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Intensities
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In adopting the word *intensities* as the title of this monograph, we seek the full and varied meaning of the term: at once that which is intense and the context that makes intensity legible. To intensify something is to call attention to it by altering the thing itself or else the frame in which it is understood. *Intensities* aptly describes how LTL Architects practices architecture and defines our goals for transformation through architecture. The plural form of the word reflects the multiple levels of intensity within our work. This design process is a focused form of architectural practice; with relentless curiosity, we engage the pragmatics of a given project, pursuing design invention through a nonlinear yet logical sequence of speculations and probes. The work that materializes is then saturated, multilayered, or otherwise demonstrative of an intensification of architecture itself. This is not to conflated intensity with pure excess or plenitude. Rather, we are interested in the set of relations intensity implies: selective minimization can be equally effective in creating structures of intensity. Intensity can mean less and not just more.

The term we’ve adopted captures interlinked aspects of our architectural practice, outlined here in five categories: 1) Intensities of Contingency points to our commitment to researching the constraints of any given project and to a design method that arises from a project’s contingencies; 2) Intensities of Resources highlights our belief that material limitations and economic constraints drive architecture in a time of heightened environmental awareness; 3) Intensities of Section foregrounds the crucial role that section plays in our work as the precise site for experimentation with space, form, performance, and representation; 4) Intensities of Surface captures our interest in the material invention and development of skins, walls, and boundaries that define architecture and in turn determine the intensity of perception and use; and 5) Intensities of the Social focuses on the consequences of design, underscoring our belief in architecture’s capacity to transform daily life.

*Intensities* builds on the material we documented in two previous publications. *Pamphlet Architecture 21: Situation Normal...* (1998) presented projects in which New York City served as a testing ground for new organizations that exploited the peculiarities overlooked in urban habits. Working primarily through techniques of architectural representation, we wanted to develop a “surrational” architecture: It would take seriously the underpinnings of programs in order to push architectural propositions catalyzed by the density of Manhattan to the point of the absurd. Ten years later, *Opportunistic Architecture* (2008) integrated text, hybrid drawing techniques, and photography of built work to argue for placing the architect as an
opportunistic agent within a field of given conditions. We approached architecture as a multivalent discipline that is most fascinating when it embraces a plurality of concerns, even if they are contradictory. In this book, we continue to explore a complex, critical, playful, and opportunistic approach to our practice. Framing the role of the architect within the political, economic, social, and cultural constraints of a specific project, our work transforms these conditions. Instead of constructing the firm’s identity through reductive clarity, we make legible those architectural effects that are fundamentally messy and nuanced.

Since we founded the firm in 1997, we have pursued an intentionally broad array of projects in the belief that architecture has the capacity to impact daily life at various scales through distinct programs. Our projects have ranged from furniture to infrastructural landscapes, from speculative self-generated projects to tectonically explicit buildings for institutions. While the projects in this book are typically of greater scale and complexity, LTL’s commitment to engaging public and accessible work is consistent. A significant percentage is in fact the result of collaborations between LTL and academic institutions that appreciate the role of architecture in establishing the spatial and cultural field of educational discourse. All three principals hold long-standing positions in higher education and understand architecture to be a practice and a form of pedagogy.

Faced with the range of choices, questions, and obligations of contemporary architectural practice, we believe it is not sufficient simply to do work. Architectural projects have their greatest impact when a clear argument or line of inquiry drives the decision-making process and then registers in the structures of intensification that establish hierarchy, meaning, and importance.

**Intensities of Contingency**

Meaningful research requires curiosity and inclusiveness, encouraged by a suspension of previous assumptions. We begin each project through research into its unique parameters. By “research,” we mean both the gathering and collecting of information, data, and facts and the use of initial architectural designs to probe and push assumptions. At the outset, we seek a density of information to frame the conditions of the project, raising the issues of budget, schedule, expected uses, codes, environmental impacts, and aesthetic demands to inform even early architectural propositions, rather than adhering to a singular focus, medium, or approach. These multiple contingencies invariably circumscribe the development of design; they must be negotiated, but they can also be generatively exploited. Intensity is therefore both a precondition of the architectural project and a selective operation,
the leveraging of various conditions and parameters to allow the most productive trajectories to emerge. Even when some parameters recede based on the research and testing of design possibilities, no contingency can be dismissed, compromised, or flattened out. In this way, environmental conditions may become the primary motive, as in Water Proving Ground, our project for New Jersey’s Liberty State Park, while the need to reinforce a client’s mission may also become dominant, as in the Open Planning Project.

