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Programming Aspiration: *Mack Scogin* *Merrill Elam* Knowlton Hall



Open discourse in the broad community of architecture empowers the individual within the collective and substantiates architecture as a public act. Discourse enables possibility and possibility is open-ended. Possibility as provocation is optimistic. Optimism is challenged by an architectural discourse of an inherently infinite nature. The conditions around the realization of architecture are always in flux, and while each architectural decision or condition may reduce the possibility of other architectural decisions or conditions, it may liberate others.

A building for a school of architecture can aspire to promote the project of architecture by encouraging open discourse and by raising the question of its own physicality. Such a building, by making itself a tool of the pedagogy, makes itself vulnerable. As a forum for architectural debate and criticism and as an armature for thinking and making, the weaknesses and failures of the building are as informative as its strengths and successes. Knowlton Hall was conceived through this lens of aspiration and vulnerability.

Under Rob Livesey's care, a rich subjective text evolved that particularized the project. Relying on these textual signifiers and the resources from within the project—an enormously fertile territory—and working freely outside the bounds of any hyper-described extra-architectural theory, the design sought an embodied strength—a strength born of its contextual and circumstantial complexity.

From the outset, the pragmatics of the realization of the building were weighed against authority over form and affect. In the end, the building ekes out both form and space realized from a limited set of tectonic systems. The building is a complex container where form is experiential—something to be lived in and used up—and where systems are tweaked to the limits of their capacity and affordability.

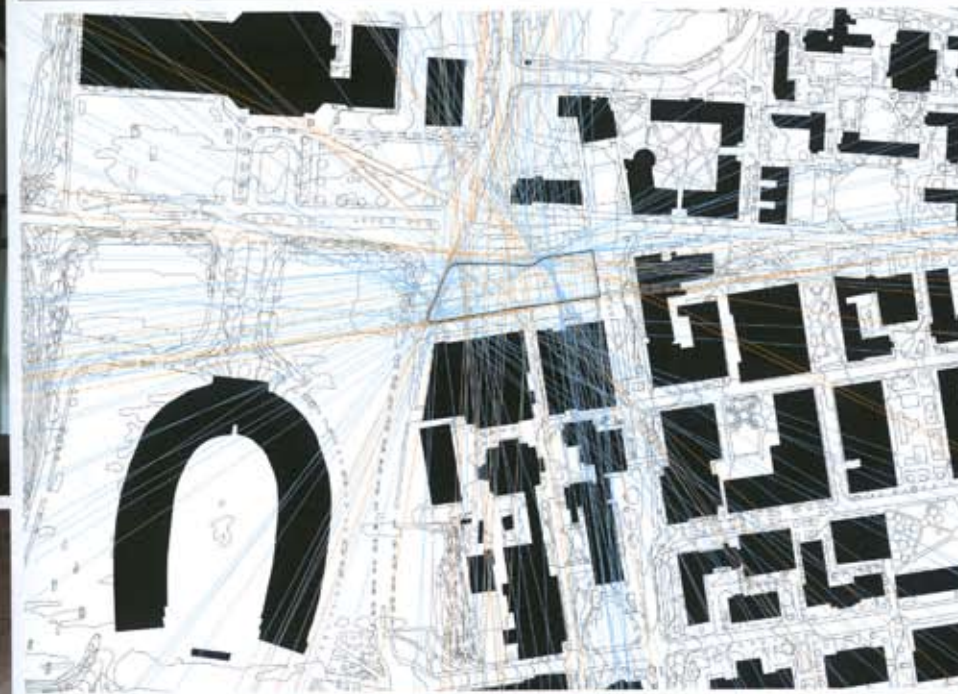
Architecture as a dialogue between movement and stasis is a frustration that reflects the tension between the calm-seeking archaic, requiring stillness and pre-knowledge, and the action-seeking (r)evolutionary, requiring invention and curiosity. Extreme legibility of either undermines the perplexing and compelling condition of architecture. Insistence diminishes the richness of conceptual and material plasticity. The exploration of the archaic and the (r)evolutionary in architecture is a continuum seeking a transcendental condition. Like a game of the exquisite corpse, it is the unknowing, the blind-folding that invigorates the outcome. The architect's hand is always partially informed by the unknowable. To know that you cannot know exactly, and to prepare for and relish in the unknowable is a profound lesson to convey in a building for a school of architecture. This is the ultimate aspiration of Knowlton Hall. The joy is in the search.

The design of a 175,000 sf multi-use facility to accommodate over a thousand people a day engaging in scores of different activities—all within a budget of less than \$150/sf—would pose a challenge to any architect. However, when that facility also happens to be an architecture school, the self-referential nature of the program adds a degree of complexity of almost Oedipal proportions.

