investments. Neither fully rational nor entirely symbolic, the grid's supposed autonomy was something that Smith continually mapped onto specific domains. This tension fueled Smith's work and linked it to broader contradictions appearing in postwar America's public sphere: tensions between the demand for privacy and the idealization of community, the push toward individualism versus abstract equality, and a search for a common measure in an era that witnessed its obliteration.

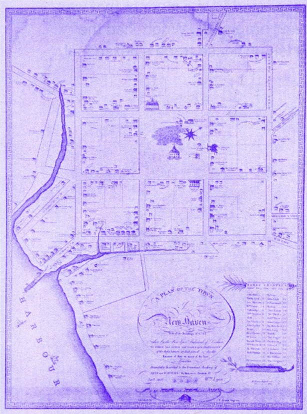
The Grid and the Land

This first evidence of grids in Smith's work appears in paintings from the mid 1930s. Smith initially studied in night classes at the Art Students League of New York, with figures such as George Grosz and Václav Vytlačil, and subsequently went on to join the fledgling New Bauhaus in Chicago, where he encountered Bauhaus pioneers Gyorgy Kepes and László Moholy-Nagy. If Smith had been intrigued by theories of ideal proportion and symmetry at an early age, in these contexts he gradually abandoned such ideas, favoring modular grids related to the dimensions of his working materials.[6]

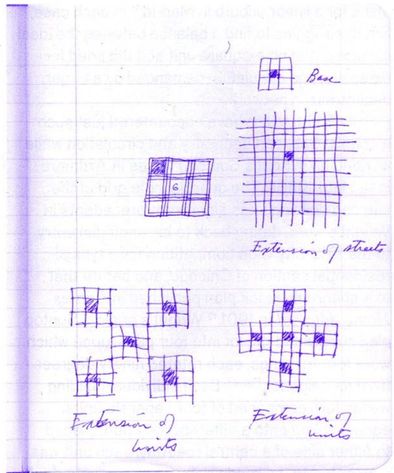
Smith's brief encounter with the Bauhaus legacy proved fitful. He quit after his first year, an experience that pitched him into a pronounced funk and catalyzed his turn toward a very different figure.[7] By Smith's own account, it was a visit to one of Frank Lloyd Wright's houses that broke his depression. The experience impelled him to apprentice at Wright's suburban Usonian Ardmore project in Pennsylvania, and Smith subsequently worked with Wright himself at Taliesin.[8] Smith leaped from this brief apprenticeship directly into practice, first in association with Theodore van Fossen, collaborating on the design of low-cost neighborhood units, and from roughly 1945 onward practicing independently on several private commissions.[9]

The earliest surviving sketches combining Smith's interest in grids and in urban form appear in notebooks he kept at the beginning of the 1950s. These coincide with the period in which Smith was teaching at the Cooper Union and, notably, with his recollection of the experience of the unfinished New Jersey Turnpike.[10] Smith's account of the massive infrastructure of suburban decentralization described an "artificial landscape without cultural precedent," the experience of which could not be framed.[11] But while he was not able to frame it, Smith's notebooks reveal that he was reducing it to structural components: actively drawing suburban agglomerations to impart sprawl with a more rigorous geometry.

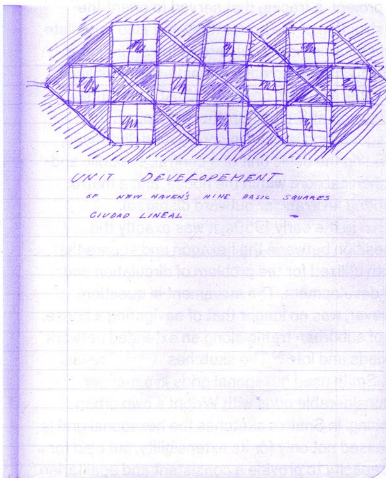
The drawings explore variations on the geometry of two different grid formations—a nine-square unit and a hexagonal unit—combined with marginal notations regarding roads, lots, and greens.[12] Smith's first sketches Figures 4, 5 distinguish between a uniform, gridiron extension of streets and the possibility of aggregating the grid into nine-square units recalling that of New Haven.[13] By exploring the formal possibility of clustered units rather than an isotropic grid of equally spaced streets, Smith looked to break up a continuous field into smaller segments, each focused around a central green. Smith explored various strategies for extending the self-contained grid module into a larger urban pattern, assembling units into a cruciform pattern, staggering them in checkerboard fashion, and braiding them into a linear scheme connected by diagonal circulation routes. This last strategy's caption, "Ciudad Lineal," suggestively links it to Arturo Soria's late-nineteenth-century



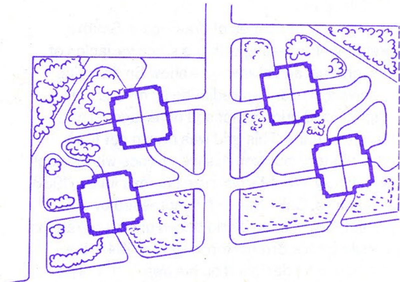
3 James Wadsworth, "A Plan of the Town of New Haven," drawn 1748, printed 1806



4 Tony Smith sketchbook page, ca. 1950



5 Tony Smith sketchbook page, ca. 1950

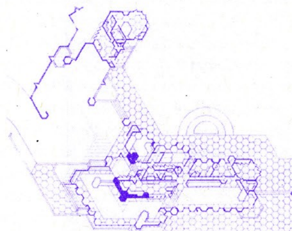


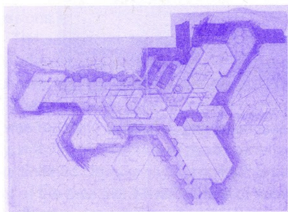
6 Frank Lloyd Wright, Suntop Homes, site plan, 1939

plans for a linear suburb in Madrid.[14] In each case, Smith struggles to find a balance between the ideal closure of the nine-square unit and the need for extension and circulation demanded by a larger, decentralized network.