We maintain that architectural design is a critical form of research that establishes a feedback loop that brings clients’ and users’ insights and responses into the design process. Architectural proposals are factually informed speculations that in turn qualify the assumptions regarding the project held by client, architect, and design team. This research knits together analysis and projection, with the architect serving as pragmatic alchemist. Intensities therefore imply a judicious approach that acknowledges complexities while operating selectively, tuning various factors up or down to allow for the emergence of the most compelling proposal. This means resisting any singular, reductive strategy or facile answer, such that a given project simply carries out a rehearsed plan. Instead, we always favor the cultivation of paradox and contradiction over singular goals.

This type of research—framed by design as research and research informing design—is underwritten by our insistence on a nonlinear but thoroughly logical pursuit of architectural invention. We work through an iterative design process akin to testing, forming a collaborative design team around each project. Each team explores multiple incremental shifts and modifications and externalizes them for open interpretation and reinvention. One iterative test creates opportunities for subsequent exploration and testing, so the design develops through invention sprawl; one challenge is met with multiple options that in turn lead to further inquiry and subsequent speculation. Like Theseus’s pursuit of the Minotaur, the operation can be retraced from the end point, but the path and its ends are never known or envisioned from the start. Our amplification of logic upends the commonly held belief that the best design averages demands and synthesizes competing problems through a single sketch or proposal. We instead seek to harness the often conflicting demands of a project, holding these demands in creative tension until the final realization. The manner in which we see design invention driven by a conscious set of decisions derives from the structure of the LTL office. Invention does not flow from the fountainhead of a single author. Rather, the three principals collaborate, in concert with the assembled project team drawn from members of
Great Egyptian Museum

the office and outside consultants, to set the direction of every project. These teams have grown in scale and complexity, a reflection of the increased level of work in the office and of the rising regulatory and technical demands of architectural practice today. The growth of specialized knowledge means that the project that in 2002 required only a small team now may require three times the people. Rather than lamenting the architect’s loss of authority, we argue that only a methodology that embraces this very complexity will be effective in ascribing agency to the architect in the design process. Our work thus emerges out of discourse, not dictation. Design team members representing various areas of knowledge and expertise constitute a forum in which they can argue for different levels of intensification with respect to the given contingencies; the architect orchestrates the debated contingencies into the final project. Recently, ecological and economic constraints have become more important for all members of the design team.

Intensities of Resources
Countering the proposition that architectural significance correlates to dollars per square foot, we believe that financial boundaries sharpen the design process; they aid the quality of the architecture rather than limit it. The majority of the work in this book was executed during the economic recession that followed the financial crisis of fall 2008. All of the projects were subject to the fiscal contingency of constrained budgets. The judicious use of resources is therefore foregrounded in this work, which accentuates select aspects for maximum effect. We put the money where it will have the greatest impact on the utility, perception, and life of any given project, and we downplay other areas within the same project to heighten that effect. From the design of large spaces that can accommodate a vast range of uses to the detailing of individual components that perform in numerous ways, we seek excess through economy. For example, rather than making the existing Arthouse at the Jones Center building appear new at high cost, we tactically inserted selective details and components into the existing shell. These insertions focused the use of resources while transforming the entire building. Ultimately they furthered the trajectory of the building’s history rather than calcifying a moment in time. Constrained budgets encourage inventive, hybrid solutions; they have reinforced a consistent aspect of our work, which is to do more with “less is more” through a multiplication of function.