Not only does designing a place for architectural education make one confront one's own creative processes, it inevitably raises larger questions about the discipline, particularly the historically dysfunctional relationship between the academy and the profession. The success of Mack Scogin Merrill Elam's design for Knowlton Hall at The Ohio State University, completed in the fall of 2005, comes from the fact that they directly engage these issues, so that they become the primary impetus for the project. The decision to build a new facility rather than to renovate the existing Ives Hall hinged primarily on a programmatic argument. The construction of a new school afforded the opportunity of providing square footage beyond the minimum requirements—areas which were deliberately under- or un-programmed. Both the design process and the subsequent project unequivocally eschew any notion of modernist programmatic efficiencies. MSME intended that the overabundance of space would foster a "forum for architectural debate and criticism as an armature for thinking and making" and indeed it has.

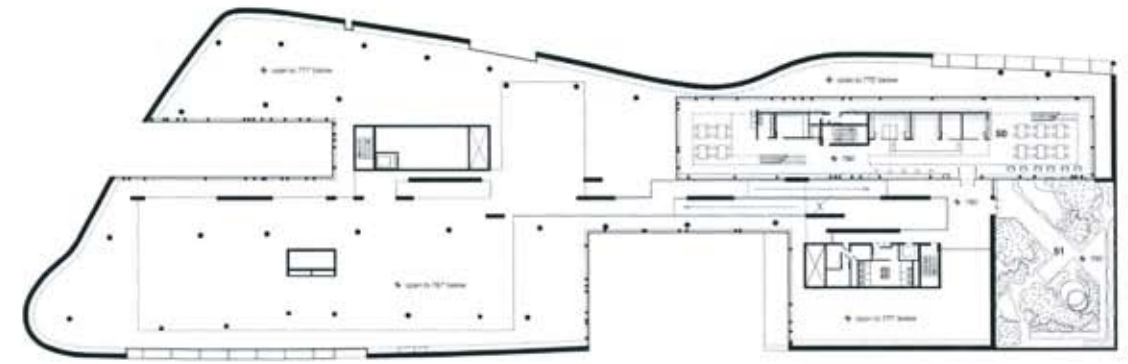
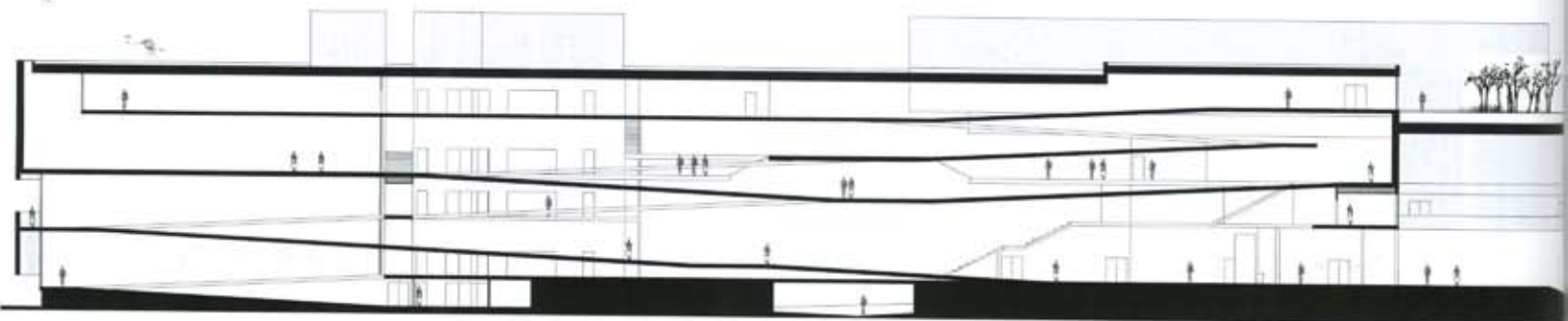
The building exemplifies excess: from the 300-foot-long ramps that stitch together every level of the building (making it entirely accessible without an elevator), to the margin of space between the column grid and the undulating exterior wall that that inflects to take on various programs, both interior and exterior—from a communal space for studios to a bus shelter. The most generous and public space of the building, however, lies in the middle of the first floor—an unprogrammed area of nearly 5,000 sf, aptly known as "the center space." The space has already hosted an extraordinary variety of activities from a student career fair, student-faculty meetings, regular rehearsals for an MFA thesis performance by students in the dance department, a black-tie fundraising gala for the Columbus AIA chapter, student naps, regular lunch gatherings of engineering students from an adjacent building, architecture final reviews, awards announcements, and spontaneous student installations. It is this most central and most public space that cultivates the life of the building and where the complex relationships between students, faculty, the university, the city, and the professional community flourish. - ASHLEY SCHAFER

*To come clean, I should note, that although the editorial board of PRAXIS had decided to include this project long before I accepted a position as the Head of Architecture at OSU, this project description is being written from my office in Knowlton Hall.