Smith might have encountered just such a conflict between geometry and circulation while working on Wright's Suntop Homes in Ardmore in the late 1930s. The quadripartite grid of the site and buildings has significant precedents in Wright's work, dating back to his unofficial entry to the 1913 City Club competition for a typical residential section of Chicago, and before that to a quadruple block plan published in *Ladies' Home Journal* in 1901.[15] Wright's original Suntop plan subdivided the lot into four plots, upon which were four buildings, each rotated ninety degrees from its neighbor.Figure 6 Each individual building was in turn composed of four separate units, each opening onto a different direction. Placed to either side of a central roadway, each unit was connected to the roadway by its own private drive, carving the site into a maze of paved access ways that generated green plots of unequal sizes, shapes, and orientations. The tangle of roadways revealed the implicit contradiction in a scheme of this density between the provision of privacy and the necessity of relating units to a larger public infrastructure.

Another series of drawings in Smith's sketchbook—dealing with the same variables of lots, greens, and roadways—show Smith trying to solve a similar contradiction by means of a diagonalized grid, composed of hexagonal and triangular units. This grid was drawn not from urban history, but from his experience with Wright, specifically Wright's Usonian Hanna House (1938) in Stanford, California.Figure 7 Impressed by the project, Smith used a grid based upon a hexagonal module for his Brotherton House of 1944, the first house he designed on his own.[16] Figure 8 The hexagon was not simply a form for Wright—indeed, Wright used the term *honeycomb* rather than *hexagon* to underscore its alignment with natural processes—but part and parcel of his conception of "organic architecture." The honeycomb used in Stanford in particular was seen to foster a more innate integration of the house and its irregular, surrounding site.[17] Wright explicitly contrasted the honeycomb to the square, noting that the former "has more fertility and flexibility where human movement in concerned."[18] In a manner that was both ritualistic and pragmatic, Wright had the builders of the Hanna House trace a hexagonal

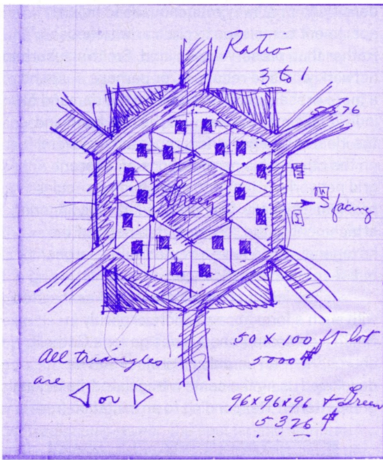




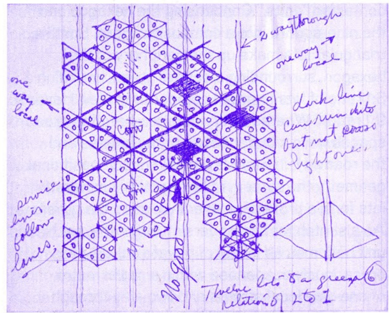
7 Frank Lloyd Wright, Hanna House, plan, 1938
8 Tony Smith, Brotherton House, plan, 1944

grid into the wet concrete at the beginning of the project, a tracing that served to orient the construction of the house itself, but also to radiate its measure invisibly outward to the entire lot: a pattern structuring adjacent patios, outbuildings, and other features on the site.[19] At the Hanna House and at Smith's Brotherton House, the hexagonal grid worked in contrasting directions, providing the basic unit of a central, symbolic and mechanical core within the house, and a matrix orienting an irregular outward dispersal.

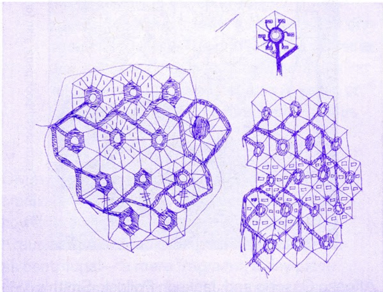
In the early 1950s, it was exactly the opposition between the hexagon and square that Smith utilized for the problem of circulation and unit development. The movement in question, however, was no longer that of navigating a house, but of suburban traffic along an extended network of roads and lots.[20] The sketches Figures 9–12 reveal that Smith used hexagonal grids in a manner at considerable odds with Wright's own urban planning. In Smith's sketches the hexagonal grid is assessed not only for its extensibility, but also for its capacity to provide a consistent and egalitarian ratio binding lots and communal greens into self-



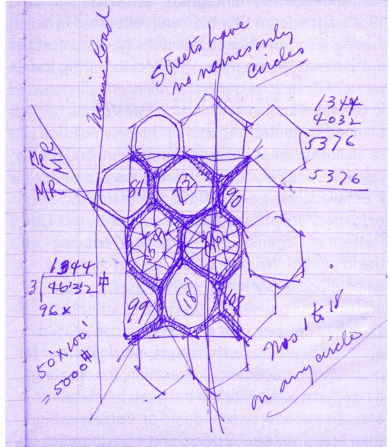
9 Tony Smith sketchbook page, ca. 1950–51