Resource limitations dictate that the desired material richness come via design invention. We continue to explore the creation of complex surfaces from materials usually considered ordinary, often through repetition and accumulation; through intensification, these surfaces
achieve effects not initially associated with a given material. One such transformation is visible in the shifting cedar wall and felt-lined recycled-bottle acoustic baffles for the Claremont University Consortium (CUC) Administrative Campus Center; another appears in the cork-clad wall and floor for New York University’s Department of Social and Cultural Analysis (SCA). We also work in the opposite direction, intentionally downplaying specific surfaces in order to highlight areas or objects of focus. We embrace the challenge of material and energy intensification as a critical strategy for addressing holistically the question of future sustainability, predicated on maximizing impact through a minimum of means. We evaluate each project on its own terms to avoid inflexible standards or ideological positions. This propels us into architecture that is vibrant and engaged, an architecture that strives to exceed any basic system of check-off points. The insistence on a multiplicity of performance not only reduces material outlay, but also fosters a layering of use that changes with the cycles of daily life. In the case of the CUC project, we achieved the greatest impact by maximizing the daylight within a deep floor plate to radically cut energy use. In the case of the Gallaudet University Living and Learning Residence Hall 6 (LLRH6), we used robust construction systems to ensure the long life of the building.

Exploiting the potential of repurposing buildings will be an increasingly dominant architectural challenge as the true life-cycle costs of buildings force a reevaluation of the culture of newness that has driven disposable building practices. Architects must be nimble and inventive when creating a contemporary building from structures and shells that are antithetical to the desired use. Many of our projects, including Arthouse, the CUC, the Sullivan Family Student Center for the University of Wyoming, and New York University’s SCA and Office of Strategic Assessment, Planning and Design (SAPD), have been framed by this condition. In each case, we had to find the maximal utility of the existing space while holding in creative tension the legacy of the past with the obligations of future occupation. In each case, the apparent incompatibility of the requested program and the given site conditions led not only to a great efficiency of resources, but also to an illogical yet wonderful friction between the existing structure and its new uses. It is precisely that friction that we exploit for new spatial and performative effects, often played out through section.

**Intensities of Section**

Section is the representational means to make visible the most complex and intriguing aspects of architecture. In our work, it is both an instrumental tool and the site
of much of our design effort. Whereas plan typically provides the means to choreograph program, section is where thermal forces, building form, and structural and material systems converge and are most legible. As computer modeling has increasingly served as the dominant design tool over the past twenty years, diagrams and renderings have proliferated within the discourse. Whereas the diagram is abstract, the rendering is specific. Yet both are inadequate for engaging the complexities of tectonics, the resistance of materials, and the definition of interior space. Section, and specifically section perspective, engages these challenges much better. Moreover, in an urban context, it reveals and explores the spatial and human density enabled through multiple-level construction and design.

If the plan examines questions of circulation and movement, the section explores the body’s proportional and functional relationship to the spatial and material conditions of architecture. Section makes tangible the basic conditions of the natural environment, from the sun’s changing altitude to gravity’s pull on moisture and structure. To foster our exploration of architecture through section, we have categorized the section into seven dominant types: extrude, stack, shape, shear, hole, incline, and nest. These types allow us to take advantage of new combinations and models, thus intensifying the section’s agency in our work.

The extrusion of a plan to a height sufficient for the intended activity is the most basic form of a section. An extruded section has little to no variation in the vertical axis, and the vast majority of buildings are based on a maximally efficient ratio of square footage to building volume. Although it is a section type, an extruded section lacks spatial complexity. Stacking is an extruded section that is capable of being deployed ad nauseum. It fulfills a basic purpose of section, which is to increase the real estate value of the land through repetition of floor plates; a stacked section by itself rarely contains interior vertical effects. Shaping is a modulation of the horizontal surface. It adds a particular volume to the section and can occur in the floor, the ceiling, or both. Buildings with shaped sections often exhibit a close fit of structure and section. Shear induces a rift or cut parallel to the horizontal or vertical axis of section. It is particularly effective at inducing optical, thermal, or acoustic connections within an extruded or stacked section without significantly compromising the tectonic efficiencies of the repetitions upon which those types are based. Holes penetrate slabs and are frequently used to exchange floor area for benefits in section. They range in scale and quantity from single, small openings between floors to multiple, large atria that organize whole buildings. Inclines change the angle of the plan and are a means of continuing a
horizontal section surface; in so doing, they push the plan into a section that can be occupied. With inclines, section does not require the sacrifice of any portion of the plan. Finally, nests produce section through the interplay or overlap of discrete volumes. The structural and environmental performance of the nest usually exceeds that of the volumes in isolation.