The Ramps

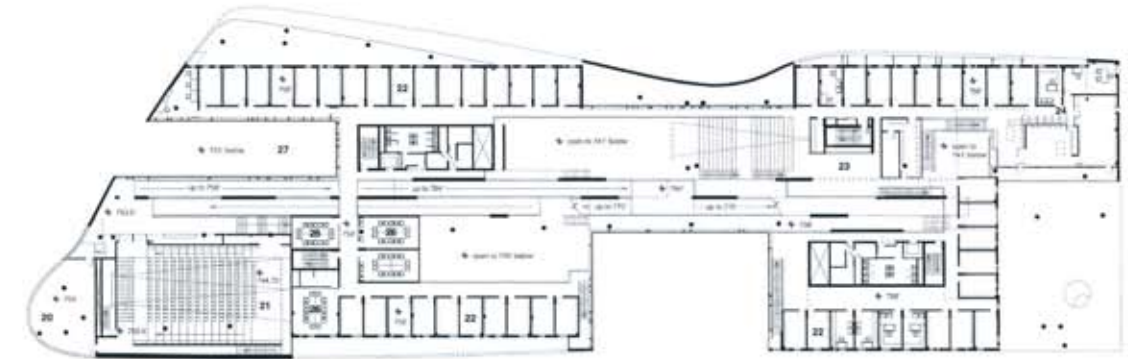
Running through the building's center, a series of ramps that extend the length of the building make it entirely accessible without an elevator. More significantly, they create a continuous path between cafe, auditorium, studios, library, and classrooms, while delimiting discrete spaces for each of these programs.