10 Tony Smith sketchbook page, ca. 1950–51



11 Tony Smith sketchbook page, plan for a linear city, ca. 1954

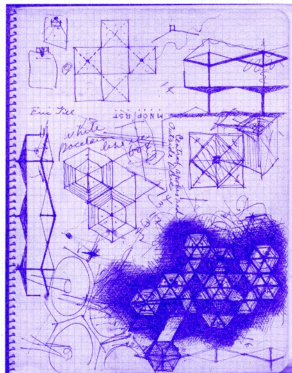


12 Tony Smith sketchbook page, ca. 1951

contained "units." Condensing the hexagon and the nine-square into a composite figure, Smith's triangular lots make up the periphery of the hexagon, surrounding a central green, providing a 3:1 ratio of lots to green compared to New Haven's 9:1 ratio.[21] Whereas at Ardmore, where the green spaces were a buffer between the houses and the roadway, in Smith's dense, anticompositional geometry the system of hexagonally clustered lots form a protective layer insulating the greens. As a sketch for a later version indicates, each unit becomes an island of private cul-de-sacs precariously suspended within a radial matrix of one-way local streets and two-way through roads.[22] The emphatic "No good" marked on the sketch Figure 10 points to the collision of smaller and greater circulation routes, revealing that Smith's devotion to the permutations of systematic grid patterns was not easily reconciled with the concerns of traffic planning.

The tightly clustered groupings in Smith's sketches differ not only from the geometry of Wright's urban plans, but also from the antiurban, agrarian philosophy that infused Wright's approach to the city.[23] Wright's motto, "decentralize and reintegrate," evident in his 1930s Broadacre City plan and reiterated in his *Living City*, envisioned low-density, decentralized settlements as the means for rediscovering the roots of American democratic individualism in the experience of the land.[24] Per Wright, planned decentralization was the only solution to an ill-fated, haphazard urbanization, and the cultural decay and destruction of open country it entailed. In the early 1940s Smith drafted an extended, unpublished manuscript entitled "The Pattern of Organic Life in America," echoing the impact of Wright's ideal vision of America as a unified geographic, architectural, urban, and artistic "pattern."[25] Yet Smith's suburban sketches imagine less an ideally decentralized agrarian democracy, than a geometrical order for promoting compact agglomeration, for creating a new form of equilibrium between inhabitation and open space, one modeled on density rather than broad vistas.[26] Envisioning a systematic, dehierarchized, potentially endless network, Smith's drawings infuse Wright's organicism with a different purpose; noted on one sketch are a number of plans designed for radial circulation, all of which responded to problems of urban density, from railway roundhouses to helical apartment complexes to circular warehouses.[27] Rather than preserve open land, Smith's suburban network works to reconcile, or perhaps suspend, a more prosaic conflict: between the demand for individualism and privacy on the one hand and the ideal of an egalitarian, repeatable system on the other. If his permutations of different grid networks attempt to solve such a secular problem rationally, they proceeded via a lingering attachment to the "organic" geometry of the hexagonal unit, a form invested with a larger, quasi-spiritual significance.

The latent spiritual investment associated with such a form appears more explicitly in Smith's contemporaneous design for a Catholic church, Figure 13 an unrealized project that he developed using the same triangulated, hexagonal grid pattern.[28] Responding to an invitation from



13 Tony Smith sketchbook page, plan for a church, ca. 1951

Alfonso Ossorio and Jackson Pollock, Smith's design lifted the church off the ground, using a structure derived from reading the work of engineer Fred Severud. Elevated on a series of columns, the structure left behind the rootedness praised by Wright, but also the congested, conflicted plane diagrammed in Smith's drawings of lots, roads, and greens.[29] Smith's loose aggregation of repeating hexagonal units broke from the orthogonality characteristic of Christian church typologies, while creating a new type of irregular centrality. In section, the structure was a lightweight tension system spanning across

three adjacent units, indicating that aggregation was not simply extension or addition, but linked to a structural solidarity, using lateral relations to create an increase in strength.[30] Infusing this rational system for constructing broad, "universal" space with a type of spiritual significance, the center span of the structural system was "marked" by the absence of a column, becoming a symbolic center of the project.

Smith's secular and spiritual applications of the same hexagonal grid echo Rosalind Krauss's landmark argument regarding the ambivalence of the grid within twentieth-century abstraction. If the grid has been a paradigmatic form of materialist exercise, she argues, it has also been the means by which forms of spiritual significance have persisted in the twentieth century.[31] The grid's ambivalent appeal to the domains of both spirit and matter, she argues, reveals a deeper, unresolved contradiction between the secular and spiritual within modernity, endowing the grid with a function analogous to that of myth:

> Like all myths, [the grid] deals with paradox or contradiction not by dissolving the paradox or resolving the contradiction but by covering them up so that they seem (but only seem) to go away. The grid's mythic power is that it makes us able to think we are dealing with materialism (or sometimes science, or logic) while at the same time it provides us with a release into belief.[32]

Given the grid's logically infinite extensibility, the ambivalence of the grid can be read in terms of how it formally relates to what lays beyond it, Krauss argues, determining whether it appears as centrifugal—"a mere fragment, a tiny piece cropped from a larger fabric," operating from the work outward to "compel our acknowledgment of the world beyond the frame"—or centripetal, that is to say: a "re-presentation ... of everything that separates art from the world ... a mapping of the space inside the frame onto itself."[33] Smith's work from the mid-1950s calls upon both the centrifugal and centripetal vectors at once. On the one hand his theorization of the grid merges with his reflections on the city: a vision of continuity between the structures of buildings and the underlying order of the urban fabric. On the other hand, Smith retains a distinct emphasis on the self-sufficiency of the material unit, on forms that are closed and distinct from their surroundings.