Each of these seven types can be broken into a range of variations; more importantly the types combine in multiple ways. Indeed, buildings that manifest intriguing sections rarely contain just one type of section. For example, Frank Lloyd Wright’s Guggenheim Museum combines an incline and a hole that facilitates physical continuity in the ramp and optical continuity across the atrium. We used this section hybrid as a point of departure for the New Taipei City Museum of Art; our variation makes a void of the incline section, embedding it within a stacked and sheared section to produce moments of discontinuity within and adjacencies between disparate programs. Rather than locate the incline immediately above another incline (which, in effect, produces a stacked, albeit sloped, section), we articulated the ceiling above the incline as a shaped section to induce specific, focused rooms within the unfolding sequence. This intensification of section is evident in almost all of our work. Arthouse, for example, is an existing stacked section that we animated through holes: the central stair, a shaped section at the entry, and a nested section in the community-room volume. The Grid and the Superblock combines two types and scales of incline, perpendicular to one another, that intersect a stacked section and are activated with myriad holes. For Water Proving Ground, we were concerned less with a multiplicity of section types and effects than with the development of a single type. Through an exhaustive exploration of inclined planes and surfaces, we determined that even a one-foot change in sea level would have dramatic consequences for the sloping, amphibious landscape that formed the basis of our design.

In projects constrained to a single floor, the ceiling has become for us the site of design experimentation in a direct challenge to the proliferation of the dropped ceiling in contemporary building culture. Although the ceiling has a long history as the site of spatial experimentation, cultural value, and structural complexity—take, for example, Gothic cathedrals—the ceiling’s potential is rarely leveraged for effects now. The ubiquitous dropped ceiling is the perfect barometer of this banality and therefore ripe for reexamination. At its most basic, the dropped ceiling conceals the expanding mechanical infrastructure required in contemporary buildings; at the same time, it privileges the dominance of plan over the interior spatial definition created through section. Its grid ruthlessly marks the eradication
of section, the denial of tectonics, and the material opportunities of the interior. In almost every one of our interior projects, we have exploited a reflected ceiling plan to induce section effects within the space. Unlike the floor plans, which are predetermined by circulation patterns and code requirements, the ceiling is often available for sculptural transformation, reinforcing and extending the acoustic, lighting, spatial, and material qualities of a given project. In many of our projects, notably the Buffet at MGM CityCenter and the CUC, the complexity of the ceiling exceeds the manipulation of plan and the ground floor, where ceiling transformations define spatial volumes that float above more open floor layouts. The ceiling, however, is only one of the intensified surfaces that welcomes invention.

Intensities of Surface
Over the last four decades, architectural discourse about surface has polarized: Surface has come to be understood either as semiotically encoded cladding or as a tectonic and performative composition. The projects in this book challenge the now-established binary by engaging both positions in any given design, conflating operational and representational functions within a single complex membrane. The multivalent surfaces that result provide a legible armature for spatial and programmatic organizations while integrating diverse, contradictory functional requirements and heightened material and perceptual effects.

While the continuous surface has become a formal cliché in the early twenty-first century, we remain interested in advancing the possibilities of the contiguous surface. Fascinated less by its formal capacity than its programmatic ambiguities, we push continuity toward dense performance. We seek complex surfaces that at their best serve spatial roles of enclosure, division, and delineation yet incorporate a variety of technical and programmatic needs, including acoustic control, thermal performance, lighting and light manipulation, ergonomic support, and visual separation. The hybrid conditions that result are neither pure figuration nor the outcome of simple operational determinants; their intentional ambiguity straddles the line between figure and performance. For instance, the single, dominant wall of SAPD at NYU simultaneously operates as an identifiable marker that organizes the office space and as an acoustic and pinnable surface that displays the work of the office it organizes.

One of the most significant aspects of these surfaces' performance is their direct engagement of the user. The functional amplification of these architectural elements enables the individual subject to encounter the surface physically in both conventional and unexpected ways. Seating, steps, counters, and other
functional elements typically conceived of as independent or supplemental are assimilated into the composite surface, thus blurring the line between architecture and furniture. In these cases, we modify the condition of the wall through splitting or thickening, so that as surface and as space, the wall can accommodate the user. At NYU’s SCA, for example, one may sit against, pass through, or occupy the interior of the main feature wall, intensifying the relationship between the occupant and the material condition of the architecture.