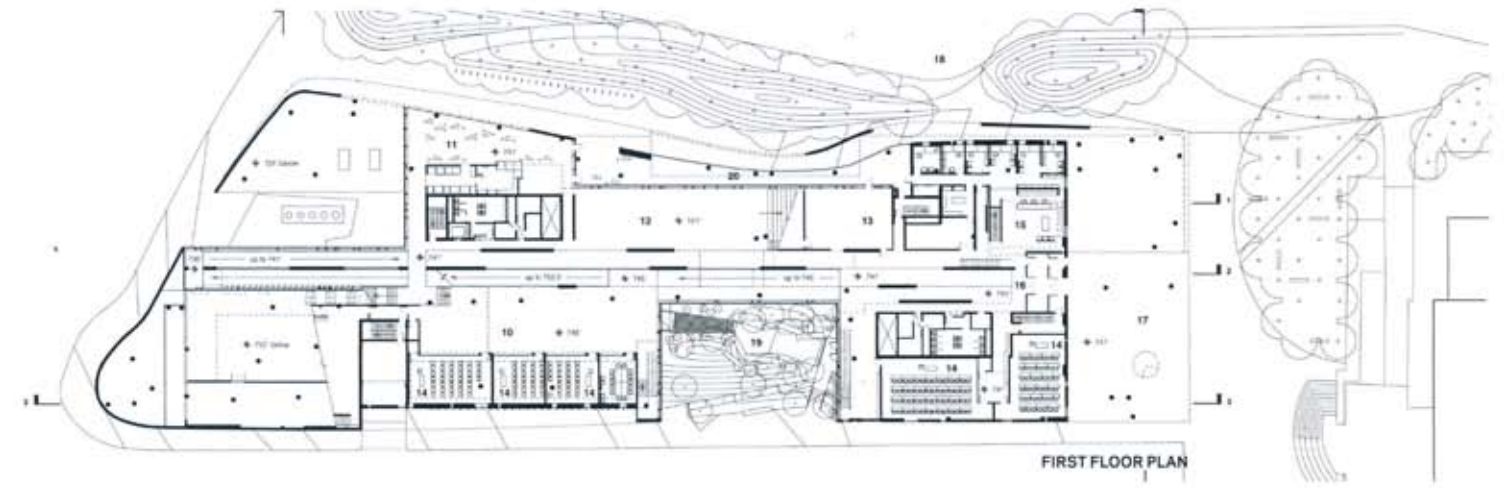
FOURTH FLOOR PLAN



THIRD FLOOR PLAN



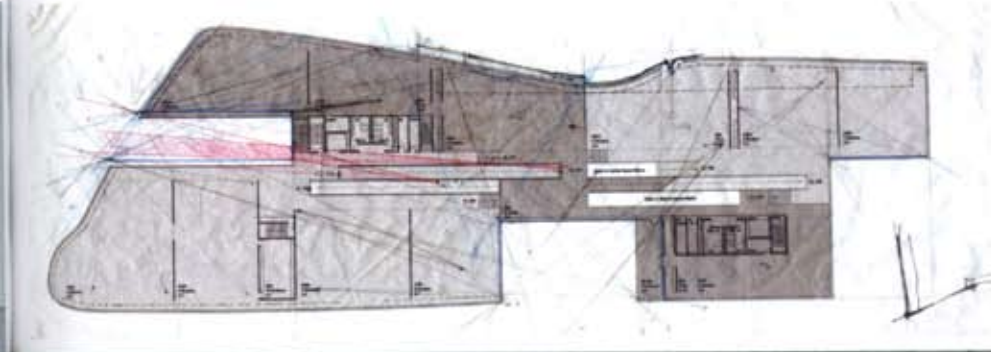
SECOND FLOOR PLAN



FIRST FLOOR PLAN

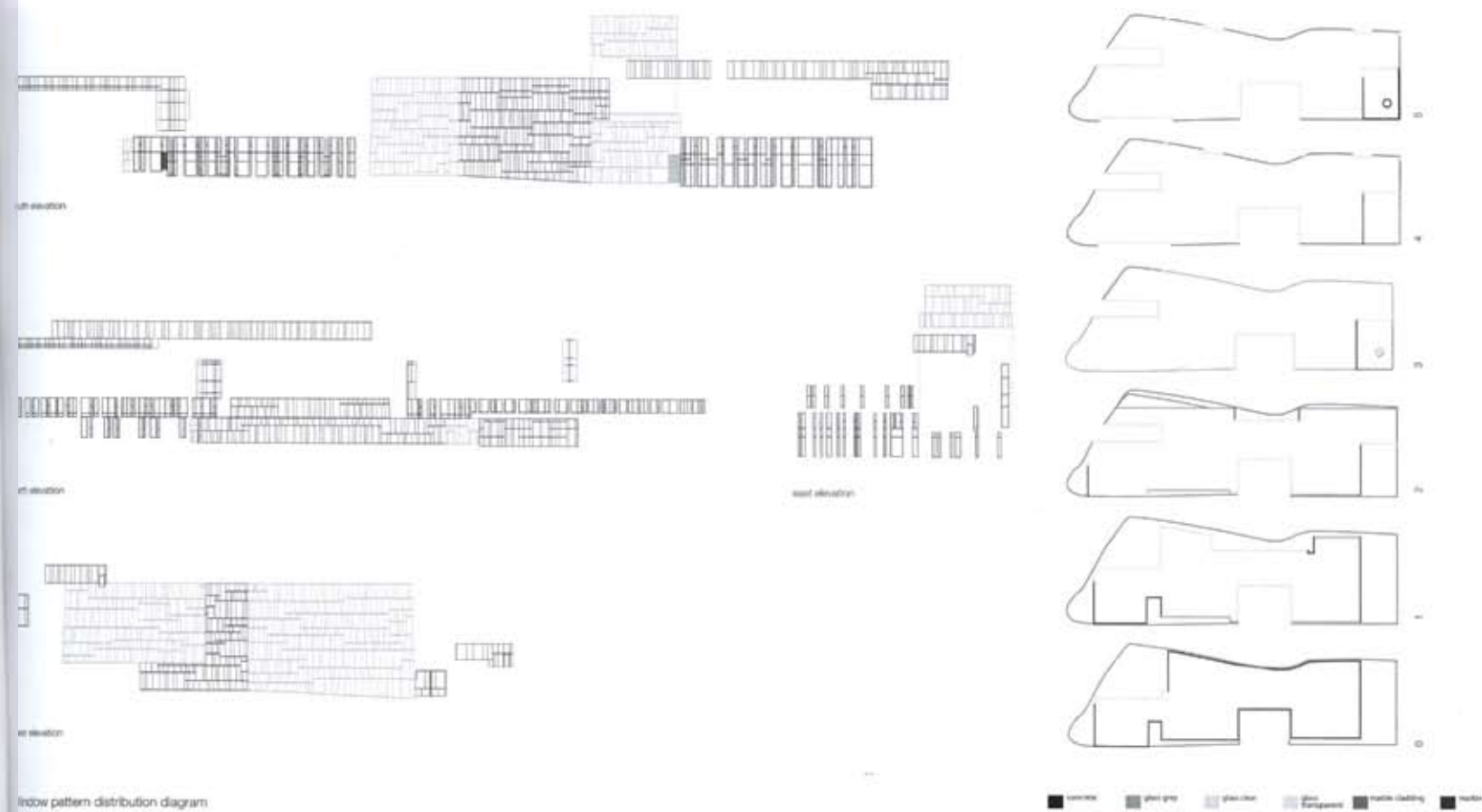
Site Lines

Rather than assigning a discrete space to each program element, MSME conceptualized the project as a series of visually related spaces. Connections are made obliquely to avoid panoptic views while fostering a sense of being in the building rather than in any particular space.