The Grid and the City

Smith's thinking about the city was most thoroughly developed during the years 1953–54, when he traveled to Europe to join his wife, who was singing opera in Germany. At a distance from America and from the day-to-day routine of teaching and practice, Smith began to theorize questions of the grid, the city, and various postwar attempts to reshape public space. While in Europe, Smith made pilgrimages to see landmarks of modernism: visiting the Weissenhofsiedlung near Stuttgart, Le Corbusier's Pavillon Suisse in Paris, and the recently completed Unité d'Habitation in Marseilles. Living in Nuremburg with his wife for part of his trip, he experienced the enormous, disquieting scale of Albert Speer's Zeppelinfeld. Smith's first direct experience of such a variety of European urbanism and architecture paradoxically got him thinking about the place he had just left, noting that "an image of the city persisted."[34] This image was not the diagonalized, distributed suburban networks explored in his early 1950s drawings, but rather a cubic, three-dimensional density that Smith identified with Manhattan. In a letter to his friend Fritz Bultman, Smith described New York as "detached from the land, hovering between the earth and the sky"; as "something defined and limited in three dimensions from the wild which is without it ... within is a continuum, a grid in plan and section, a close packed solid in which mass and volume are each geometric solids and not a lot of masses sticking up into a void."[35] In a circa 1954 typescript titled "On the Way to a City," he went on to write:

> Since I have spent most of my life in New York it may be natural that my concept of a city has been close to the one I call home. Briefly it is that of a three-dimensional grid. A sort of jungle-gym. Giacometti's Palace at Four A.M. extended as a huge labyrinth. The tops of the skyscrapers have always appeared to be weeds to many before my time or even their time. So just as the Chicago school would have tops to its buildings, I would have a top, or at least a limit to my city. And sides. And a bottom. Almost everything is on stilts nowadays,

> and we could literally give the land back to the Indians.[36]

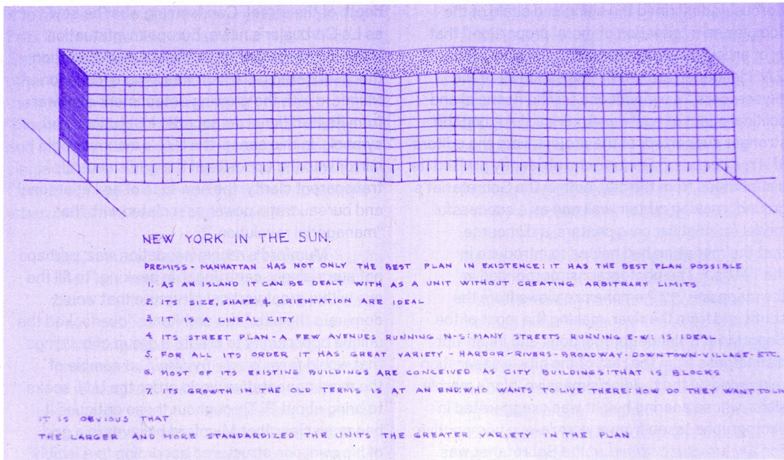
Smith's observation about stilts evokes a vision of America leaving behind not only the land, but its frontier mythology. If it marked a turn away from the America envisioned by Wright and a turn closer to the thinking of Le Corbusier, it was nonetheless a vision that Smith identified with Manhattan.[37] Yet Smith's Manhattan was not like the gritty noir appearing in postwar film, nor the smoke-shrouded domain evoked by Wright, but rather a strange mixture of the European and American, conjuring up the elusive, oneiric quality of surrealist sculpture and the sturdy regularity of structures used by children for play. Smith's reference to the Chicago school redescribes the pragmatic, material structure of early American skyscrapers in terms of an abstract, aesthetic language of the grid—something that could be plastically formed and visually delimited, expressing not only the building, but the larger structure of the city itself.[38] In a drawing from this period titled "New York in the Sun," Figure 14 Smith fully idealizes the plan of Manhattan, praising the coherence of the island as "unit," as well as the elongated linearity and orientation of its grid. The simplicity and regularity of the drawing, which can be read as a typical, oblong midtown block extruded in the form of a single building, makes the link between urban grid and building frame explicit. The frame completes the urban grid through idealization, becoming a receptive, flexible system: a vehicle for transforming the underlying, arbitrary logic of urban land division into a more innate sense of spatial correctness. In his writing, Smith continued:

> In New York we have the grid plan, and we know that the buildings are themselves steel grids, and of an extremely regular modality. When I left New York only the U.N. and the Lever House had broken away from the botanical or the monolithic. But even these are isolated towers, rectangular in plan, and vertical in feeling... But I am thinking of something closer to painting and sculpture in the sense of a juster [sic] balance between the solids and the voids, and one in which the voids become active with as much form and intention as the buildings... I don't mean anything like the rather sculptural civic centers that have been planned in recent years and composed of strongly vertical and horizontal elements juxtaposed and playing against one another. I feel that such groups are essentially monumental. I want something spatially closed, fluid, limpid, serene.[39]