These dense surfaces are also articulated relative to their material and tectonic assembly. They activate both haptic and optical levels of engagement as the material invention challenges the user’s perception of space throughout the changes of a day. This strategy plays upon the suggestion of surface through points, lines, or planes such that seemingly solid or homogeneous features are revealed, upon closer examination, to be composed of discontinuous parts. These surfaces therefore exist at distinct scales of legibility: Whereas the overall figure and its effects are primary from a distance, a closer scale makes legible the specifics of aggregation, assembly, and attachment, as well as the material qualities of the component parts. Again, these intensifications do manifest through form, yet our interest in surface continuity extends to the tangible material and unexpected social accumulations possible therein.

Intensities of the Social
In a world increasingly defined by virtual social networks and isolating personal technologies (smartphones, iPads, etc.), we maintain architecture’s unique capacity to intensify the social through the direct organization of space. Although remote connectivity and the buffer of handheld devices are now ubiquitous, they have not supplanted extant spatial practices but rather exist alongside them. These new formats are now inscribed in the material forms of cities, buildings, and dwellings. While these technologies seem to erode the dominance of social relations based on proximity and physical gathering, their pervasiveness has paradoxically placed increasing importance on the interpersonal and the corporeal. Responding to this paradox in ways formal and contingent, at scales large and small, our projects amplify social relationships by orchestrating embodied space. Our architecture explores overlaps, combinations, and multiple uses, making one design do as much as possible through careful attention to changes in daily cycles and experience. We privilege spaces that are a good fit to multiple distinct and simultaneous programs, relying on a limited number of changeable elements—walls, screens, lights—to create dramatic change.

Our approach relies upon program as a generative condition of architectural form while it challenges any simplistic relationship between form and function.
Program in this context is more precise and expansive than its basic square-footage designations. It is more precise in the sense that direct physical engagement determines the intensified relationship with the occupant, and it is more expansive in that such a program encourages multivalence, misuse, and appropriation. In many cases, this generative condition involves an intentional doubling or multiplication of program, the finding of overlaps among uses, and the tailoring of the architecture to an intensity of habitation rather than a singularity of function. The layering of functions proliferates the possible occupations, amplifying the social potential of spaces by facilitating chance encounters in addition to structured activities. The entry lobby of Arthouse functions not only as a formal reception zone, but also as an extension of the public sidewalk beyond its transparent walls. While the space can accommodate exhibits and installations, its visual continuity with the street, its adaptable felt furniture, and its generously proportioned stair encourage a variety of inhabitations, including its use as an impromptu dance floor at the project opening. A series of public rooms in the SCA offices at NYU convert circulation into social space by opening diversely scaled spaces for collaboration and exchange within an efficiently configured plan. At the Gallaudet University LLRH6, the entry lounge is designed to extend the central campus lawn, establishing a spatial hinge between the academic life of the university and the social space of the students who reside on the floors above.

Underwriting our desire to amplify social relations is a fundamental belief in the transformative capacity of architecture within larger cultural, public, urban, and institutional frameworks. Whereas we recognize that there is no precisely quantifiable causal relationship between a space and its social effects, we also know that the relationship is not arbitrary. The value of the architecture derives from the creative transformation of the project’s contingencies into the organized yet unexpected social exchanges it facilitates. It is in the execution of such transformations that we are optimistic about the architect’s role as an alchemist of intensities, one who uses the full range of available resources, techniques, and systems to generate meaningful work under the ripe spatial and material conditions of architecture.
The projected inundation of the urban edge by rising sea levels has catalyzed a rethinking of the productive interplay between land and water. LTL addressed this issue as one of five firms selected by the Museum of Modern Art to participate in the workshop and exhibition *Rising Currents: Projects for New York’s Waterfront*. The show examined the anticipated impact of global warming and the rising sea level on New York Harbor through a series of speculative design proposals for five sites on the water’s edge. LTL was charged with the zone located in the northwest quadrant of the harbor, including Liberty State Park and New York City’s iconic Liberty and Ellis Islands.