Margin

The multi-layered building skin of marble, concrete, and glass inflects internally and externally from the column grid creating a programmatically indeterminate zone along the edge of the structure. In the studios, this becomes an area for shared materials and display, along the ramps it becomes a student lounge, and on the ground floor it creates a bus shelter.





Design Team Mack Scogin, Merrill Elam (Principals) David Yocum (Project Architect) Brian Bell, John Trefry, Penn Ruderman, Barnum Tiller, Cecilia Tham, Jeffrey Collins, Kevin Gotsch, Margaret Fletcher / **Associate Architect** Wandel & Schnell, Architects, Inc., dba WSA Studio / **Structural Engineer** Lantz, Jones & Nebraska, Inc. / **MPE Engineer** H.A.W.A. Consulting Engineers / **Civil Engineer** Bird & Bull, Inc. / **Total Cost** \$26,000,000; \$148.24/sf / **Completion Date** June 2004 / **Contractor** P. J. Dick, Inc.

All images on this spread were taken in a twenty-four hour span during review week in May 2005.

above: The north courtyard hosts a student barbecue.

below left: Students use the steps of the center space for reading and socializing

below right: Stair and ramp landings provide prime viewing platforms overlooking review spaces.

facing page, top: View from the graduate studio terrace across to the student lounge.

facing page, below left: Ramp expands to form the student lounge.

facing page, below right: Students break dance on the auditorium porch.

Program Is As Program Does *Penelope Dean*

Program has been too often neglected as a form-making device in contemporary architecture. With advances in the geometric manipulation of form, program has frequently, particularly within American academic practice, made its appearance as an afterthought. In this way, recent architectural discussions have limited the “disciplinary” effects of architecture to the geometry/form side of the equation. However, if the opposite of form is not simply function, but understood to include content, then program in some ways constitutes the matter of architecture. In this context, the Knowlton School of Architecture (KSA) in Columbus, Ohio by Mack Scogin Merrill Elam Architects demonstrates how program can be productively revised along topological lines, just as geometric investigations are similarly revised to different ends.

While the term program has continuously been recast since the early twentieth-century, most renderings have, nevertheless, been associated with the generation of form. Under modernism, when the independent terms “type” and “program” were reconstituted as “form” and “function” to suggest an ahistorical and scientific inquiry, the “facts” of function often became a primary alibi for the production of form. When confidence in the form-follows-function paradigm disintegrated during the 1960s, a split took place and disciplinary research advanced into either pure form or pure function. On the function side, greater emphasis was placed on presumed fact (extreme function), where comfort and use (a.k.a. humanist science) drove an early version of cybernetic or parameter-based design. With the passing of the modernist form-function dichotomy, the 1970s witnessed a renewed interest in program and type—promising that either term might be able to subsume the form/function divide. These architectural explorations ranged from the ritual and narrative of John Hejduk, through event and script with Bernard Tschumi, to the notion of emergent institutions and the organizing of activities in Rem Koolhaas’ research of the Manhattan skyscraper—evolving during the 1980s and 1990s into a specific form-making exercise within Dutch architecture.¹ In a more recent interpretation, R. E. Somol has argued that “beyond form and function” program offers the possibility for lifestyle and politics in architecture.² It is precisely this combination of style and collective association that distinguishes a program-form axis (one predicated on arranging atmospheres) from the geometry-form axis (one predicated on contemplating objects).

Any development of a program-form axis obviously needs design techniques for distributing volume and mass. Indeed, it was the necessity yet lack of such techniques that John Summerson acknowledged in his 1957 essay, “The Case for a Theory of Modern Architecture.” Arguing that program could offer a new principle of formal “unity” in modern architecture Summerson conceded that program’s lack of formal technique, or in his words its “missing architectural language,” would probably remain missing. What is significant in Summerson’s take was his understanding of program, not precisely as form per se, but rather as “adumbrations of form”: its promissory note and its inevitability.³ From this premise of latent form, Summerson alluded to another way of thinking about program: that it is more productive to ask what program can do rather than seek to define what program is.