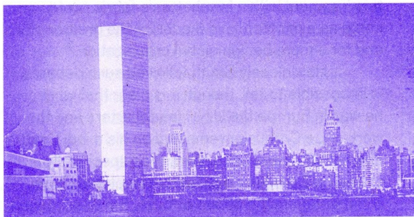
Smith counterposed his vision of the grid to the postwar discourse of "new monumentality" and its effort to compose symbolic points of collective focus in the design and reconstruction of postwar cities.[40] Unlike the monumental, compositional interplay of horizontal and vertical forms, Smith sought something "spatially closed," a stricter geometric regularity than the "botanical" diversity or "monolithic" autonomy of New York's skyscrapers. At the same time his vision was one of continuity: "the city," he noted, "is its own subject matter."[41] Smith's grid ideally served to link building and city, capable of shaping relationships of solid and void that were themselves a reflection of the material fact of urban land division. In short, Smith's vision of the grid resolves the contradiction between concerted aesthetic intention and the city as an anarchic material fact, between centripetal autonomy and centrifugal continuity.

The discourse surrounding the symbolic monumentality of postwar civic centers was perhaps most concretely connected in Smith's mind to the design of the United Nations Headquarters in New York. A project at the center of public debates during the late 1940s and early 1950s, it was also a continual reference point and a curiously mobile signifier, returning repeatedly in Smith's comments, writings, and notes.[42] Not insignificantly, in discussions of the U.N. complex as architecture and as an international symbol, the grid—both that of Manhattan and the delicately striated surface of the Secretariat's curtain wall—proved to be a central concern. For critics and supporters, the project's success or failure hinged on the U.N.'s relationship to the surrounding grid of Manhattan.

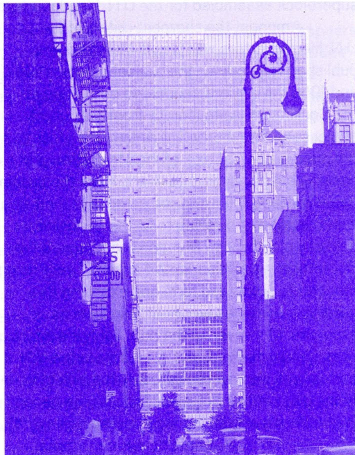
After the prolonged debate concerning the siting of the U.N. Headquarters, the decision to place it amidst Manhattan's congestion triggered immediate controversy regarding space—specifically, whether Manhattan's grid could cede enough space and light to realize ideas that were central to modern urban planning.[43] Le



14 Tony Smith, "New York in the Sun," undated drawing



15 View of the U.N. Secretariat building from "The New Campanile," *Architectural Forum*, 1950. Photograph by J. Alex Langley



16 View of the U.N. Secretariat from Mid-Town. Photograph by Ezra Stoller

Corbusier described the siting and scale of the complex as a "question of moral proportion," that is, of articulating the symbolic autonomy of the U.N. Headquarters within "the shadows of the skyscrapers," a synecdoche for the financial and political might of postwar America.[44] Among the stronger supporters of the project were the editors of *Architectural Forum*, who stridently praised its distinctness from the city, both in the Secretariat's groundbreaking curtain wall and as a successful model for postwar civic centers, a discourse that the magazine had helped to introduce in the 1940s.[45] The photographs reproduced in the magazine Figure 15 emphasize views from the south and from the river, making the most of the Secretariat's slender proportions and its abrupt distinctness from the rest of the city, a separation reinforced by the building's massive, blank marble slabs, whose soaring height was exaggerated in photographs taken from a worm's-eye perspective. For *Architectural Forum*, the Secretariat was less a skyscraper than a "campanile," the symbolic autonomy of the building from the city being likened to a traditional bell tower, the focal point of the U.N.'s own small group of buildings, which were "hyphenated" into a "coherent whole" within the superblock assembled for the U.N. Headquarters.[46]

Amongst the sharpest critics of the U.N. Headquarters was Lewis Mumford, who published regularly on the project between 1947 and 1952.[47] Mumford seemed to be looking at the Secretariat quite literally from a different angle; seen from Forty-Third, its siting off of the main east-west axis of the Manhattan grid became overwhelmingly evident. Here the building appeared less like a soaring campanile than as a vast curtain wall swelling to fill the pedestrian's field of vision.[48] Figure 16 Mumford condemned the Secretariat as a "disoriented symbol," sacrificing function to outmoded form and exposing the building to unnecessary heat gain from its exposure. Moreover, in the right light, the interplay of aluminum mullions and spandrels in the U.N.'s curtain wall was overpowered by the reflectiveness of the glass—the faintly gridded surface becoming, in Mumford's words, "an incomparable mirror."[49] The Secretariat was thus doubly centripetal—disoriented and disorienting—marked off from its surroundings by a symbolic marble frame and, from Forty-Third, an overwhelming surface that scattered vision and cut off the receding depth of the street. Condemning what he saw as Le Corbusier's naïve, European infatuation with the skyscraper as symbol of modernization, the disoriented reflection was synonymous for Mumford with the growing detachment of power from its traditional democratic institutions and symbols. In this sense, the U.N.'s incomparable mirror was the opposite of the grid's neutral, transparent clarity: the new face of an impersonal and bureaucratic power associated with the "managerial revolution."[50]