Created between 1880 and 1920 by extensive landfill operations associated with the arrival of the railroad, the site did not exist as land until the end of the nineteenth century. According to even the most conservative predictions of rising sea levels, it is currently destined to all but disappear underwater in the next fifty to seventy-five years. In response to these dire predictions, our proposal maintains the zone’s public use by allowing for selective infiltration of the site by the harbor. By tactically adjusting the historic fill through subtle topographic shifts, Water Proving Ground envisions a vibrant new amphibious landscape continually activated by rising tides. Traditional defensive approaches, such as high sea walls, attempt to minimize the water’s edge. However, LTL’s design multiplies the length of the coastline by a factor of ten, to forty-four miles, sculpting the site into a series of four raised landscape piers, each crenellated to generate a sawtooth interlocking of land and water. While it renders the site a more resilient buffer to storm surge and flood events, the project also maximizes the intertidal zone’s capacity to serve as a testing ground for new uses and inhabitations based on the dynamic exchange between sea and land. Employing a wide range of boundary types, from hard-edge separations that isolate remediation zones to gradually sloping fields of estuarial interchange, the design actively engages tidal fluctuations, integrating water as a performative element rather than a picturesque feature.

Structured as a series of petri dishes, the plan incorporates a diversity of programs and multiple ecologies—from experimental agriculture to aquatic recreation, from tidal flats to constructed wetlands—to combine productive landscape and urban park. Further drawing public activity into the site, each of the four land piers terminates in a programmatic anchor: an aquaculture research and development center, an amphitheater and tidal park, a water lodge, and a regional produce market. Enhanced systems of aquatic- and land-based transportation link the site to both the surrounding urban context and the harbor itself, reestablishing it as a vital point of exchange within the region. In testing the opportunistic and productive exchanges created by water levels linked to global climate change, the project explores modes of coastal occupation that will become pertinent for millions of the world’s citizens in the not-so-distant future.
Existing: five miles of coast: The current site is defined by a hard-edged division of land and water that renders it susceptible to inundation. Because it is primarily flat, rising sea levels will have a dramatic impact on the existing park.

Proposed: cut and fill: From the site’s existing fill alone, a new coastal profile is created, softening the edge of the site to absorb storm surge. The resulting topography is a mix of higher ground and water channels.

Proposed: piers and cross grain: The site is sculpted into four landscape piers of varying topography. To maximize the coastline, the edge of each pier is modified according to an overall sawtooth pattern.

High tide: thirty-five miles of coast: The new plan anticipates a four-foot rise in sea level. Even at high tide, the adjusted site creates seven times the intertidal surface than in the current condition.

Low tide: forty-five miles of coast: Integrating a wide array of edge conditions to facilitate different levels of exchange between water and land, the new design exploits the tidal dynamics of the harbor. The coastline at low tide is ten miles longer than it is at high tide.

Circulation and anchors: Enhanced circulation routes engage the site, suturing it to neighboring urban areas and bringing together water- and land-based systems of transportation. New programmatic anchors at the end of each of the piers activate the area.

Program areas: Zones of distinct use weave through the site, providing a cross section of diverse programs and activities on each pier. These uses intensify existing functions and adjacencies of the site.

Flows: Tied into cycles of agriculture, aquaculture, recreation, and tourism, the redesigned site recaptures the historic role of the area as a vital point of exchange in New York Harbor.
Petri dishes are isolated environments for culturing cells to facilitate tests and studies. Premised on the maximization of biodiversity, Water Proving Ground adopts the logic of the petri dish to accommodate a multiplicity of landscapes, habitats, and programs that juxtapose natural and artificial, productive and recreational, land- and water-based uses. These wedge-shaped zones comprise distinct areas, ranging in their degree of containment from the highly compartmentalized (in, for example, bioremediation areas) to the very permeable (aquaculture zones). Within each wedge, the terrain slopes from higher to lower, harnessing the dynamics of water flow and tidal change.
The proposed aquaculture research and development center consists of a series of laboratories and testing beds located at the terminus of the southernmost pier. As the second floor and usable roof provide a stable artificial horizon, the floating docks fluctuate with the tide to allow for controlled testing of aquatic species in the estuarine environment of the harbor. Farther inland, fish hatcheries and hydrological testing facilities house various forms of marine research that utilize the harbor as an environmental and scientific resource.
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