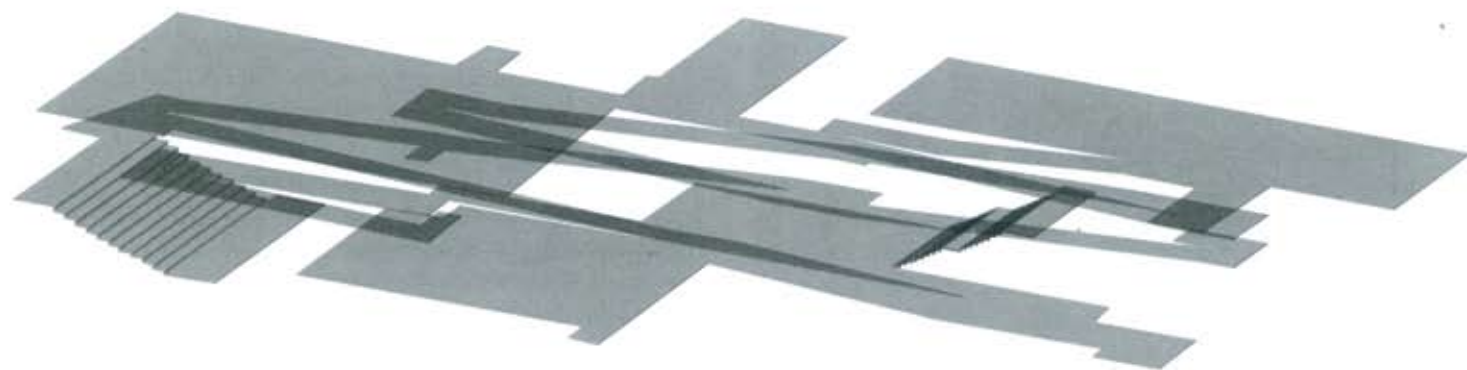
Since Summerson’s 1957 essay at least three historical modes of program-generated-form have developed a contemporary resonance within architecture: extruded plans, stacked plates, and nested volumes. The first, as an alternative to design methodology inherited from the Beaux-Arts tradition—where a room was assigned a single function and the assembly of rooms ordered by composition—relies on the vertical extrusion of plans to produce volumetric envelopes. Here the relationship of part to whole and the disposition of volumes in plan are organized horizontally, by either imposing circulation or enabling an emergent circulation through imposed composition. The first strategy resonates with the argument put forward by Reyner Banham in 1962 who, in his article “On trial, 2: Louis Kahn: the butterfly-hatch aesthetic,” claimed that the operation of function could be understood volumetrically as either the assemblage of functional volumes (for which Banham cites Le Corbusier’s Pavillon Suisse and Kahn’s

Richards Medical Research building as examples), or in reverse, the dissection of a given volume into functional zones, which he associates with the design approach of Mies van der Rohe.⁴ The second strategy can be seen in the more recent example of Kazuyo Sejima and Ryue Nishizawa’s Glass Pavilion for the Toledo Museum of Art in Ohio, where the contradictory programs of glass-making and museum galleries are arranged and shaped so as to separate and connect, thus allowing circulation to appear as an emergent figure. In all cases, the vertical extrusion of program into volumetric envelopes is plan driven. It frees form-making in mass.

The stacking of floor plates, as identified by Rem Koolhaas in his Manhattan skyscraper study of *Delirious New York*, offers a second practice of program-generated form. Here the repetition of floors within an extruded envelope is exclusively driven by vertical circulation. As Koolhaas observed, the elevator, while enabling multiple floors, causes programmatic disjunction and discontinuity between each floor. The effects of this can be seen in the realized example of MVRDV’s Dutch pavilion for the World EXPO 2000 in Hannover, Germany. The pavilion—conceived as a “stacked landscape” and delivered in the form of a multilevel park—reads as volume rendered in wire frame: it has no façade; it consists only of floors; everything can be seen at once. The discontinuity between each floor plate (enabled by elevators and reinforced by an enveloping peripheral staircase) allows each floor to become the site of a new ecology: rain on level five, tulips on level three, agriculture on level two, and so on. In examples such as this, the fundamental discipline of stacking is repetition in section and liberates each floor plate to carry different organizations. Stacking frees form-making in plan.

The nesting of volumes, understood as the packaging of stacked floor plates and extruded envelopes into larger volumes, constitutes a third practice of program-generated form. At least two spatial techniques exist: consolidating and clustering. In OMA’s Seattle Public Library, the superimposition of five platforms—horizontal bars consolidating like subsets of program such as parking, store, assembly, books, and headquarters produces an inbetween residual volume. This zone is made inherently public through its absorption of vertical circulation (with escalators) and accommodation of five collective areas—identified as “roof terrace,” “reading room,” “mixing chamber,” “living room,” and “kids” on the top surfaces of the platforms. In MVRDV’s HAN Faculty for Social Studies and Healthcare, 300 rooms are clustered into larger programmatic boxes organized around a central public space. The composition of these boxes creates a terrace-like landscape, for collective activity within the department. In both examples, the nesting of programmatic volumes through consolidating or clustering results in spatial arrangements driven by an institutional concept of public life. Driven by notions of solid and void, nesting is interior-motivated and enables programmatic adjacencies to take place in plan and section. It frees form-making in volume.