Mumford's recommendation was, perhaps not surprisingly, centrifugal. In seeking "to fill the eye with a great vertical structure that would dominate the site," the architects "overlooked the unique opportunity to create a group of buildings that would *form a city by itself*... a sample of the more cooperative world order the U.N. seeks to bring about."[51] Throughout these critiques it becomes clear that Mumford believes in a grid of his own, one structured according to a legibly human unit that was capable of generating a valid public symbolism, contributing to the urban pattern rather than disrupting it.[52] The common measure of human scale, itself an article of faith for Mumford, was to be the basis of an ideal continuity in which this fragment within Manhattan's fabric could serve as a microcosmic model for the greater city and for a more benign global organization.[53]

How closely Smith followed such debates is impossible to tell, though it is clear that while he was in Europe the U.N. Headquarters and the work of Le Corbusier remained on his mind. Smith and his wife traveled to Marseilles specifically to see Le Corbusier's recently completed Unité d'Habitation in the spring of 1954. Smith examined not only the building but also the particular grid established by Le Corbusier's Modulor system of proportions and measures, a long-standing interest that was rekindled for Smith during his trip.[54] Smith's sketches traced out a proportional system whose measurements derived from the meter, standards that he related to construction materials such as plywood and everyday objects such as beds and doors, rather than from an ideal body, which he felt lent Le Corbusier's Modulor a mystical bent.[55] Smith was equally keen to understand how the order contained in such a "unit" could be related to a larger urban whole. Smith found his experience with Le Corbusier's Unité d'Habitation intensely moving, describing

it to his friend, the abstract expressionist painter Fritz Bultman, as "the climax of our trip."[56] Yet Smith's experience of the Unité left him with other doubts; if the overall order was remarkable, the interiors of the apartments left him with a "pinched" feeling.[57] While struck by the "energy and intention packed into the plastic mass of the single building" he found the manner in which Le Corbusier imagined connecting them into a larger urban pattern to be a disappointment:[58]

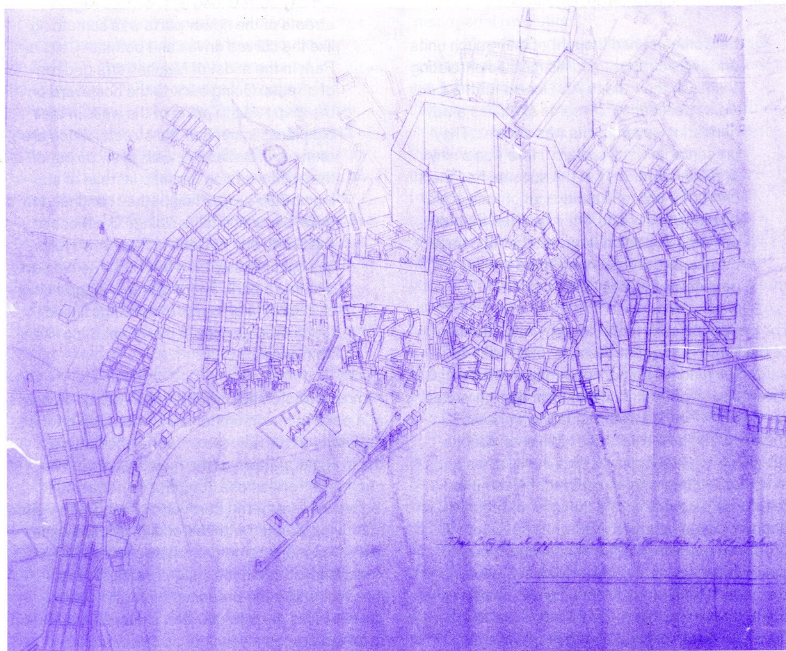
> Le Corbusier had thought of many such units and I was curious as to his method of relating them. On the train to Aix I looked at the *Le Point* publication ... In some sketches a way of relating several units was shown ... They presented a weak pattern. Here was a way of relating entities but the scheme had the character only of a multiplication, or even of an addition of parts. I now realized that the passage through a large number of compact European cities had confirmed the image of definite and closely-knit form.[59]

For Smith, the centripetal "energy and intention" of the Unité did not successfully find a way to extend beyond its frame, appearing indifferent to the image of close-knit urban form that persisted for Smith.[60] Yet Smith continued to work over the expereience of Marseilles in his notebooks, revisiting its planning principles in sketches and in elaborate diagrams describing the complex relationships between the domains of urbanism, economics, and culture. And while he never produced a drawing of the dense, cubic image described in his notes and letters, something of the implicit tensions surrounding this imaginary point of reference works itself out in the few drawings Smith did make on this trip. Visiting Palma on the island of Majorca following his visit to the Unité, Smith produced perhaps his most elaborate rendering of urban form. Figure 17 The drawing shows a continuous structure, an irregular, zigzagging line in plan, abruptly emerging from the low pattern of streets and sweeping upward in a slender, irregular, unbroken vertical extension, producing a bent form that curled back on itself, as well as a smaller structure, L-shaped in plan. Smith's account of the drawing is worth quoting at length:

> I was lying in the sun at our hotel rather abstractedly studying the map of Palma. I was thinking of the form of the old town, and vaguely thinking of two separate things. One was that in Palma we had not yet walked out to the boulevards which encircled the old town and which were built where the walls had been ... At the same time I was thinking that the curved streets of the old city surrounded by the more regular streets of the newer parts was something like the curved drives and paths of Central Park in the midst of Manhattan's gridiron of streets. Going back to the boulevard on the map I was thinking of the walls in their old places instead of the streets, which are there now. But as the walls grew up out of the boulevards on the map instead of staying at their proper height they continued to grow, becoming tall buildings like those at the South end of Central Park, even taller, as high or higher than the U.N. The old part became a park. There was this jagged hook of a building or series of buildings linked together in a chain. In plan something like a train wreck.[61]

Almost symptomatically, the "train wreck" appears at a point of maximum tension, where the gridded regularity of the new urban fabric encounters the irregular pattern of the medieval town. The defensive walls whose compact form was still legible in many of the European cities Smith visited starkly contrasted with the endlessly extensible grids that more commonly characterized the American cities whose image "persisted" for him. Not unlike the preoccupation with central greens in his earlier suburban sketches, habitation is folded around a void, not as a repeatable, geometric unit, but as a single, continuous urban element—an emptied center that Smith associated with Central Park.

If the building had a slenderness and scale reminding Smith of the U.N. Secretariat, it was not the monumental verticality of a self-contained tower, but rather of a tower that had mutated into an occupiable city wall, extruded directly from the footprint of a historically superseded fortification. This desire for continuity with the existing urban form was reinforced by a note Smith wrote in the corner of one his related diagrams: "the city as one



17 Tony Smith, “The City as it appeared Sunday, November 1, 1953, Palma,” graphite on paper

big building," echoing the contrasting approaches to the city-as-building present in Smith's writings. On the one hand, there was Smith's recent experience of Le Corbusier's Marseilles block, a project that sought to combine and internalize all the essential elements of urban living into a single, self-sufficient *unité*. From the related diagrams that Smith drew while in Palma, it is clear that he actively imagined how such a structure could similarly unite and articulate diverse urban programs into a single element.[62] On the other hand, there was Mumford's more "organic" model of a "group of buildings that would form a city by itself" where the relationships between buildings provided an order capable of growth and expansion.[63] Smith's drawing envisioned neither human-scaled units conducive to replication and development, nor a rationalized machine for the essential operations of urban citizens. If Smith's city-as-building relates to these contrasting positions, it was through its aberration and excess, through providing a structure that Smith himself described as a "definite and persistent monster."[64]

Smith acknowledged the monstrous aspect of his urban vision and disavowed it in the same breath, describing the structure's growth as though his hand did not produce it. Despite its unique form, the drawing appears closely linked to the urban speculation that Smith had been carrying out since the early 1950s. Smith's experiences in Europe provoked an image of the city defined by a clash between opposing historical and political scenes, in which the grid as a neutral, isotropic matrix for free-market development could not be readily assimilated to an image of urban density derived from a long, irregular process of historical accretion. The train wreck that Smith describes appears at the point where these contrasts collided upon the map of Palma.

The "monster" in Smith's Palma drawing represented a breakdown of all proportionality, relative not only to the surrounding fabric but also to the ideal systems that Smith was actively developing. In his notes, Smith associated such disproportionate growth with another development of the period: the announcement of a plan to create the first nuclear reactors in America by the U.S. Atomic Energy Commission.[65] The unprecedented power of such technology reminded Smith of an aphorism from Nietzsche's *Beyond Good and Evil*: "do we not in continually fighting monsters, ourselves become monsters."[66] The compact form of the city as a single building suddenly reflected for Smith the enormous power of the "Atomic Age," in which a vaster control over nature simultaneously raised the possibility of more pervasive destruction. If Palma's monstrous wall echoed the altered scale at which the postwar city demanded to be conceptualized, it also revealed the absurd reality of the age, paradoxically defined by a new type of warfare in which "defense wouldn't matter."[67] If the monstrousness that Smith identified in his drawing was an image of sudden, untamed growth, it can also be read as a breakdown in the mythic function of the grid. The urban form that appeared to Smith in Palma satisfied his image of compact, closed density without being crystalline and cubic. Abruptly breaking from its surroundings, it was entirely particular to Palma, a structure incapable of extending its principles to a more universal field. As such, it represented a breakdown in Smith's attempt to reconcile grid and frame into a greater totality, to keep centrifugal and centripetal in suspension.

The Grid Realized

While Smith never made another urban drawing quite like the one he realized at Palma, something of the "definite and persistent monster" stayed with him. The idea of unexpected, unforeseeable growth shifted from the domain of the city to the small, three-dimensional models that were increasingly key to Smith's working methods following his European sojourn. The intensive model making initially took the form of pedagogical exercises and solutions to technical problems like connectors and joints, but also nourished Smith's more private explorations of three-dimensional geometry.[68] Not only does the first work that came to be regarded as sculpture date from this period—*Throne*, first mocked up in acoustical panels in 1956—the modeling process would become key to the formulation of Smith's subsequent sculptures. Smith linked the importance of modeling to the difficulty of visualizing geometry in three dimensions; "we think," he noted, "in two dimensions—horizontally and vertically. Any angle off that is very hard to remember. For that reason I make models—drawings would be impossible."[69] Indeed, Smith attributed his own inability to visualize three-dimensional form as the generator

of the unexpected in his work:

> There is a certain element of surprise in my work, but it's not calculated. I suppose the best way to put it would be that in working with the maquettes I think, well, that's sort of interesting; I wouldn't know how to seek it out because I can't visualize it in advance. I would never have been able to visualize *Amaryllis*.[70]

The dense, matte solidity of Smith's sculpture resonates with his comments about a geometry that resists vision; the open grids that preoccupied Smith in the 1950s seem to have disappeared from the face of things. Typically bulky masses rendered in a uniform material such as steel or plywood coated in a heavy layer of black paint, only rarely do the sculptures take the form of open, three-dimensional frameworks. Yet Smith continued to insist on their relationship to the grid in terms reminiscent of his urban writings of the 1950s. In the catalog for his first solo exhibition, he wrote:

> These figures, whether based upon rectangular prisms, tetrahedra, or other solids, may be thought of as part of a continuous "space grid." In the latter, voids are made up of the same components as the masses. In this light they may be seen as interruptions in an otherwise, unbroken flow of space. If you think of space as solid, they are voids in that space.[71]

The reversible relationship between solid and void described by Smith relates his sculpture to the measure of a larger grid, with the "figures" to be understood as fragments of a continuous, three-dimensional lattice, segments of a larger continuum structured as the sculpture was structured. Consistent with the reticence Smith expressed toward monumental composition in his writings on cities, the reversible figure was less a self-contained composition than a reminder of the larger, unseen structure of which it was a part.

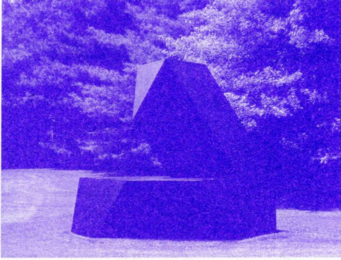
Once again, the very text that insists that the figures belonged to a "continuous space grid" paradoxically argued for their disconnection and separateness, emphasizing the work's resistance to its surroundings. The "figures" and "pieces" Smith described were less civic focal points than "seeds or germs that could spread growth or disease."[72] If they were likely to be assimilated at all, it was not within the compact density of the city, but at its ragged, forgotten edges:

> While I hope they have form and presence, I don't think of them as objects among other objects; I think of them as being isolated in their own environments... They are not easily accommodated to ordinary environments, and adjustments would have to be made were they to be accepted... they will destroy what is around them, or force it to conform to their needs. They are black and probably malignant. The social organism can assimilate them only in areas which it has abandoned, its waste areas, against its unfinished backs and sides, places oriented away from the focus of its well-being, unrecognized danger spots, excavations and unguarded roofs.[73]

If Smith's statement seems to vastly overstate the inassimilability of his work—which was even then being exhibited widely and being commissioned for corporate and municipal public spaces—it would be a mistake to disregard Smith's vision of the domain his work inhabited. If, as a sculptor, Smith finally began to receive the recognition he had never previously received as an architect, it was not without misunderstanding. Cast as the "master of the monumentalists," a father figure for a rapidly emerging genre of geometric, industrially fabricated civic sculpture, he was identified with a category that his experiments with form and his reflections on the city worked to refuse.[74] Smith continued to see his commitment to the grid, part of his larger commitment to abstraction, as something quite different from the emphasis upon monumentality, whether in the sculpture of the 1960s, or its earlier formulation in architectural circles during and immediately after World War II.

If Smith's work was clearly not inassimilable to the "social organism," it did seek to confound two-dimensional, optical reduction. The capacity for form to develop at the limits of vision was one that Smith clearly valued, a quality found in different guises in Smith's sculpture. Whether in a closed, orthogonal form like *The Elevens are Up* (1963), or in torqued, tetrahedral constructions like *Amaryllis* (1965) and *Duck* (1962–63), each sculpture's shape can appear entirely different

from different angles.[Figure 18] The sculpture's volume, as perceived by its viewer, is influenced by the direction of its surfaces, spatial assumptions that can shift abruptly



18 Tony Smith, *Duck*, 1962–63

and unpredictably with one's optical impressions while moving around the work. A particular shape, delimited by the optical flatness of a particular angle of view, gives way as the viewer grasps its volume while moving through space. This effect can appear surprising and accidental, not in the sense of lacking formal consistency, but rather in the sense that the combination of thoroughly predetermined, standardized units can itself be a generator of the unforeseeable.[75]

This unanticipated dimension may be seen as the persistence of Smith's "monster" in another guise—a growth that was the product of something unintentional. Smith's ambivalent description of the work as seeds or germs, as benign growths or as malignant carriers of disease, points to a still lingering contradiction. At its most expansive, Smith's vision of the grid was coterminous with the scale and form of the city, envisioning its complete transformation, and yet it came to be consigned to function as a monument. Smith's seeds/germs carry, in an inverted, negative form, the mythic residue of his long thinking about the grid, both the desire for a reintegration with nature through organic form and a rationalist vision of a systematic, all-encompassing order. In Smith's sculpture, both legacies appear unstable and uncertain, and yet he refuses to give up on the grid, linking his truncated, abbreviated, material forms to its ideal space. If Smith's sculptures were shaped by the conflicting ambitions that he located by means of the grid—toward compact density and unbroken extension, continuous space and defined figure, private exploration and general legibility—such tensions were not resolved, but rather translated into a new and elusive form.