While each of these strategies (extruding, stacking, or nesting) gives program form, the manipulation of surface offers yet another programmatic technique. Precedents for it certainly exist (OMA’s Jussieu Library or Yokohama Design Forum, Bernard Tschumi’s Lerner Hall, or FOA’s Yokohama International Port Terminal—to cite just a few), but in recent architectural conversations, surface has been repressed as a technique for program-form and instead



celebrated as a geometric protocol. Consequently, any discussion of surface and topology has been largely limited to the geometry-form axis. But if topology is understood as something other than geometry, then perhaps the idea of program can be revised along topological lines. Indeed, this reorientation is consistent with Banham's understanding of topology in his "New Brutalism" essay of 1955. When commenting on the Smithson's Sheffield University competition entry, Banham observed that the Smithson's project had a composition based on "an intuitive sense of topology" (achieved through interconnected circulation routes) rather than an elementary platonic geometry. Banham not only resituated geometry as the subordinate discipline to topology, but demonstrated that a building can operate topologically without having to look topological.⁵

As an intersection of surface and program, Scogin and Elam's KSA contributes to the larger project of recuperating topology from its limited manifestation through geometry-form. Asking not what the program is, but experimenting with what it can do, generatively the KSA deploys programmatic elements as a fully three-dimensional discipline through surface. Completed in 2004, the building houses the departments of Architecture, Urban Planning, and Landscape Architecture. Its programmatic elements—administration offices, classrooms, studio spaces, auditoriums, gallery, outdoor areas, and lecture rooms—are organized by a continuous concrete ramp beginning at street-level, switching back on itself along the building's length and terminating at the library/roof garden on level five. Here, circulation as inclined-surface connects and distributes program within a larger enveloping volume.

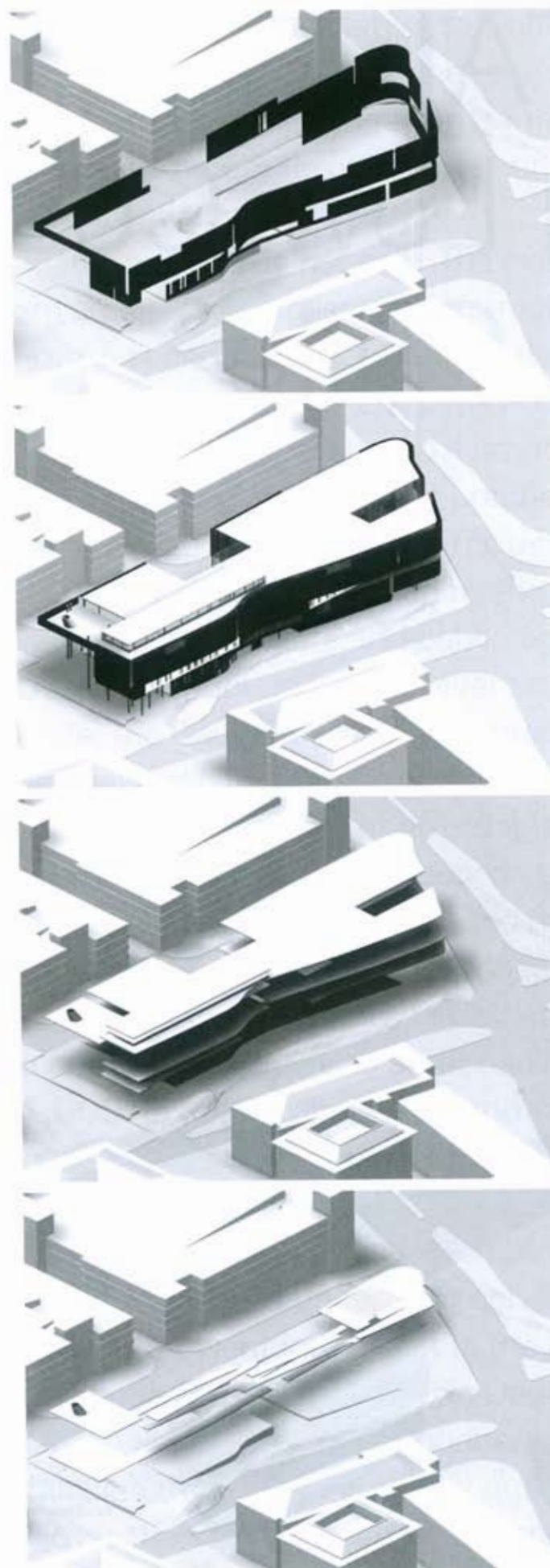
By prioritizing circulation, Scogin and Elam give form to the KSA's program. As ergonomics determine the ramp's slope (according to ADA requirements), the extension of ramp-landings into variably sized floor plates creates opportunities for programmatic expansion. This has resulted in an irregular distribution of floor plates in plan and section: where jury spaces, administration, and lecture rooms can be found on level one; faculty offices and seminar rooms on level two; studios on level three; computer labs on level four; and a library on level five. The continuation of the ramp into a concrete surface reaching beyond the building envelope has generated outdoor entry forecourts at ground level and a garden at roof level. Beyond the enlargement of horizontal surfaces, the folding up and down of extensions at ramp landings gen-

erates required fire stairs and, by default, shortcuts through the building's section. The folding down of the second-level floor plate into public seating results in both the open "center space" (with a gallery below) and the main auditorium. Similar to nesting, surfacing has freed form-making in volume.

With almost all of the KSA's auxiliary circulation (fire stairs and elevators) attached to ramp landings, surface produces traffic: it becomes public, offering views up, down, and obliquely through the interior volume. As program is obliquely strung along like beads on a necklace, an interior boulevard (à la Le Corbusier's Strasbourg Concert Hall) helps eliminate the Achilles heel of repetitive type—the double-loaded corridor—in favor of the saturated slope. Single-loaded and free-floating catwalks open to below; balconies, terraces, and platforms confirm the status of the public surface. In what seems like the inversion of standard net/gross calculations, where circulation is usually considered part of gross, the KSA's circulation assumes the importance of net. In other words, circulation—typically peripheral to program—becomes program itself.

The disposition of program has resulted in architectural plans of different sizes, proportions, and organizations—ranging from the open plan (jury spaces on level one), barcode (bands of offices on level two), fields (studio furniture arrays on level three), and islands (floating labs and offices on level four)—seemingly on a "sized to fit" basis. While resultant plans slide past each other in length and at different heights, they do not always span the width of the building. Determined by circulation, the plans are neither extruded nor stacked but rather emerge out of vertical ergonomics: program simply slips inbetween floors and gets sealed off with floor-to-ceiling glass. In the KSA, ramps enable what elevators generally do not: namely, programmatic continuity and adjacency in section and plan. The result is smoothness (a function of the ramp) as opposed to discontinuity (a function of elevator). The distribution of program is fundamentally plan-section driven.

Surfacing produces residual volume in the KSA: a volume that is not extruded but one that emerges as the spatial fall-out between envelope and programmatic mass. Circulation, elevated to the status of program, absorbs this amorphous void to become its identity. In what functions like Piranesian space, the KSA's interior is distinctly urban: generating public traffic through its multileveled plans, ramps, bridges, stairs, and central spaces. Through surface, the KSA further reconfigures the campus type. In what could easily



be misread as a mall, airport, or station (where atrium-like interiors and various infrastructures merge to enable continuity, mobility, and access) the KSA taps into its surroundings as a major campus artery and trajectory to the university stadium. Like nesting, surfacing gives rise to an institutional notion of public activity.

Finally, through surface, program acquires its aesthetic in the KSA. This is not one of mass or extruded volume, but rather a certain aformalism, as described by Banham in his "New Brutalism" essay, which in this case is achieved through topological organization (surface). This effect is further amplified in the KSA by the interchangeable materiality of concrete that contributes through interior/ exterior reversal and realignments of use. Indeed, here a shortcoming of the building can also be identified. In its moments of excessive architectural detailing and external articulation, the KSA undermines the potential of thinking program-form through topology: topological architecture produces its effects through extending its associations to urbanism and landscape without needing to resort to traditional architectural ideas of ornament or articulation.

As a disciplinary problem, surface has already demonstrated possible intersections of fields that were traditionally separated: architecture and landscape (= landscape architecture); landscape and urbanism (= landscape urbanism); urban planning and architecture (= urbanism). In the KSA, where three departments co-exist in one building, it seems fitting that program-form emerges through surface. As program offers one way to rethink surface, it also offers a way to rethink topology. What is at stake is not whether program is something to be either affirmed or rejected, but whether it offers different opportunities for formalization. Against the twin essentialisms that would assume "function" is self-sufficient or the parallel rejection of program because it appears indeterminate, projects such as the KSA suggest that program can (only) give as good as it gets.

Notes

1. In a recent lecture delivered at the Berlage Institute (25 October 2005), Anthony Vidler identified program as one of four new unifying principles (or form-making paradigms) in contemporary architecture. The other three were landscape, biology, and the internal exploration of architectural form.
2. R. E. Somol, in a lecture on "program" at the Knowlton School of Architecture, 16 November 2005.
3. John Summerson, "The Case for a Theory of Modern Architecture," *Royal Institute of British Architects Journal* (June 1957), pp. 307-310.
4. Reyner Banham, "On trial, 2: Louis Kahn: the butterfly-hatch aesthetic," in *The Architectural Review* (March 1962), pp. 203-206.
5. Reyner Banham, "The New Brutalism," in *The Architectural Review* 118 (December 1955), pp. 354-361.